SEAAIR

SEAAIR
SOUTH EAST ASIAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Annual SEAAIR
Conference Proceedings

Volume 1 (November 2021-November 2022)

Annual SEAAIR Conference Proceedings

Volume 1
(November 2021-November 2022)

SEAAIR 2020/21: Diversity in Education
Virtual Conference
November 23-24, 2021

Reviewers:

Prof. Dr. Ma. Florecilla Cortes Cinches
Assoc. Prof. Dr. Tajularipin Sulaiman
Dr. Koh Yit Yan
Assoc. Prof. Dr. Teay Shawyun
Assoc. Prof. Dr. Krisda Tanchaisak
Dr. Rajendra Sharma
Dr. Sutee Sujitparapitaya
Prof. Dr. Sophia Shi-Huei Ho
Assoc. Prof. Dr. Dennis V. Madrigal
Assoc..Prof. Dr. Manika Wisessathorn

Cover Design:

Kiattisak Luanmongkol, Lecturer
Faculty of Education, Ramkhamhaeng University, Thailand

FOREWORD

SEAAIR had been having its annual conferences with academics and researchers from different ASEAN countries and its SEAAIR Plus partners in Asian countries like Australia, China, Japan, Korea, and Taiwan. The 2020/2021 SEAAIR 21st Annual Conference was a first as it was held in virtual space through Zoom due to the Covid-19 pandemic that postponed the 20th Annual Conference, slotted to be held in Malaysia. As such, it was integrated into the 21st Annual Conference, thus the 2020/2021 SEAAIR 21st Annual Conference.

The LOC was the SEC (SEAAIR Executive Committee) who worked and organized the whole event through relentless Saturday meetings, chasing after abstracts and managing full papers reviews and presentations, making great plans and near-flawless organization, all culminating in the beautifully executed, albeit some small technical glitches, the conference on 23rd – 24th November 2021. All in all, there was still great enthusiasm from our ASEAN & Asian academics and researchers that resulted in still an acceptable substantial # of abstracts submitted at 77; # of abstracts accepted at 70; # of the full paper accepted & # of the full paper presented at 44. As usual, the Best Paper and two tied Outstanding papers were selected to be celebrated in JIRSEA, with some modifications, to bring them up to JIRSEA levels.

Not only did the SEC realize the conference planning & management successfully, but the conference also would not give been a success without great contributions and collaborations from others. Foremost, we would like to thank Liceo de Cagayan University for its key and critical role as the Technical Host on their university IT platform for running and managing all the sessions through Zoom. The conference also would not have been successful without the Masters-of-Ceremony, moderators, keynote address, panelists and paper presenters, and other participants for their great contributions. It took many feet to Tango successfully and we did the Tango well for this pioneering virtual conference staging. Another first is that our annual conference proceeding has been re-named as "**Annual SEAAIR Conference Proceeding**" for all future conferences to get a generic ISSN to be used for all our future open-access proceedings.

With this, we welcome you to enjoy our 2020/2021 Annual SEAAIR Conference Proceeding, Volume 1. We also look forward to having you all interact again as humans physically rather than virtually, as everyone does miss the cultural events and the meet/see/socialize/ share, a great human asset at the 22nd SEAAIR Conference in Korea. In addition, we will make a big splash in celebrating the 20th SEAAIR Anniversary as humans.

See you all next year, humanoids…. In Korea in 2022.

Local Organizing Committee 2021

MESSAGE FROM PRESIDENT OF SEAAIR

It is our great pleasure to greet you and welcome you all to the South East Asian Association for Institutional Research (SEAAIR) of its SEAAIR 20/21: 21st Annual Conference (Virtual). With the SEAAIR Executive Committee (SEC), we are very happy to acknowledge our distinguished speakers, and participants for joining us. Our warm greetings to our observers.

At the outbreak of the pandemic last year, we were not able to hold the conference that was supposed to highlight the 20th SEAAIR Anniversary. To make up for a Video Presentation was produced that highlighted some of our major accomplishments and contribution to institutional research and cultural journey from the very beginning of its founding. This is uploaded in our website http://www.seaairweb.info/.

SEAAIR was founded 20 years ago for this purpose: "to benefit, assist and advance research leading to improved understanding, planning, and operations of institutions of post-secondary education in the South East Asia." Through these decades it has flourished because of its persistent focus on its reason for being and for consistently upholding the wisdom and history established by the founding members.

Amidst our current global health and socio-economic crises, SEAAIR continues to hold the torch for what it stands for. Submitting an abstract to may not be a guarantee for outright acceptance to the SEAAIR Conference to present a paper. After the acceptance of abstract, we are asked to submit our full paper. In some instances, there were still cases of full paper being rejected after thorough blind reviews.

In this year's conference, we received 77 Abstract submissions, but we only have 44 papers or 57% of the total original submissions which are to be presented in this year's virtual Conference. About 43% or 33 papers were either rejected, not able to cope with the blind reviewers' comments, or withdrawn.

With this year's theme on *Diversity in Education*, we thank our Keynote Speaker for setting the tone of our Conference. We are also grateful to our Plenary Speakers, of their respective viewpoints of our theme contributing to the richness of the discussion on the Conference theme.

Most of the paper submissions chose the first track of "Teaching, Learning, and Quality Assurance" where 50% of these papers in this track, directed their interests to online/virtual and or distance learning. This, we believe, is reflective of one of the major challenges of our institutions on current online learning practices.
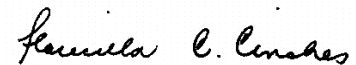
A very important component of SEAAIR is the JIRSEA, Journal of Institutional Research South East Asia. Together with the annual Conferences, the Journal is the major arm of SEAAIR for institutional research dissemination. JIRSEA is the only Scopus-indexed journal that is solely devoted to Institutional Research in South East Asia. It is also indexed in

CARBELL Scholarly Analytics and EBSCO Academic Database that also index the Annual SEAAIR Conference Proceeding. We are about to release our 19th Volume of this highly regarded journal. Best and outstanding papers are given the privileged to be published in this respectable refereed journal.

Today, as a maturing organization, SEAAIR has advanced in its desire to become more inclusive …. into *SEAAIR Plus* through partnerships with other countries like China, Korea, and Taiwan, with key participations from Japan and Australia, and other frequent nationalities' involvements.

Now that you have your SEAAIR membership, carry it with pride for you belong to a reputable association for the niche it has created in Institutional Research not only in South East Asia but in the research global community. With much zeal and passion for institutional research, we will work harder to make SEAAIR more formidably robust in its reason for being. With much optimism and its track record for quality assurance in research, SEAAIR with JIRSEA as its publication arm shall soon be among the most influential game changers in institutional research in the global research community.

Cheers to the 21years of learning and sharing of academic and cultural platforms with SEAAIR!

Prof. Ma. Florecilla C. Cinches, PhD
President

SEAAIR EXECUTIVE COMMITTEE

President	Prof. Dr. Ma. Florecilla Cortes Cinches
Vice President	Assoc. Prof. Dr. Tajularipin Sulaiman
Honorable Secretary	Dr. Koh Yit Yan
Head of SEAAIR Secretariat and Honorable Treasurer	Assoc. Prof. Dr. Krisda Tanchaisak
JIRSEA Editor	Assoc. Prof. Dr.Teay Shawyun
Members-at-large	Dr. Rajendra Sharma Assoc. Prof. Dr. Dennis V. Madrigal Dr. Sutee Sujitparapitaya Prof. Dr. Sophia Shi-Huei Ho Assoc. Prof. Dr. Manika Wisessathorn

SEAAIR 2020/21:
THE 21ˢᵗ ANNUAL CONFERENCE AGENDA
November 23 - 24, 2021

SEAAIR
SOUTH EAST ASIAN ASSOCIATION
FOR INSTITUTIONAL RESEARCH

SEAAIR 20/21 :The 21st Annual Conference (Virtual)

Day 1: November 23, 2021 | THEME: "Diversity in Education"

Time	Country	Event
8:00-8:30 am	Indonesia, Thailand, Vietnam	**Opening Ceremonies: Selected Cultural Dances of SEAAIR Plus country-members**
9:00-9:30 am	Malaysia, Philippines, Singapore, Taiwan	
10:00–10:30 am	Korea	
12:00- 12:30 am	Australia (AED)	
8:30 –8:45 am	Indonesia, Thailand, Vietnam	**Welcome Remarks** Dr. Ma. Florecilla C. Cinches SEAAIR President (Philippines)
9:30- 9:45 am	Malaysia, Philippines, Singapore, Taiwan	
10:30-10:45 am	Korea	
12:30 -12:45 am	Australia (AED)	
8:45 – 9:15 am	Indonesia, Thailand, Vietnam	**The 20ᵗʰ SEAAIR Anniversary: Kick Start Video Presentation** Dr. Sophia S. Ho SEAAIR SEC Member (Taiwan)
9:45- 10:15 am	Malaysia, Philippines, Singapore, Taiwan	
10:45 –11:15 am	Korea	
12:45 - 1:15 pm	Australia (AED)	
9:15– 9:25 am	Indonesia, Thailand, Vietnam	**Introduction of the Keynote Speaker** Dr. Judith C. Chavez President, Phil. Assoc. of Grad. Education Region 10 VPAA, Lourdes College, Inc. (Philippines)
10:15-10:25 am	Malaysia, Philippines, Singapore, Taiwan	
11:15 –11:25 am	Korea	
1:15 – 1:25 pm	Australia (AED)	
9:25 – 10:00 am	Indonesia, Thailand, Vietnam	**Keynote Speech** Dr. Anthony M. Penaso President, Caraga State University – Philippines Outstanding University President of the Year 2021
10:25- 11:00 am	Malaysia, Philippines, Singapore, Taiwan	
11:25 –12:00 pm	Korea	
1:25 – 2:00 pm	Australia (AED)	
10:10 – 12:30 pm	Indonesia, Thailand, Vietnam	**Parallel Session 1** Moderators: Breakout Room 1: Dr. Joel Bual * Breakout Room 2: Dr. Marisa Petalla * Breakout Room 3: Mr. Chris John Bedoria* * University of Negros Occidental-Recoletos Graduate School, (Philippines)
11:10 – 1:30 pm	Malaysia, Philippines, Singapore, Taiwan	
12:10 – 2:30 pm	Korea	
2:10 – 4:30 pm	Australia (AED)	

Day 1: Master of Ceremonies: Dr. Salvador C. Dela Peña
Liceo de Cagayan University, (Philippines)

Break (1 Hour)

Forum: Diversity in Education

1:30 – 3:30 pm	Indonesia, Thailand, Vietnam	**Plenary Speakers**
2:30 – 4:30 pm	Malaysia, Philippines, Singapore, Taiwan	
3:30 – 5:30 pm	Korea	
5:00 – 7:30 pm	Australia (AEDT)	

Assoc. Prof. Dr. Soaib Asimiran
Dean, Faculty of Education,
Universiti Putra Malaysia (Malaysia)

Assoc. Prof. Pol. Lt. Col. Siripong Sauphayana, EdD
Dean, Faculty of Education
Ramkhamhaeng University (Thailand)

Prof. Dr. Sheng-Ju Chan
Vice President for Student Affairs
National Chung Cheng University (Taiwan)

Prof. Dr. Edison Angeles Fermin
Vice President for Academic Affairs
National Teachers College (Philippines)

Moderator:
Assoc. Prof. Dr. Suzieleez Syrene Abdul Rahim
Deputy Dean, Faculty of Education
University of Malaya (Malaysia)

Day 2: November 24, 2021

8:00–8:30 am	Indonesia, Thailand, Vietnam	
9:00–9:30 am	Malaysia, Philippines, Singapore, Taiwan	**Photo Opportunities**
10:00–10:30 am	Korea	
12:00–12:30 am	Australia (AEDT)	
8:30 –10:00 am	Indonesia, Thailand, Vietnam	
9:30– 11:00 am	Malaysia, Philippines, Singapore, Taiwan	**Parallel Session 2**
10:30–12:00 pm	Korea	
12:30 –2:00 pm	Australia (AEDT)	

Break

10:30 – 12:00 pm	Indonesia, Thailand, Vietnam	
11:30– 1:00 pm	Malaysia, Philippines, Singapore, Taiwan	**Parallel Session 3**
12:30– 2:00 pm	Korea	
2:30 – 4:00 pm	Australia	

Day 2: Master of Ceremonies: Dr. Manika Wisessathorn
Ramkhamhaeng University, (Thailand)

SEAAIR General Assembly

1:00 – 4:00 pm	Indonesia, Thailand, Vietnam	
2:00 – 5:00 pm	Malaysia, Philippines, Singapore, Taiwan	
3:00 – 6:00 pm	Korea	
5:00 – 8:00 pm	Australia (AEDT)	

Introduction of SEAAIR SEC
Dr. Manika Wisessathorn

SEAAIR Financial Report
Dr. Krisda Tanchaisak

JIRSEA* Report
Dr. Teay Shawyun

Presentation of 2022 SEAAIR Annual Conference Host – South Korea
Prof. Jang Wan Ko, PhD

Announcement of Best and Outstanding Papers
Dr. Koh Yit Yan

Closing Remarks

*Journal of Institutional Research South East Asia

SEAAIR Executive Committee

President

Prof. Dr. Ma. Florecilla Cortes Cinches
Vice President for Research, Extension, Planning, and Innovation
Liceo de Cagayan University, Philippines
Email: fcinches@liceo.edu.ph

Vice President

Assoc. Prof. Dr. Tajularipin Sulaiman
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia, Malaysia
Email: tajulas@upm.edu.my

Hon. Secretary

Dr. Koh Yit Yan
Lecturer, Mechanical Engineering
Teaching and Learning Convener
UON Singapore
6 Temasek Boulevard
#10-02/03, Suntec Tower 4
Singapore 038986
Email: yityan@gmail.com

Head, SEAAIR Secretariat

Assoc. Prof. Dr. Krisda Tanchaisak
Ramkhamhaeng University
Institute of International Studies
2086 7th floor RU Printing Press Building
Ramkhamhaeng Road, Hua Mark, Bang Kapi,
Bangkok 10240, Thailand
Email: krisada000@yahoo.com

Editor, JIRSEA

Assoc. Prof. Dr. Teay Shawyun
Consultant, King Saud University,
Saudi Arabia
Email: jerry182122@yahoo.com

Members-at-large

Dr. Rajendra Sharma
Higher Education Consultant
Australia
Email: dr.rajendra.sharma@gmail.com

Assoc. Prof. Dr. Dennis V. Madrigal
Associate Dean
University of Negros Occidental-
Recoletos, Philippines
Email: dennis_madrigal@yahoo.com

Prof. Dr. Sophia Shi-Huei Ho
Professor and Director, Institute of Educational
Administration and Evaluation
University of Taipei, Taiwan
Email: shihuei@utaipei.edu.tw

Assoc. Prof. Dr. Manika Wisessathorn
Vice-Dean Faculty of Education
Ramkhamhaeng University
2086 Ramkhamhaeng Road
Hua-mark, Bangkapi, Bangkok 10240, Thailand
Email: manika_w@yahoo.com

Dr. Sutee Sujitparapitaya
Associate Provost, Institutional Analytics
San Francisco State University, U.S.A.
Email: sutee.sujitparapitaya@gmail.com

SEAAIR 20/21: The 21st Annual Conference (Virtual)
November 23-24, 2021 | THEME: "Diversity in Education"

PARALLEL SESSIONS

SEAAIR

SESSION 1 23 November	Breakout Room 1			Breakout Room 2			Breakout Room 3		
	No	Authors	Title of the Paper	No	Authors	Title of the Paper	No	Authors	Title of the Paper
1010 – 1030 (ID, TH, & VN) 1110 – 1130 (MY,PH,SG,&TW) 1210 – 1230 (KR) 0210 – 0230 (AU)	10	Ying-Yan Lu, Ching-Hui Lin, Chien-Hung Lee, Szu-Yin Lin & Bo-Hsien Hu	Strategic Alliances in Institutions of Higher Education to Promote Sustainable Development Goals: A Case Study of Two Universities in Taiwan	18	Szu-Yin Lin, Ching-Hui Lin & Syariful Muttaqin	English-Medium Instruction in Higher Education: A Case Study from Taiwan	15	Fatima C. Tanzo	Development of Competency Assessment Tool for Student-Nurses Readiness
1030 - 1050 (ID, TH, & VN) 1130 – 1150 (MY,PH,SG,&TW) 1230 – 1250 (KR) 0230 – 0250 (AU)	76	Arnold Tagud	Job Stressors and Dispositional Traits: Influence on Coping Strategies	55	Marie Bella Estores & Rolando Alimen	Home and School Environment, Academic Achievement, and Performance in Maritime Schools Assessment Program: Bases for Instructional Enhancement	49	Jihoe Park & Jang Wan Ko	A Study on the Effect of Operating Developmental Academic Advising Seminar for First-Year University Students
1050 – 1110 (ID, TH, & VN) 1150 – 1210 (MY,PH,SG,&TW) 1250 – 0110 (KR) 0250 – 0310 (AU)	27	Joel Bual & Dennis Madrigal	Assessing the Correlation between Demographics and Teacher Leadership of Teachers in Philippine Catholic Schools	51	Miguela Napiere & Judith Chavez	Does Pedagogy Really Matter on Students' Lives?	63	Rosfuzah Roslan, Ahmad Fauzi Mohd Ayub, Norliza Ghazali & Nurul Nadwa Zulkifli	The Influence of Perceived Ease of Use, Perceived Usefulness, Social Influence and Perceived Enjoyment Towards Continuance Intention Using Gamified e-Quiz Mobile Application
1110 – 1130 (ID, TH, & VN) 1210 – 1230 (MY,PH,SG,&TW) 0110 – 0130 (KR) 0310 – 0330 (AU)	19	Janice Gonzales & Dennis Madrigal	Awareness and Incidence of Bullying among Students in a Philippine Public High School	41	Methozela Iligan & Ma. Judy Legaspi	Text Familiarity and Reading Proficiency of Senior High School Students	2	Jay Somasundara, Patrick Danaher & Mohammad G Rasul	Increasing scholarly writing from South-East Asia: Strategies for strengthening diversity in higher education
1130 – 1150 (ID, TH, & VN) 1230 – 1250 (MY,PH,SG,&TW) 0130 – 0150 (KR) 0330 – 0350 (AU)	68	Dick Herly Carskit and Denise Orong	Learning Approaches in Gross Anatomy Among Physical Therapy Students: A Comparative Study	47	Maria Cecilia J. Genovate and Dennis V. Madrigal	Stakeholder's Satisfaction of a School in Bacolod City	44	Mark Joseph Lorenzo	Academic, Personal, Social, and Career Needs of Learners of Cavite State University – Laboratory Science High School: Basis for the Enhanced School Counseling Program
1150 – 1210 (ID, TH, & VN) 1250 – 0110 (MY,PH,SG,&TW) 0150 – 0210 (KR) 0350 – 0410 (AU)	23	Shirley Frigillano	Ati-Culture Narratives in English Language Teaching	26	Christoper Y. Jungco & Dennis Madrigal	Awareness and Utilization of Web 2.0 Technology of Young Teachers in Catholic Schools	54	Anthony Ly Dagang	Unraveling the Influence of School Factors, Innovativeness and Creativity to Entrepreneurial Risk-Taking: A Structural Model
1210 – 1230 (ID, TH, & VN) 0110 – 0130 (MY,PH,SG,&TW) 0210 – 0230 (KR) 0410 – 0430 (AU)	3	Calvin Dave Ganub, Milagros Lagman, Shinette Pestano & Ana Lea Reyes	Psychological Readiness and Organizational Commitment among Higher Education Institution Retiring Faculty	43	Joecil Solidarios	Effect of Audio-Visual Instruction on Front Crawl Swimming Performance of First-Year BSMT Students			

SESSION 2 24 November	No	Authors	Title of the Paper	No	Authors	Title of the Paper	No	Authors	Title of the Paper
		Breakout Room 1			**Breakout Room 2**			**Breakout Room 3**	
0840 -0900 (ID, TH, & VN) 0940 - 1000 (MY,PH,SG,&TW) 1040 - 1100 (KR) 1240 - 0100 (AU)	70	Norabiatul Adawiah Abd Wahid, Suzieleez Syrene Abdul Rahim and Sharifah Norul Akmar Syed Zamri	Pre Service Teachers Perceptions to Outliers in Statistical Graphs	46	Gam Phan and Wei-Yu Liu	Building Learner Autonomy of Low-achieving English students through Collaborative Learning	31	Rolando Alimen and Edsel Gildore	Laboratory-Services leading to Quality of Maritime Education and Training (MET) at Maritime University in the Philippines
0900 - 0920 (ID, TH, & VN) 1000 - 1020 (MY,PH,SG,&TW) 1100 - 1120 (KR) 0100 - 0120 (AU)	75	Lucita Ontong	Influence of School Administrator's Emotional Intelligence, Leadership Style, and School Culture on School Climate	4	Marisa Petalla	Baby Boomer Generation in the Digital World of Teaching: A Qualitative Inquiry	37	Amir H. Rouhi	Extracting Insights by Clustering Structured Data
0920 - 0940 (ID, TH, & VN) 1020 - 1040 (MY,PH,SG,&TW) 1120 - 1140 (KR) 0120 - 0140 (AU)	22	Genalyn E. Gipalen and Dennis Madrigal	Assessment of the Implementation and Challenges of Basic Guidance Services in Selected Philippine Diocesan Catholic Schools	9	Marichu Montecillo	A Structural Model of Entrepreneurial Tendencies	65	Charito Ong and Grace Pimentel	An Intervention Program for Communicative Learning
0940 - 1000 (ID, TH, & VN) 1040 - 1100 (MY,PH,SG,&TW) 1140 - 1200 (KR) 0140 - 0200 (AU)	48	Shawyun Teay and Somkiat Wattanasap	Multifaceted Diversity-Discrimination-Divide Disparities Dilemma and 20|20 Education	1	Yit Yan Koh and Yaw Long Chua	From Offline to Online: Comparison Study of Conversion from Offline Teaching to Online Teaching of a Private University in Malaysia and Singapore	12	Ma. Florecilla C. Cinches, Ruth Love V. Russell, Judith C. Chavez, & Dominic T. Polancos	Online Learners' Continuance Intention: A Theoretical Model

SESSION 3 24 November	No	Authors	Title of the Paper	No	Authors	Title of the Paper	No	Authors	Title of the Paper
		Breakout Room 1			**Breakout Room 2**			**Breakout Room 3**	
1040 - 1100 (ID, TH, & VN) 1140 - 1200 (MY,PH,SG,&TW) 1240 - 0100 (KR) 0240 – 0300 (AU)	28	Medania Malagsic, Marisa Petalla and Araceli Doromal	Self-efficacy and Work Commitment of the Private Senior High School Teachers in Time of Pandemic	20	Cecile Gentova and Dennis Madrigal	Exploring the Relationship between Classroom Climate and Academic Performance of Public Junior High School Students	7	Kai Yan Wong, Tajularipin Sulaiman and Wan Marzuki Wan Jaafar	Measurement of Psychometric Trait of Athletic Identity and Mental Health on Career Planning among High School Student-Athletes
1100 – 1120 (ID, TH, & VN) 1200 - 1220 (MY,PH,SG,&TW) 0100 - 0120 (KR) 0300 – 0320 (AU)	58	Edcel Caratao and Alberto Rico	Self-Efficacy, Collective Teachers' Efficacy, Curricular Autonomy and Professional Commitment: A Path Analysis	77	Kai Yuan Cheng, Tsai Wen Lin and Yi Ju Lin	The Grant In Need Is The Grant Indeed: The Effectiveness On Providing Grants, Scholarship And Assistant Classes For Disadvantaged Students	17	Patrick Daren Campos and Dennis Madrigal	Correlating Self-Efficacy and Academic Motivation: The Case of High School Students with Parents Working Abroad
1120 – 1140 (ID, TH, & VN) 1220 - 1240 (MY,PH,SG,&TW) 0120 – 0140 (KR) 0320 – 0340 (AU)	62	Abdullahi Muhammad, Ahmad Fauzi Mohd Ayub and Nur Raidah Salim	Understanding Mathematics Learning Continuance Intention: An Extension of ECM	60	Giselle Ann Alcoran-Alvarez, Arthur Rosalem, Noel Pit, Margie Amida, Maria Milagros Velez, Kenneth Paul Duran, Sheila Mae Vecin and Erven Noay Noay	Teaching Practices in Secondary Schools' Online Learning During Pandemic Times	21	Joseph Karl Tationghari and Ma. Judy Legaspi	Communication Style and Academic performance in Oral Communication in Context of Senior High School Students
1140 - 1200 (ID, TH, & VN) 1240 - 0100 (MY,PH,SG,&TW) 0140 – 0200 (KR) 0340 – 0400 (AU)	16	Sheila Javier	And Then There Was Light: The Career Transition Experiences of Guidance Designates	59	Venrey Senm Ecang and Marisa Petalla	SARDOs in the Printed Modular Distance Modality in the Context of COVID-19 Pandemic	40	Angelica Panique and Ma. Cecilia Alimen	Teaching Anxieties of Beginning Teachers in Senior High School

CONTENTS

SUBTHEME 2: EDUCATION GOVERNANCE, CULTURE, AND VALUES   175

SUB-THEME 1:
Teaching, Learning, and Quality Assurance

Implementation of Online Learning for Engineering Courses: A Comparison Study Between a Private University in Malaysia and Singapore

Yit Yan Koh[1] and Yaw Long Chua[2]

[2]Institue of Sustainable Energy, Universiti Tenaga Nasional, 43000 Kajang Selangor, Malaysia
[3]Newcastle Australia Institute of Higher Education Pte Ltd, University of Newcastle, Singapore

ABSTRACT

Prior to 2019, many academics in engineering education have the similar opinion that it is difficult for engineering to be done in the blended or fully online modes, mainly due to the large number of calculations involved and the use of the laboratory to complete the experiments. However, COVID-19 has forced institutions in the world to adopt the online learning model. From rejection to reception, the institutions put on the show to convert the lectures and assessments into the online version with various challenges such as lectures, the connectivity issues, submission of assessment items, and even academic integrity on formal assessments. This paper describes the process of conversion from traditional offline teaching to fully online teaching to cope with the Pandemic and the results of such conversion in students' academic performance. The paper also compares the approaches and students' performances between the Malaysia and Singapore Private Universities. The analyses through T-test shows that there is no significance difference between the face-to-face and online examination (p-value > 0.05). Such results implies that the conversion from fully offline to entirely online is possible, and students' performance remains constant despite the drastic change in the conduct of courses.

Keywords: Face-to-face Learning, Online Learning, Engineering Education, Hybrid Learning, Hyflex Learning.

INTRODUCTION

Online learning, despite being populated since the beginning of the millennium and has become one of the fastest-growing markets, still playing the peripheral role in the education system in the region, (Pham & Ho, 2020). However, with the Pandemic hitting the world badly in 2020, institutions of higher learning are forced to convert the face-to-face learning to online as part of the lockdown measurements, (Armin, et al., 2021), (Brakora, Day, & Choo, 2021)

The data from the UNESCO reflected that the Pandemic casted a serious impact to the global education system, where about 89.4 percent, or 1.5 billion students from 184 countries must face the disruption of the learning (Marinoni, van't Land, & Jensen, 2020). To overcome the teaching and learning issues caused by the Pandemic, Institutes of Higher Education (IHE) continue the learning sessions through the online learning sessions. In the countries where the authorities allow minimum number of face-to-face contacts, IHE adopt the hybrid or hyflex teaching and learning mode as part of the safe distancing measurements, and to cater the learning of students who are not able to be present physically in the school.

To help IHE to deal with the change of the conduct of lectures, UNESCO introduced comprehensive distance learning strategies to address the educational needs on the schools and prepare schools towards the inclusive and flexible education systems, (UNESCO, 2020). The guidelines illustrate eight practical tips to promote inclusion, equity and to maximise the quality of learning: (a) Adjust curricular objectives and prioritise humanitarian, social caring; (b) Examine the readiness and choose the most relevant and context-sensitive technological solutions; (c) Increase the technological and content preparedness to ensure the continuity of education and learning; (d) Ensure equity and inclusion; (e) Protect learners' privacy and data security; (f) Support teachers to plan and facilitate distance learning, and engage

parents and caregivers; (g) Blend student-centred teaching, monitoring and assessment methodologies to ensure the effectiveness of distance learning; and (h) Plan for sustainability and long-term goals. These tips have clear guidelines for IHEs to understand what is to be done under the current situation and start planning for the after-pandemic period for a smooth transition.

The IHE also needs to ensure the effectiveness of the online education though the observance of five principles, which are (a) high relevance between online instructional design and student learning, (b) effective delivery on online instructional information, (c) adequate support provided by faculty and teaching assistants to students; (d) high-quality participation to improve the breadth and depth of student's learning, and (e) contingency plan to deal with unexpected incidents of online education platforms, (Bao, 2020). Nevertheless, despite these outline principles are listed and appeared to be visionary effective, there was not clear guidelines published to demonstrate the measurements of achievements of these qualities. Therefore, these principles are said to be a good initial guideline for IHE to consider when planning the conversion from face-to-face to online classes.

This paper presents the process of conversion from the face-to-face learning to the online teaching for a selected private university in Malaysia and in Singapore, and a brief analysis of the students' performance of a chosen course to reflect that students' academic performance is not affected by the conversion from face-to-face to online learning.

Face-to-face Learning and Online Learning

The idea of blended learning was introduced since early 2000s, where a portion of the content is delivered through the internet instead of being physically delivered in the classroom. The idea was mainly used in the areas of psychology (Grabe & Christopherson, 2008) and medicine, (Beale, Tarwater, & Lee, 2014).

A few online or blended teaching and learning methodologies were implemented and discussed by various researchers, to name a few:
- (Martínez, Aguilar, & Ortiz, 2020) presented the combined asynchronous (lecture capture) and synchronous (on-campus or live broadcasted lecture), where lecture is delivered live through the Learning Management System (LMS). Students have the flexibility to attend the lecture in real-time or to listen to the lecture capture, where the speed of the lecture is adjustable for better understanding.
- (Hoic-Bozic, Mornar, & Boticki, 2009) presented the Hybrid learning, where lectures are conducted online with additional virtual sessions and activities such as e-forums, e-documents, videos, and lecture recordings. Students are able to access the online learning materials at their preference.
- (Thai, De Wever, & Valcke, 2017) presented the Flipped classroom, where learning materials are provided through the online platform and students will have to access to these materials before the face-to-face lectures. The face-to-face lectures are conducted through problem-solving, group discussion and presentation of ideas with the guidance of the lecturer.
- (Keiper, White, Carlson, & Lupinek, 2020) presented the Hybrid Flexible (Hyflex) learning, where the face-to-face and online lectures are conducted at the same time. Students may choose to attend the face-to-face lecture or stay at home for the online lecture. The added advantage for such hyflex learning is where the lectures are recorded, and students can also refer to the recordings at their convenience.

Worth mentioning, the use of "hybrid", "blended" and "hyflex" still possess some ambiguity, as highlighted by (McGee & Reis, 2012), that the variation between "hybrid" and "blended" courses is not well defined in the publications that outlines some best practices in the education. Many researchers tend to use the terms interchangeably.

It is apparent that the use of technology become an essential factor to make teaching and learning during the Pandemic and IHE are compelled to adopt such solution. Both lecturers and students will need to access to the internet for lectures, and they will also need to have a device that will facilitate the online learning. Fortunately, even at the beginning where global lockdown were observed, as high as 60 percent of the IHE have already adopted the virtual mobility and collaborative online learning. (Martínez, Aguilar, & Ortiz, 2020). This data has clearly shown the increased demand for the hybrid/hyflex teaching model adopted in the IHEs.

Online learning for engineering education has gained its popularity among the bachelor's degree in the past decade (Allen & Seaman, 2016). Nonetheless, most of the online engineering educations are predominantly at the postgraduate level (Martínez, Aguilar, & Ortiz, 2020).

It is commonly known that engineering education is dominantly relying on the practical works, IHE are forced to convert all teaching and learning sessions to the online mode (Ożadowicz, 2020). Some earlier researches have published the examples of additional supports that academics in the engineering education can adopt to support the face-to-face learning, such as through interactive video (Onime & Uhomoibhi, 2013), Cloud-Computing-Learning (Porumb, Orza, Micu, & Porumb, 2012), and online lecture through LMS or webinar sessions (Martínez, Aguilar, & Ortiz, 2020).

Teaching and Learning during Circuit Breaker

The Circuit Breaker (lockdown) was enforced nationwide in Singapore in May 2020 to contain the spread of the COVID-19 virus in the country (gov.sg, 2020). Following this, the COVID-19 (Temporary Measures) Act 2020 was released to enforce people's movement restrictions (Singapore Statues Online, 2020). During this period, schools and IHE had to implement the Home-based Learning (HBL) through the online learning.

For the selected private university in Singapore, the delivery mode of the courses is achieved using Blackboard Collaborate, which is common in many IHE (Soesmanto & Bonner, 2019). As early as in the late 2010's, The Centre of Teaching and Learning have been conducting conducts annual trainings in Blackboard Collaborate and Panopto to conduct and record lectures, hence, academics are familiar with the platform, and minimum technical issues were reported during the initial transition period.

The main challenge for engineering academics were using the online platform for courses that require calculations, where they usually rely on the whiteboard to perform the calculations during the lectures. This issue was quickly addressed by the university by providing the academics with a graphic tablet.

Students are not required to turn on their videos during the lecture to reduce the bandwidth usage during the lecture. However, to ensure students are continuously paying attention during the lectures, some of the strategies are adopted, such as

- Frequent opinion polls to get students casting in the polls,
- Asking open questions and pin-pointing specific student to answer the question,
- Requesting all students to raise their hands to ensure that they are still listening to the lecture,
- Mini quizzes or Kahoot games to engage students.

During the Circuit Breaker, the laboratory sessions were conducted through the video observation, as the university were fully shut down. The experiments were conducted and filmed before the lockdown and students were observing the conduct of experiment through video, and analysed the data provided to them, which made up the laboratory session. As the Phase 2 opening started on 19 June 2020, and IHEs are advised to continue online lessons except for practical and laboratory-based lessons (MOH(b), 2020). During this period, some laboratory sessions were shifted back to the campus with strict safe distancing measures.

As the country moved into the Phase 3 opening in January 2021, the hyflex learning mode was adopted to accommodate students who are not physically in Singapore, and students who still not feeling comfortable to attend the physical classes. Academics are given training in the hyflex learning to ensure that they master the essential skills in the hyflex learning, including cater for students who are both physically attending the class and online, understanding the needs for students from both sides, and to all students manage to communicate with each other despite their geographical differences.

The Effect of Movement Control Order on Universities

The nationwide Movement Control Order (MCO) were announced in Malaysia since March 2020 (Bunyan, 2020). This was followed by various relaxation schemes adopted depending on the state conditions, which include Conditional Movement Control Order (CMCO), Recovery Movement Control Order (RMCO) (Fan & Cheong, 2021), and Enhanced Movement Control (EMCO) and Full Movement Control Order (FMCO) (Bernama, 2021). Just like any other countries, all education instructions were forced to shut down and adopted the online learning mode. Some universities have chosen the face-to-face classes during the RMCO period, while some others maintained the online classes to minimise the spreading of the virus.

For the selected private university in Malaysia, as soon as the announcement of MCO was made, the university converted the remaining face-to-face classes into the virtual classes through the MS Teams platform. At the initial stage of MCO, the Ministry of Higher Education arranged to transport local students to their hometown so that they can continue the online learning at their home. International students continued the online learning in the university accommodation. For students who requested to travel back to their home countries, arrangements were made, and they continued the learning from their home.

Essential physical laboratory works were completed before the full lockdown and students were able to continue with the analyses of the results during the MCO period. Final Examination were converted into alternative assessment that consisted of continuous assessments were given to students to minimise potential problems that may cause dur to the sudden conversion of laborious formal examinations. For courses where Final Examination were unavoidable, the online examination was conducted through the Learning Management System or MS Teams.

To ensure that the university community can cope with such a change of teaching mode, students and lecturers are given the training to ensure that they are equipped with essential skills to deal with online learning smoothly. Lecturers went through training on MS Teams, Blended learning, and Flipped Classroom. Furthermore, lecturers and students were encouraged to increase the communication through Telegram, Panotop, Kahoot or Padlet to make the online learning more exciting and compelling.

The main issue faced by the university community during the beginning of the MCO was the internet connection. Certain parts in Malaysia did not have a good internet connectivity, and students were facing interruption of lectures. Frequent disconnection was observed as the internet connection was not stable. Fortunately, students who had connectivity issues could still revisit the lecture recordings to catch up with the parts they missed during the lecture.

Students' attendance was important to the institution, especially international students' attendance which the Immigration Department of Malaysia monitored. Throughout the Virtual lectures, students' attendance was recorded using QR code generated and effective only during the session. The record was then forwarded to the administration team for record and follow-up works.

Students' Performance Analyses

Students from the private universities of both countries showed consistent academic performance under the online learning condition. To demonstrate such performance, the comparison of the student

performance of Thermodynamics for 2019, 2020 and 2021 were compared. Students attended face-to-face lectures in 2019 and online lectures in 2020 and 2021.

Two hypotheses were established:

H_{01}: there is no significant difference in academic performance for students who do face-to-face teaching and online teaching in Malaysia

H_{02}: there is no significant difference in academic performance for students who do face-to-face teaching and online teaching in Singapore

The sample courses were chosen based on the condition that they are taught in face-to-face manner in 2019, and online manner in 2020 and 2021. In addition, there is no change in the assessment components and lecturers who were teaching in the course to eliminate potential variables in the analyses. Hence, it is assumed that all content and assessments were identical, with only the delivery and learning mode were changed from face-to-face to online. All assessments, including class tests and final examinations in 2020 and 2021 were conducted through online mode. Table 1 shows the total enrolment of students in the course in the three years running for both Malaysia and Singapore.

Table 1: Enrolment number for Thermodynamics for years 2019, 2020 and 2021 in Malaysia and Singapore

Year	Malaysia	Singapore
2019	49	40
2020	34	36
2021	74	28

Figures 1 shows the comparison of the academic performance for Thermodynamics for both Singaporean and Malaysian students across years 2019, 2020 and 2021. By comparing results, the distribution of students' performance is observed to be consistent, and no abnormal distribution was observed in the distribution.

(a)   (b)
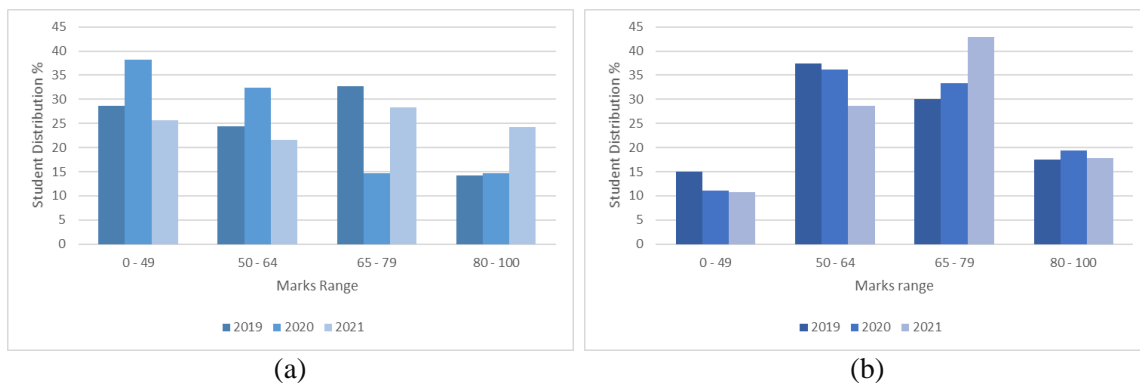
Figure 1: The comparison of (a) Malaysian and (b) Singaporean students' performance for face-to-face teaching (2019) and online teaching (2020, 2021).

Table 1 shows the mean and standard deviation for the marks obtained by students from 2019 to 2021. The mean obtained by the cohort that went through the online learning is similar those who went through the face-to-face learning.

Table 1: The mean and standard deviation for the marks obtained by students for face-to-face teaching (2019) and online teaching (2020, 2021).

Year	Malaysia		Singapore	
	Mean	Standard Deviation	Mean	Standard Deviation

2019	58.84	17.00	61.72	18.07
2020	59.03	16.31	64.90	15.79
2021	66.64	17.86	63.49	19.10

Normality test is performed to determine the null hypothesis for this research, where the face-to-face teaching (2019) and online teaching (2020) was performed through the two-sample *t*-Test assuming unequal variances at the 95% level of confidence. Table 2 shows the t-Test scores for face-face teaching and online teaching for Students in Malaysia. The results show no significant different between the scores of the two tests ($p > 0.05$) and hence H_{01} is accepted.

Table 2: t-Test scores for face-face teaching (2019) and online teaching (2020) for Students in Malaysia.

	2019	2020
Mean	58.83673	50.92941
Variance	348.6081	551.2408
Observations	49	34
t Stat	1.637179	
P(T<=t) two-tail	0.106828	
t Critical two-tail	2.000298	

Table 3 shows the t-Test scores for face-face teaching and online teaching for Students in Singapore. The results show no significant different between the scores of the two tests ($p > 0.05$) and hence H_{02} is accepted.

Table 3: t-Test scores for face-face teaching (2019) and online teaching (2020) for Students in Singapore.

	2019	2020
Mean	61.7218	64.89636
Variance	335.0696	256.3134
Observations	40	36
t Stat	-0.80643	
P(T<=t) two-tail	0.42258	
t Critical two-tail	1.992543	

The conversion from face-to-face teaching to online teaching during the Pandemic is said to be incidental learning for the global institutions, where the institutions face this complex problem and solve it within a short period. A survey conducted by Harvard Business Review (Havard Business Review, 2015) reported that as high as 86% (with 43% agree and 43% somewhat agree) of business leaders felt that complexity affects their ability to decide, respond to external threats effectively. It slowed down the growth of business in the digital economy.

CONCLUSION

This paper described the conversion from face-to-face teaching to online teaching for a Malaysian and a Singaporean private university as part of the strategies to address the COVID-19 Pandemic in the region. Similar approaches have been adopted by both universities, with the difference in the virtual platforms and the way to engage lecturers and students. There was not significant difference in the academic performance between students who did the face-to-face classes and students who attended the online classes. The results show the possibility of converting from face-to-face teaching to online

teaching, which can be done, even in a short duration, thorough application of different strategies of solving this complex problem, proving the 10,000-hour rule outlined by Gladwell (Gladwell, 2008).

REFERENCES

Allen, I., & Seaman, J. (2016). *Online Report Card: Tracking Online Education in the United States.* Babson Survey Res.

Armin, A., Gniesmer, S., Ranjbar, M., Kakkassery, V., Grisanti, G., Neppert, B., . . . Grisanti, S. (2021). Digital teaching 2020: students assess attention during an online lecture as equivalent to a face-to-face lecture. *Der Ophthalmologe : Zeitschrift der Deutschen Ophthalmologischen Gesellschaft.* doi:10.1007/s00347-021-01344-1

Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies, 2*(2), 113-115. doi:https://doi-org.ezproxy.newcastle.edu.au/10.1002/hbe2.191

Beale, E., Tarwater, P., & Lee, V. (2014). Embryology Instruction With Online Lectures in a HumanAnatomy Course. *Anatomical Sciences Education, 7*, 234-241.

Bernama. (2021, January 10). *EMCO in several localities in five states, says Ismail Sabri.* (The Edge Markets) Retrieved June 4, 2021, from https://www.theedgemarkets.com/article/emco-several-localities-five-states-says-ismail-sabri

Brakora, K., Day, L., & Choo, D. (2021). Succeeding in a pandemic: Online lectures and in-person laboratory teaching maintained exam scores in the anatomical sciences. *The FASEB journal,*, 35. doi:https://doi-org.ezproxy.newcastle.edu.au/10.1096/fasebj.2021.35.S1.05461

Bunyan, J. (2020, March 16). *The Response of University towards COVID-19 Measures - Singapore.* Retrieved June 4, 2021, from https://www.malaymail.com/news/malaysia/2020/03/16/pm-malaysia-in-lockdown-from-wed-until-march-31-all-shops-closed-except-for/1847204

Fan, V., & Cheong, R. (2021, January 7). *Malaysia: MCO, CMCO, RMCO, CMCO Again: Regulations And SOPs.* (Mondaq) Retrieved June 4, 2021, from https://www.mondaq.com/operational-impacts-and-strategy/1022936/mco-cmco-rmco-cmco-again-regulations-and-sops

Gladwell, M. (2008). *Outliers: The Story of Success.* San Francisco: Little, Brown and Company.

gov.sg. (2020, April 3). *COVID-19 circuit breaker: Closure of workplace premises.* Retrieved June 4, 2021, from gov.sg: https://www.gov.sg/article/circuit-breaker-extension-and-tighter-measures-what-you-need-to-know#:~:text=PM%20Lee%20on%202021%20April,1%20June%202020%20(inclusive).&text=From%20now%20till%204%20May%202020%2C%20stay,home%20as%20much%20as%20possible.

Grabe , M., & Christopherson, K. (2008). Optional student use of online lecture resources: resource preferences, performance and lecture attendance. *Journal of computer assisted learning, 24*(1). doi:doi: 10.1111/j.1365-2729.2007.00228.x

Havard Business Review. (2015). *The Business Case for Managing Complexity.* Retrieved June 11, 2021, from https://hbr.org/resources/pdfs/comm/sap/19277_HBR_SAP_Report_5.pdf

Hoic-Bozic, N., Mornar, V., & Boticki, I. (2009). A Blended Learning Approach to Course Design and Implementation. *IEEE Transactions on Education, 52*(1). doi:10.1109/TE.2007.914945

Keiper, M. C., White, A., Carlson, C. D., & Lupinek, J. M. (2020). Student perceptions on the benefits of Flipgrid in a HyFlex learning. *Journal of Education for Business.* doi:https://doi.org/10.1080/08832323.2020.1832431

Marinoni, G., van't Land, H., & Jensen, T. (2020). *The Impact of COVID-19 on Higher Education Around the World: IAU Global Survey Report.* Paris: International Association of Universities.

Martínez, P., Aguilar, F., & Ortiz, M. (2020). Transitioning From Face-to-Face to Blended and Full Online Learning Engineering Master's Program. *IEEE transactions on education,, 63*(1).

McGee, P., & Reis, A. (2012). Blended course design: A synthesis of best practices. *Journal of Asynchronous Learning Networks, 16*(4), 7-22.

MOH(b). (2020, June 15). *Ministry of Health.* Retrieved June 4, 2020, from MOving into Phase Two of Re-opening: https://www.moh.gov.sg/news-highlights/details/moving-into-phase-two-of-re-opening

Onime, C., & Uhomoibhi, J. (2013). Using interactive video for on-line blended learning in engineering education. *2nd Experiment@ International Conference.*

Ożadowicz, A. (2020). Modified Blended Learning in Engineering Higher Education during the COVID-19 Lockdown--Building Automation Courses Case Study. *Education sciences, 10*(292). doi:10.3390/educsci10100292

Pham, H., & Ho, T. (2020). Toward a 'new normal' with e-learning in Vietnamese higher education during the post COVID-19 pandemic. *Higher education research and development, 39*(7). doi:https://doi-org.ezproxy.newcastle.edu.au/10.1080/07294360.2020.1823945

Porumb, C., Orza, B., Micu, D., & Porumb, S. (2012). Cloud computing and its application to blended learning in engineering. *The 8th International Scientific Conference eLearning and software for Education.*

Singapore Statues Online. (2020, April 7). *COVID-19 (Temporary Measures) (Control Order) Regulations 2020.* Retrieved June 4, 2021, from Singapore Statues Online: https://sso.agc.gov.sg/SL-Supp/S254-2020/Published/20200407?DocDate=20200407

Soesmanto , T., & Bonner, S. (2019). Dual mode delivery in an introductory statistics course: design and evaluation. *Journal of Statistics Education, 27*(2), 90-98. doi:https://doi.org/10.1080/10691898.2019.1608874

Thai, N., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education: Looking for the best "blend" of lectures and guiding questions with feedback. *Computers & Education, 107*, 113-126. doi:https://doi.org/10.1016/j.compedu.2017.01.003

UNESCO. (2020). *Distance learning strategies in response to COVID-19 school closures.* Retrieved from UNESCO Digital Library : https://unesdoc.unesco.org/home

Baby Boomer Generation in the Digital World of Teaching:
A Qualitative Inquiry

Marisa B. Petalla

University of Negros Occidental- Recoletos, Bacolod City (marshe112582@gmail.com)

ABSTRACT

Before the coronavirus pandemic, digital transformation of education has been more or less an area of science rather than a widespread practice in the Philippines, most especially in schools in the provinces. But despite the unpreparedness of the Philippine educational system, the digital transformation of education had to happen overnight. Utilizing a qualitative research design, this study used the phenomenological approach to explore the lived experiences of the Baby Boomer generation who are new in the digital world of teaching. The data were gathered from the six participants chosen using the purposive sampling technique. These participants are full-time online teachers who belonged to the Baby Boomer generation. The data were collected utilizing the unstructured in-depth interview. During the interview, the iterative process was observed until the saturation point was reached. The gathered data were analyzed using Lichtman's 3 Cs, the coding, categorizing, and forming concepts. The study revealed that teachers in the Baby Boomer generation were able to update and upgrade their knowledge, skills, and attitudes despite the newness of the mode of instruction delivery. These self-updates and upgrades help them survive the challenges and obstacles to realizing their goals as teachers in the digital transformation of education. Their experiences on challenges and obstacles include apprehensions and worries, uncertainties and doubts, fears and reservations, and difficulties and frustrations. Their experiences specific to upgrading and updating themselves include independent learning, seeking help from experts, and investment in what is necessary. Their realizations and rewards include preparedness and success, positive attitude and positive outcomes, and commitment and survival.

Keywords: Digital transformation of education, Baby Boomer generation, online learning modality, Qualitative research, Bacolod City, Philippines

INTRODUCTION

Digital transformation is an important process to integrate digital solutions into our everyday lives. It affects different sectors, for example, businesses (Andal-Ancion et al., 2003; Rogers, 2016), industry (Ustundag & Cevikcan, 2017), or health care (Agarwal et al., 2010). However, the digital transformation not just enhances traditional solutions but can lead to innovative approaches. Further, digital technology in the modern world is not only a tool but also a living environment that opens up new opportunities: learning at any convenient time, continuing education, etc. (Bilyalova et al., 2020). There was already a demand to integrate digital solutions into education (Warschauer, 2007; Dede, 2011; Cuellar, 2002).

However, digital transformation is a slow process in education which only became an urgent topic due to the COVID-19 pandemic (Ngwacho, 2020). Across the world, governments have brought forth some mitigation measures, such as utilizing remote learning to manage and cope with the crisis. Accordingly, the World Bank is working effectively with many countries to support the efforts currently being implemented by many Ministries of Education to offer remote learning opportunities when schools are closed. Further, many organizations partner with the World Bank to provide mechanisms for providing remote learning using various information communication tools (The World Bank Education Global Practice, 2020).

The outbreak of COVID-19 came as a wake-up call to the education sector in most countries for primary, secondary, and tertiary education. It is difficult for the education sector to go back to the old ways of teaching, as the issues of social distancing will remain active for a while to prevent the spread

of the virus. Discussions around online learning and the use of television and radio for revision began to occupy the corridors of the education sector as soon as the reality of lockdown struck. Various organizations have mounted several responses to mitigate against the loss of time because of the lockdown. During the lockdown, this pandemic has acted as a motivating factor towards digital transformation in the education sector (Mhlanga & Moloi, 2020). The lockdown motivated the creation of virtual learning, the use of zero-rated applications and educational websites, the launching of digital schools, and, finally, the sector generally switched to remote learning (online learning) using various 4IR tools (Mhlanga & Moloi, 2020).

Before the coronavirus pandemic, eLearning has been more or less an area of science rather than a widespread practice (Mladenova et al., 2020) in the Philippines. Remote education is not a novel solution, but it is not common, especially in the provinces. With DepEd reiterating that the Philippine educational system is not yet ready for online learning (The News Lens, 2020), it faced both students and teachers with new and unexpected challenges (Bogdandy et al., 2020) just to continue with the teaching and learning process. In mid-March of 2020, nearly all private schools and universities held online classes (Ngwacho, 2020) as part of their learning continuity plan. However, the survey results revealed that the digital transformation of education due to the COVID-19 was not smooth and without challenges (Bogdandy et al., 2020).

COVID-19 presents unique challenges to education - how to continue teaching while maintaining a physical distance. The digital transformation of education had to happen overnight. Higher education has been somehow prepared for that since students get their teaching materials in electronic format for years. Thus, higher education is more flexible and open for changes than lower levels of education, specifically on Basic Education. The unforeseen circumstances made the transition much faster as expected (Mladenova et al., 2020). Many schools were caught unprepared for the online learning modality.

Since COVID-19 is a new occurrence, there has been limited work investigating teachers' experiences during the digital transformation of teaching and learning in the education sector during the pandemic (Nelson, 2008; Bond et al., 2018; Suarez-Guerrero et al., 2016). Further, no study was conducted specifically to the lived experiences of teachers who belong to the Baby Boomer generation in private institutions specific to teaching in the digital world. Thus, this study was conducted to fill in the gap in the literature.

This study intends to investigate the lived experiences of the Baby Boomer generation in the digital world of teaching. Further, the findings provided the baseline data for the recommendations intended to the administrators, teachers, and future researchers.

METHODOLOGY

Utilizing a qualitative research design, this study used the phenomenological approach to explore the lived experiences of the Baby Boomer generation in the digital transformation of teaching and learning. Phenomenology is an inductive descriptive method that describes participants' lived experiences (phenomena) to draw out their meaning (Holloway, 2005). An in-depth interview was used as the research instrument. Powerful data come from in-depth interviews (Lichtman, 2014), which derive the essence of the phenomenon from a small number of individuals (Creswell & Poth, 2018). Phenomenological studies rely primarily on interviews as a source of data (Creswell & Poth, 2018). The data were collected from the six participants chosen using the purposive sampling techniques. The chosen participants are Basic Education full-time teachers who belong to the Baby Boomer generation (ages 55-60) who are still teaching using the online learning modality. The chosen participants were coded as Participant 1, Participant 2, and so on to ensure their anonymity. The iterative process was observed during the in-depth interview. The researcher prepared the primary question by asking the participants to share their experiences in the new modality of delivering instruction. The rest of the questions are probing questions depending on the participant's response. The saturation of data signals

the researcher to stop until the 6th participant. Saturation point means there is already the repetition of the themes, and no new insights are developed from the participants. The data explication was done using Lichtman's (2014) three Cs, the coding, categorizing, and forming concepts.

RESULTS

The paper aims to explore the experiences of the Baby Boomer generation in the digital world of teaching. To present an organized discussion, this section will be divided into obstacles and challenges, updates and upgrades, and realizations and rewards.

OBSTACLES AND CHALLENGES

Knowing and recognizing the challenges is the starting point of teachers in the Baby Boomer generation. Since the digital transformation of education is something new in the Philippine education system, most of the teachers' experiences are on the challenges and obstacles they encountered during the implementation of online learning. This covers their apprehensions, uncertainties, fears, and difficulties.

Apprehensions and worries. The participants' accounts revealed their insights on the challenges they encountered, specific to their apprehensions of what the new learning modality may bring them as teachers. They are worried about the effectiveness of the new learning modality that will undoubtedly affect their effectiveness as teachers. One of the participants emphasized her apprehensions when she mentioned:

> *"Even before the start of the school year, I already think the online learning modality might be very difficult and challenging. I might not be effective as a teacher in this new modality." (3)*

Uncertainties and doubts. The participants' narratives demonstrated their insights on the challenges they encountered regarding their doubts relative to their skills and capabilities as teachers in the new modality. They express their concerns about their uncertainties due to their lack of training and familiarization with the new teaching delivery. This was highlighted when one of the participants said:

> *"I am not sure If I would be able to easily adapt the new learning modality due to lack of training and exposure perhaps. I am still having doubts that my strategies may not be effective." (4)*

Fears and reservations. Skills, competence, and sufficient training in the use of technology are some of the reservations that added to the challenges and obstacles the Baby Boomers encountered in their experiences in the digital world of teaching. They fear that their experiences as teachers would not be effective without their competence in using technology. In one of the narratives of the participants, it emphasized their reservations with the online learning modality despite their teaching experience when she expressed:

> *"At my age, though I am an experienced teacher, I am not very good at using the technology especially computer which is very important today." (3)*

Difficulties and frustrations. The participants' narratives articulated their insights on the difficulties they encountered relative to their load of work and the restricted schedule for synchronous classes. They usually get frustrated knowing the impossibility of accomplishing things within a limited period. As explained by one participant, they need sufficient time to get things done which is expected from them:

> *"Sometimes I felt stressed and frustrated because there are so many lessons that I need to explain and discuss yet there is limited time. I found it difficult and tiring, and I struggled a lot." (2)*

Upgrades and Updates

Accepting the challenges brought about by the digitization of the teaching and learning process, teachers were able to upgrade, update, and equip themselves with the needed skills and competencies by doing things by themselves, asking help from experts, and investing in what is necessary.

Independent learning. Learning on their own is one of the best ways of learning things. This would provide the teachers the opportunity to be able to identify what they need to learn to enable them to function as teachers in the digital world. As one of the participants explained:

> *"I do research on the things I want to learn. I will not stop until I learn it myself. I have to be innovative by exploring techniques and strategies on my own that would make my lesson more interactive and interesting." (4)*

Asking for help from experts. Asking for help from others reinforces one's growth mindset. There is a bigger chance of learning and making progress when they learn to ask for help from those with the right knowledge, skills, and resources. Asking for help is not a sign of weakness but rather giving chances for learning to happen. One participant explained the reason why asking help from experts is necessary:

> *"I struggle a lot, especially on uploading my lessons and activities from my modules to the LMS. I asked for help from my subject area coordinator, who is an expert in computers. I even asked help from my niece every time I have problems with technicalities."(2)*

Investment in what is necessary. The digital transformation of teaching and learning requires teachers to have upgraded technology and strong internet connectivity. The success of one's synchronous class depends on these. To be ready for the online learning modality, teachers need to invest in technology that the institution cannot fully provide. Notably, one of the participants' concerns is on the internet connectivity and compatibility of her gadgets for online classes, claiming that:

> *"I find online learning challenging because of the internet connection at home. My laptop is quite old, which is not compatible with the demands of my work at present. So, I personally pay for the improvement of the internet connection at home. I availed of the upgrade and paid the additional fee." (1)*

Rewards and Realizations Surpassing all the challenges, the teachers claimed their realizations and rewards from their experiences. These realizations are preparedness as key to success, a positive attitude equates to positive outcomes, and commitment ensures survival.

Preparedness and success. The participants' accounts revealed their insights on the importance of preparedness specific to content, pedagogy, and assessment. Preparedness, in all aspects of life, lessens all possible hindrances to success. Preparing for every day's responsibilities as a teacher would help reduce fear, anxiety, and worries about what is in store for them. One of the participants emphasized the importance of being prepared when she mentioned:

> *"I usually have my week planned out ahead of time to make sure that my activities are flexible for the students to learn what is there to learn. I think that makes it work. I made it work." (5)*

Positive attitude and positive outcomes. The participants' narratives demonstrated their insights on realizing how important a positive attitude is. The one thing needed in achieving the desired outcome is having a positive attitude towards one's goal. This was highlighted when one of the participants said:

> *"I have accepted the challenge during this time of virtual classes by being flexible and adaptable. I am adjusted to my work now since everything becomes a routine." (2)*

Commitment and survival. Work commitment brings ownership in an organization that usually made the person hurdle challenges along the way, no matter how difficult and complicated. When there is commitment, all challenges can be turned into something meaningful worthy of surpassing. In one of the narratives of the participants, she emphasized her realization of the importance of commitment when she expressed:

"It is difficult, but I know I am not the only one in this situation. Teaching must go on for the sake of the students and for the sake of the school. I am retiring. This cannot be a hindrance for completing my journey as a teacher." (6)

DISCUSSION

The results of the study revealed many significant insights. It was revealed in the participants' narratives that despite the many challenges the Baby Boomer generation encountered in the digital transformation of the teaching and learning process, teachers were able to survive and adapt to the demands of the new learning modality. They recognized, accepted, and surpassed these challenges because of their preparedness, positive attitude, and commitment. Boomers consider their jobs "for life" and rely on the organization for their career direction (Benson et al., 2018). They are the generations with optimistic and positive views in life (Zemke et al., 2000). Further, attitude is the prevailing determinant of the overall performance of teachers (Petalla & Madrigal, 2017) in whatever modality they are in.

Relative to the challenges and obstacles Baby Boomers encountered, the narratives of the participants revealed that digital transformation of education is something new in the Philippine education system and therefore is more challenging than the traditional way of teaching. The teachers' experiences are on the challenges and obstacles they encountered during the implementation of online learning. This covers their apprehensions, uncertainties, fears, and difficulties. They revealed that they encountered specific challenges to their apprehensions of what the new learning modality may bring them as teachers. They are worried about the effectiveness of the new learning modality that will surely affect their effectiveness as teachers. Teachers' challenges are often on the anticipation of technology failure during the lecture, created anxiety in them, and the natural flow of the teaching process feared to be interrupted (Genimon & Kennedy, 2020).

The participants' narratives disclosed their claims that their doubts relative to their skills and capabilities as teachers in the new modality are the challenges they encountered. They express their concerns about the uncertainties they will encounter due to their lack of training and familiarization with the new modality. Training teachers in the use of technology has been cited in several studies as the key to the success of the technology adoption process in education (Aldunate & Nussbaum, 2013). Several other barriers related to teachers cause doubts about their skills and capabilities. Feeling of low techno-pedagogical self-efficacy (Nucci-finke, 2015), the perception of technology, ICT skills, and lack of knowledge in e-learning (Stoffregen et al., 2016) are considered some of the barriers.

As shown in the participants' accounts, they considered their skills, competence, and sufficient training in technology as some of their reservations that added to the challenges and obstacles the Baby Boomers encountered in their experiences in the digital world of teaching. They fear that their experiences as teachers would not be effective without their competence in using technology. Baby Boomers appear to be resistant to change, and they just may be afraid of trying something new, making a mistake, and looking bad (Zetlin, 1995).

The participants' narratives disclosed their claims that their difficulties develop frustration. The narratives of the participants articulated their insights on the difficulties they encountered relative to the load of work and the restricted schedule for synchronous classes. They usually get frustrated knowing the impossibility of accomplishing things within a limited period. The pedagogical challenges are associated with teachers' lack of digital skills, lack of structured content versus the abundance of online resources, and lack of interactivity between the learners and teachers (Online learning and emergency remote teaching: Opportunities and challenges in emergency situations, 2020). Online teaching presents a unique set of challenges, including the amount of time needed, the development and implementation of course materials, and the ability to meet the needs of a diverse group of students (Archambault, 2010).

Despite the challenges brought about by the digitization of the teaching and learning process, teachers were able to upgrade and equip themselves with the needed skills and competencies by doing things by themselves, asking help from experts, and investing in what is necessary.

The narratives of the participants emphasized the importance of doing and learning things independently. Learning on their own is one of the best ways of learning things. This would provide the teachers the opportunity to be able to identify what they need to learn to enable them to function as teachers in the digital world. Emerging research indicates that teachers also engage in independent learning modes (Jones & Dexter, 2016). Teachers emphasized the importance of learning on their own and using their creativity. Teachers indicated that their independent learning efforts made highly efficient use of their time and allowed them to bring their own new and creative ideas into the school as they researched specific areas of interest (Jones & Dexter, 2014).

As shown in the participants' accounts, they considered asking help from experts who have the right knowledge, skills, and resources provides a bigger chance of learning and making progress. Asking for assistance from other people through training, seminars, workshops, and the like would help them enhance their skills and competence. Teachers considered sufficient support, training, and development programs important in enhancing capabilities (Petalla & Madrigal, 2017). Varied faculty development activities contribute positively to teachers' increased teaching enthusiasm and performance (Sutrisno et al., 2016) and enhance creative and innovative ideas, teaching skills, and classroom practices (Petalla & Madrigal, 2017).

Furthermore, teachers believe that investment in technology is necessary for online learning modality. The digital transformation of teaching and learning requires teachers to have upgraded technology and strong internet connectivity. The success of one's synchronous class depends on these. To be ready for the online learning modality, teachers need to invest in technology that the institution cannot fully provide. One significant barrier to online instruction would be a lack of online facilities and equipment. This shortcoming is not exclusively related to the quantity of online facilities but also linked to their quality. Lack of online facilities would demotivate both students and teachers (Dashtestani, 2014; Shin & Son, 2007; Toprakci, 2002).

Surpassing all the challenges, the teachers claimed their realizations and rewards from their experiences. These realizations are preparedness as key to success, a positive attitude equates to positive outcomes, and commitment ensures survival.

The narratives of the participants also uncovered their claims that preparedness guarantees success. The participants' accounts revealed their insights on the importance of preparedness in content, pedagogy, and assessment. Preparedness, in all aspects of life, lessens all possible hindrances to success. Preparing for every day's responsibilities as a teacher would help reduce fear, anxiety, and worries about what is in store for them. Teachers need to be equipped with both theoretical and practical skills required for the implementation of online. Teachers should be able to employ interactive techniques and procedures during online instruction (Dashtestani, 2014).

As shown in the participants' accounts, they considered a positive attitude equates to positive outcomes. The participants' narratives demonstrated their insights on realizing how important a positive attitude is. The one thing needed in achieving the desired outcome is having a positive attitude towards one's goal. Since teachers occupy pivotal roles in motivating students to learn, the positive perspectives of teachers on the implementation of online instruction would facilitate learning (Dashtestani, 2014). Successful online instruction requires teachers' positive attitudes (Jones, 2001; Dashtestani, 2012).

The participants' narratives disclosed their claims that commitment ensures survival. Work commitment brings the feeling of ownership in an organization that usually made the person hurdle challenges along the way, no matter how difficult and complicated. When there is commitment, all challenges can be turned into something meaningful worthy of surpassing. This requires highly

motivated, committed individuals who can translate, adapt, and develop their teaching skills to the online environment and are willing to learn to continue improving their practice (Archambault, 2010).

CONCLUSION

Teaching in any learning modality and any age range is a continuous process of winning over challenges and obstacles to achieve success in the form of effective teaching and learning. Despite the challenges and difficulties in the digital transformation of the teaching and learning process brought about by the pandemic, the teachers were able to update, upgrade, and equip themselves with the needed knowledge, skills, and attitude to achieve the goals of education in the new mode of teaching delivery. The demands of the digitization of the teaching and learning process may be overwhelming to the Baby Boomer generation. However, they were able to survive because of positivity and commitment to success.

REFERENCES

Agarwal, R., Gao, G., DesRoches, C., & Jha, A.K. (2010). "Research commentary the digital transformation of healthcare: Current status and the road ahead", Information Systems Research, vol. 21, no. 4, pp. 796-809.

Aldunate, R., & Nussbaum, M. (2013). Teacher Adoption of Technology. Computers in Human Behavior 29(3): 519–24. Retrieved https://doi.org/10.1016/j.chb.2012.10.017

Andal-Ancion, A., Cartwright, P., & Yip, G. (2003). "The digital transformation of traditional business", MIT Sloan Management Review, vol. 44, no. 4, pp. 34.

Archambault, L. (2010). Identifying and addressing teaching challenges in K-12 online environments. *Distance Learning, 7*(2), 13-17.

Balyer, A., & Öz, Ö. (2018). Academicians' Views on Digital Transformation in Education. International Online Journal of Education and Teaching, v5 n4 p809-830 2018. Retrieved from https://eric.ed.gov/?id=EJ1250526

Benson, J., Brown, M., Glennie, M., O'Donnell, M., & O'Keefe, P. (2018). The generational "exchange" rate: How generations convert career development satisfaction into organizational commitment or neglect of work. *Human Resource Management Journal*, DOI 10.1111/1748-8583.12198

Bilyalova A., Salimova D., & Zelenina T. (2020) Digital Transformation in Education. In: Antipova T. (eds) Integrated Science in Digital Age. ICIS 2019. Lecture Notes in Networks and Systems, vol 78. Springer, Cham. https://doi.org/10.1007/978-3-030-22493-6_24

Bogdandy, B., Tamas, J., & Toth, Z. (2020). "Digital Transformation in Education during COVID-19: a Case Study," 2020 11th IEEE International Conference on Cognitive Infocommunications (CogInfoCom), pp. 000173-000178, DOI: 10.1109/CogInfoCom50765.2020.9237840.

Bond, M., Marín, V.I., Dolch, C., Bedenlier, S., & Richter, O. (2018). Digital transformation in German higher education: student and teacher perceptions and usage of digital media. *Int J Educ Technol High Educ* 15, 48 (2018). https://doi.org/10.1186/s41239-018-0130-1

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches (4th edition).* California: Sage Publications *Department of Education Order No. 018, series of 2020, Policy Guidelines for the Provision of Learning resources in the Implementation of the Basic Education Learning Continuity Plan* (2020, July 20).

Cuellar, N. (2002). "The transition from classroom to online teaching" in Nursing Forum, Blackwell Publishing Ltd, vol. 37, no. 3, pp. 5.

Dashtestani, R. (2014). English as a foreign language teachers' perspectives on implementing online instruction in the Iranian EFL context: Association for learning technology journal. *Research in Learning Technology, 22* doi:http://dx.doi.org/10.3402/rlt.v22.20142

Dede, C. (2011). "Emerging technologies ubiquitous learning and educational transformation", European Conference on Technology Enhanced Learning, pp. 1-8.

Genimon, J., & Kennedy, A. (2020). *The volatility of Digital Technology Enabled Learning through Social Media: Educators" Apprehensions.* The Mattingley Publishing Co., Inc.

Holloway, I. (2005).*Qualitative research in health care*. Maidenhead, UK: Open University Press.

Jones, J. (2001) 'CALL and the responsibilities of teachers and administrators', *ELT Journal*, vol. 55, no. 4, pp. 360–367.

Jones, W. M., & Dexter, S. (2014). How teachers learn: The roles of formal, informal, and independent learning. *Educational Technology, Research, and Development, 62*(3), 367-384. doi:http://dx.doi.org/10.1007/s11423-014-9337-6

Jones, M., & Dexter, S. (2016). Conceptualizing school-based teacher learning from teachers' points of view: Holistically leveraging formal, informal, and independent learning activities. *Journal of Educational Multimedia and Hypermedia, 25*(3), 251.

Lichtman, M. (2014). Qualitative Research for the Social Sciences. 10.4135/9781544307756.

Mhlanga, D., & Moloi, T. (2020). "COVID-19 and the Digital Transformation of Education: What Are We Learning on 4IR in South Africa?" Educ. Sci. 10, no. 7: 180. https://doi.org/10.3390/educsci10070180

Mladenova, T., Kalmukov, Y., & Valova, I. (2020). Covid 19 – A major cause of digital transformation in education or just an evaluation test. *TEM Journal, 9*(3), 1163-1170. doi:http://dx.doi.org/10.18421/TEM93-42

Nelson, K. (2008). *Teaching in the digital age: Using the Internet to increase student engagement and understanding*. Thousand Oaks, CA: Corwin Press.

Ngwacho, A. (2020). COVID-19 Pandemic Impact on Kenyan Education Sector: Learner Challenges and Mitigations. *Journal of Research Innovation and Implication in Education.* ISSN 2520-7504 (Online) Vol.4, Iss.2, 2020 (pp. 128-139)

Nucci-finke, C. (2015) Les Enseignants et Le E-Learning Facteurs d'adoption Ou de Rejet Du e-Learning, Dans Un Contexte de Formation Des Enseignants. *Paris Ouest Nanterre la Défense*

Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. (2020). *Societies, 10*(4), 86. doi:http://dx.doi.org/10.3390/soc10040086

Petalla, M. B., & Madrigal, D. V. (2017). Teaching Standards Competence and Efficiency Performance of Basic Education Teachers. *Journal of Institutional Research South East Asia*, 15(3).

Rogers, D.L. (2016). *The digital transformation playbook: Rethink your business for the digital age,* Columbia University Press.

Shin, H. J., & Son, J. B. (2007) 'EFL teachers' perceptions and perspectives on internet-assisted language teaching', *Computer-Assisted Language Learning Electronic Journal*, vol. 8, no. 2.

Stoffregen, J. D., Palawski, M., Ras, E., Tobias, E., Fitzpatrick, D., Mehigan, T., Steffens, P., Przygoda, C., Schilling, P., Friedrich, H., & Moebs, S. (2016). Barriers to open E-learning in public administrations: A comparative case study of the European countries Luxembourg, Germany, Montenegro, and Ireland. *Technological Forecasting and Social Change*, 111, 198–208

Suarez-Guerrero, Lloret-Catala, C., & Mengual-Andres, S. (2016). Teachers' Perceptions of the Digital Transformation of the Classroom through the Use of Tablets: A Study in Spain. https://www.scipedia.com/public/Suarez-Guerrero_et_al_2016a

Sutrisno, A., & Carter, R. W. (2016). Effects of facilitating Papuan teachers' professional development programs on Australian facilitators: Implications for universities. *The Asia - Pacific Education Researcher, 25*(5-6), 835-843. doi:http://dx.doi.org/10.1007/s40299-016-0303-4

The News Lens (2020). *Philippines: The Rich and Poor Divide in Distance Learning.* 2020/10/29. https://international.thenewslens.com/article/142537

The World Bank Education Global Practice. (2020). Guidance Note: Remote Learning & COVID-19; The World Bank: Washington, DC, USA, 2020; pp. 1–4.

Toprakci E. (2002) 'Obstacles at the integration of schools into information and communication technologies by taking into consideration the opinions of the teachers and principals of secondary schools in Turkey', *E-Journal of Instructional Science and Technology*, vol. 9, no. 1, pp. 1–16.

Ustundag, A., & Cevikcan, E. (2017). *Industry 4.0: managing the digital transformation*, Springer.

Warschauer, M. (2007). "The paradoxical future of digital learning", Learning Inquiry, vol. 1, no. 1, pp. 41-49.

Yu, U.A. (2019). From Computer Literacy To Digital Transformation Of Education. *Informatics and education*. 2019; (4):5-11. (In Russ.) https://doi.org/10.32517/0234-0453-2019-34-4-5-11

Zemke, R., Raines, C., & Filipczak, B. (2000). *Generations at Work Managing the Clash of Veterans, Boomers, Xers, and Nexters in Your Workplace.* New York: American Management Association.

Zetlin, M. (1995, April.). Is it worth keeping older salespeople? *Sales & Marketing Management,* 147(4), 144-147.

A Structural Model of Entrepreneurial Tendencies

Marichu B. Montecillo

Bukidnon State University(marichubmontecillo@buksu.edu.ph)

ABSTRACT

The impact of entrepreneurship in a nation's progress is seen in the country's economic growth and social development through innovation and job creation. With the increasing competition in the job market, graduates have to look into other career alternatives such as venturing into start-up businesses. This study investigated the influence of social factors and the level of self-regulated learning among college students on their entrepreneurial tendencies conducted among the five higher education institutions in a major city of Bukidnon, Philippines. Quantitative descriptive research method utilizing a causal- comparative design using survey questionnaires were the main data gathering tools complemented with focus group discussions for triangulation. Descriptive statistics and multiple linear regressions were used to organize the data. Structural equation model was generated to explain entrepreneurial tendencies in terms of self-regulated learning and social factors. The study concludes that the higher levels of self-regulated learning and stronger influence of social factors make for a greater entrepreneurial inclination.

Keywords: *Demographics, Self-regulated learning, Social factors, Entrepreneurial tendencies*

INTRODUCTION

The determination of an individual's potential to do business is imperative in fostering more enterprise that will propel economic activities. With the increasing competition in the job market, graduates have to look into other career alternatives, such as venturing into start-up businesses. To be an entrepreneur can be a desirable occupation. However, not all graduates choose entrepreneurship as a career option. Numerous informal talks with students, members in the academe, and existing local entrepreneurs over the years have increased the researcher's awareness that only few students would dare venture into an existing business and even fewer for those who want to start their own business. Hence, there is a need to probe deeper into what shaped the entrepreneurial tendencies of an individual, what makes one venture into entrepreneurship, and even what influences an individual to engage in entrepreneurial activities (Koe et al., 2012).

The impact of entrepreneurship in a nation's progress is evident in the country's economic growth and social development through innovation and job creation. The United Nations, through its Sustainable Development Goals, acknowledged that entrepreneurship could be the engine for transforming our world and overcoming the diverse nature of global challenges (Apostolopoulos *et al*., 2018). Governments, organizations, universities, and individuals join forces to try to understand the process of entrepreneurship, from conception to fruition, since its promotion is essential for the development of market economies (OECD/The European Commission, 2013).

In an attempt to understand better what makes an entrepreneur, previous studies centered on the entrepreneurs' characteristics, which tend to have positive influences on a firm's performance and the motivations of an individual to do business (Hakim *et al.,* 2013). Studies on entrepreneurship were also associated with self-regulation (Trevelyan, 2010; Bendassolli *et al*., 2016) while others probed into the entrepreneurial environment as a positive and facilitating influence on entrepreneurial behavior.
The study of Kacperczyk (2011) stressed the need to explore the social influences to entrepreneurship since an individual's likelihood of becoming an entrepreneur increases with exposure to start-up careers via social relationships like family and friends and schools.

There were several studies on entrepreneurial tendencies by scholars from different countries that identified circumstances that may encourage students toward entrepreneurship (Dada *et al*., 2009; Katundu & Gabagambi, 2014; Othman *et al.* 2017). However, the literature on the entrepreneurial tendencies of Filipino students is limited. Also, few studies were made on how demographics in the Philippines setting affect the entrepreneurial potential that the researcher would like to uncover in order to provide a broader understanding of entrepreneurship. Further, there is a dearth of studies that attempted to explore the influence of both social factors and self-regulated learning on the entrepreneurial tendencies of students, especially in the local setting.

This study aimed to verify the factors that influence undergraduate student's entrepreneurial tendencies. It tried to establish the assumption that selected demographics, self-regulated learning, and social factors predict the said tendencies. A structural model that explained entrepreneurial tendencies of undergraduate students was likewise explored.

FRAMEWORK

The study hinged on the assumption that there are factors that impel entrepreneurial tendencies of students. This is supported by Bandura's Social Cognitive Theory (1986), Zimmerman's Model of Self-Regulated Learning (1978), Rotter's Social Learning Theory (1954) and Davidsson's Economic-Psychological Model (1995).

Albert Bandura (1986) proposed in his Social Cognitive Theory that human behavior is a product of the interplay of intrapersonal influences, the behavior individuals engage in, and the environmental forces that impinge upon them. Bandura (1988) further assumed that learning occurs in a social context with a dynamic interaction of the person, environment, and behavior. The theory emphasizes on social influence and its emphasis on external and internal social reinforcement (Bandura, 2012) as well as the internal mental processes as well as to the interaction of the subject with others (England Bayrón, 2013; Toutain & Byrne 2012). Thus, the entrepreneurial tendencies of individuals maybe manifested in their behavior as influenced by their social factors. Amouri *et al*. (2016) in a study asserted that the family, particularly the parents have the huge impact on their children's attitudes, intentions, and knowledge as they have the closest and extensive contacts with their family members. Further, Katundu & Gabagambi (2014) claimed that potential entrepreneurs were also more likely to have had a father who was self-employed or has been self-employed at some stage in the past. Another major part of the student's environment is the school. Daniyal et.al. (2012) contended that the role of university was significantly linked with the interest developed in the students towards entrepreneurship. Senevirathne, Wadk, & Silva (2016) also have established that the school, peer groups, and the influence of mass media has a significant effect on the child in terms of acquiring and shaping skills and behaviors related to consumption and also learning monetary values.

Apart from Bandura's Social Cognitive Theory, this study also anchors on Barry Zimmerman's Model of Self-Regulated Learning. According to Zimmerman, self-regulation is a process of proactively applying self-directive practices, cognitive behaviors, and emotions to attain goals, learn skills, and manage emotional reactions (Zimmerman, 2008, 1989; Schunk & Zimmerman, 1998). Zimmerman further described self-regulation theorists' view of learning as "an open-ended process that requires cyclical activity on the part of the learner that occurs in three major phases: forethought, performance or volitional control, and self-reflection" (Schunk & Zimmerman, 1998). The forethought phase includes goal setting. The performance or volitional control phase accounts for self-observation and self-control. The self-reflection phases account for self-evaluation and self-reactions (Zimmerman 2008, 1990; Schunk & Zimmerman, 1998). In the study of Said (2013) that self-regulated learning demonstrated important element in academic achievement and Dela Fuente-Arias (2017) also said that self-regulation is an advantage for proactive learners to have because it increases the reliability of the execution. Likewise, Pihie & Bagheri (2013) cited that self-reflective and self-reactive activities such as monitoring and evaluating behavior, create significant incentive that motivate and guide one's knowledge, thoughts, emotion, performance and environmental settings toward achieving a goal. It is therefore likely that students' entrepreneurial tendencies can be outcomes of self-regulated learning.

Spagnoli, Caetana, & Santos (2015) whose study concluded that self-regulation of students has been emphasized as a key antecedent of entrepreneurial intention and entrepreneurial performance.

This present study is also anchored on Davidsson's Economic-Psychological Model (1995), which includes economic and psychological factors that affect an individual's intentions for venture creation. According to this model, the primary determinant of entrepreneurial intention is a person's conviction that starting and running one's firm is a suitable alternative for him/her. This conviction is, in turn, based on general attitudes and domain attitudes which are likewise influenced by social factors, environment and internal dynamics of a person. The theory, therefore, proposed that general attitudes such as willingness to change, achievement, and autonomy influenced intention (Davidsson, 1995). Tiftik & Zincirkiran (2014) further emphasized that entrepreneurial tendency as primarily a composition of the individual and environmental factors. Sandhu, Jain & Yusof (2010) cited that there is always a strong entrepreneurial inclination among the undergraduate students, a strong desire to own a business, and a high interest in starting their businesses. Further, Katundu & Gabagambi (2014) established that persons with higher entrepreneurial tendencies are said to have a positive inclination towards entrepreneurship. They further said that persons with entrepreneurial propensity are those with high creative tendency, above-average need for autonomy, and high calculated risk-taking orientation. These people may also have a high need for achievement and an internal locus of control or drive and determination (Katundu & Gabagambi, 2014).

The focus on entrepreneurial tendencies have led to studies that identified other traits such as high need for achievement and need for autonomy, creative tendency, calculated risk-taking, drive and determination (Tabai, 2013; Liengen & Niekerk, 2015). This current study based the entrepreneurial tendency attributes from the aforementioned studies. Given the previous arguments, this study postulated that self-regulated learning and social factors influenced the entrepreneurial tendency of undergraduate students.

Hypothesis 1: Entrepreneurial tendencies is directly influenced by demographics, self-regulated learning and social factors.

Hypothesis 2: Entrepreneurial tendencies is influenced by self-regulated learning and social factors.
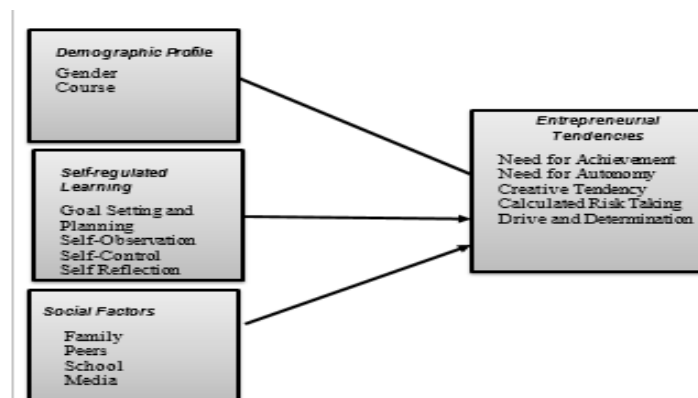
Figure 1. The schematic presentation showing the interplay of variables in the study

METHODOLOGY

This study used the quantitative descriptive research method utilizing a causal-comparative design. Five survey questionnaires were adapted and revised to suit the needs of the study. The Self-Regulation Formative Questionnaire by Gaumer-Erickson & Noonan (2018), a self-assessment scale to measure the level of self-regulation of a student; Financial Socialization Agents Survey, a scale on the level of influence of socialization agents among individuals was adapted and revised from the studies of Salumintao (2018) and Shim, Barber, Card, Xiao & Serido (2009); the General Enterprising Test, a

self-assessment scale to measure respondents' level of general enterprising by Caird (1991); the Entrepreneurial Propensity Questionnaire developed by Dagang (2019) to measure the entrepreneurial propensity of college students; and the Survey on Entrepreneurial Tendencies developed by Tiftik & Zincirkiran (2014), a self-assessment tool to measure the entrepreneurial tendencies of a person. The instruments were content validated by experts and tested and showed a Cronbach's alpha of the 0.842 for self-regulated learning, 0.900 for social factors, and 0.884 for entrepreneurial tendencies. Permission to use and modify the adapted instruments were aptly secured from the authors. Using Cochran's (1963) equation, a total of 346 undergraduate students from business programs and its allied courses were randomly. Informed consent was embedded in the questionnaire and participants were made aware that answering the survey was purely voluntary. Descriptive statistics was complemented with structural equation modeling (SEM) using AMOS of SPSS 26 to determine the extent the hypothesized model with the use of combined vast variety of statistical procedures like multiple regression, factor analysis, and many others (Nachtigall *et al*., 2003; Schumaker & Lomax, 2010). Hooper, Coughlan & Mullen (2008) in Salumintao (2018) created guidelines for determining model fit as follows: absolute fit indices: chi-square χ^2 low χ^2 relative to degrees of freedom; relative χ^2 (χ^2/df) as low as 2.0 (Tabachnick & Fidell, 2007) to as high as 3.0 (Carmines & McIver, 1981); root mean square error of approximation (RMSEA) values less than < .05 to .08 with confidence interval (Schreiber *et. al*., 2006); SRMR = 0 indicates perfect fit, value less than .05 is widely considered good fit and below .08 is adequate fit; GFI values greater than 0.95; Incremental Fit indices NFI values greater than 0.90; NNFI(TLI) values greater than 0.95 (Hu & Bentler, 1999); and CFI values greater than 0.95 (Hu & Bentler, 1999). These values established the best fit model using the SEM.

RESULTS

Perceived Level of Self-Regulated Learning
Table 1 disclosed that the level of self-regulated learning of the students in all the dimensions is *high*. Among the dimensions, the *self-reflection* had the highest mean (M=3.11, SD=.403). This was followed by *self-observation (M=* 3.03, SD=.422); *self-control* (M=*2.97, SD=.403*) and the lowest mean was *goal setting planning* (M=*2.61, SD=.381*).

Table 1
Overall Mean Summary of the Level of Self-Regulated Learning of the Participants

Self-Regulated Learning Dimensions	Mean	SD	Description
Goal Setting and Planning	2.61	.381	The level of SRL is high.
Self-Observation	3.03	.422	The level of SRL is High.
Self-Control	2.97	.403	The level of SRL is High.
Self-Reflection	3.11	.403	The level of SRL is High.
Overall Mean	**2.93**	.317	The level of SRL is High.

The results suggest that students have high awareness on how they self-regulated in terms of learning things and applying them; can take control of and evaluate their own learning and behavior as such that they know how to set goals, monitor, and reflects their actions toward the achieving their goals. Self-reflection as the highest among the dimensions of self-regulated learning, finds the support in the study of Pihie & Bagheri (2013) which cited that self-reflective and self-reactive activities such as monitoring and evaluating behavior, create significant incentive that motivate and guide one's knowledge, thoughts, emotion, performance, and environmental settings toward achieving a goal.

Perceived level of influence of the Social Factors
The findings of the study, as presented in Table 2, revealed that generally, social factors are 'somewhat influential' in the students' potential towards something. A closer look at the table finds *Family* as a *Social Factor* 'extremely influential' (M=3.51, SD=.445). The result of the study is supported by Amouri *et al*. (2016) which concluded that the family, particularly the parents have the huge impact on their children's attitudes, intentions, and knowledge as they have the closest and extensive contacts with their family members. Further, Katundu & Gabagambi (2014) asserted that potential entrepreneurs were

also more likely to have had a father who was self-employed or has been self-employed at some stage in the past.

Table 2
Summary of the Social Factors Level of Influence on the Students

Individual Basic Values	Mean	SD	Description
Family	3.51	0.445	The SF are 'extremely influential.'
Peers	3.00	0.597	The SF are 'somewhat influential.'
School	3.18	0.525	The SF are 'somewhat influential.'
Media	2.93	0.607	The SF are 'somewhat influential.'
Overall Mean	**3.15**	**0.430**	**The SF are 'somewhat influential.'**

On the other hand, all three other factors observed to be 'somewhat influential.' The highest of which was the *School* (M=3.18, SD=.525), followed by *Peers* (M= 3.00, SD=.597), and the least was Media (M= 2.93, SD=.607). Senevirathne, Wadk, & Silva (2016), whose study confirmed that information provided at school regarding economics has a significant effect on the child in terms of acquiring and shaping skills and behaviors related to consumption. The same study also found that apart from school as social influence, peer groups, and the influence of mass media also has a vital contribution to learning about monetary values and social motivation for an individual.

Perceived level of Entrepreneurial Tendencies
Table 3 shows a summary of the means of the sub-variables or dimensions of entrepreneurial tendencies of undergraduate students among higher education institutions. The data revealed that the level of entrepreneurial tendencies of the students in all the dimensions is 'high'. This finding is validated by the study of Sandhu, Jain & Yusof (2010) which cited that there is a strong entrepreneurial inclination among the undergraduate students, a strong desire to own a business, and a high interest in starting their businesses.

Table 3
Overall Mean Summary of the Participants' Level of Entrepreneurial Tendencies

Entrepreneurial Tendencies Factors	Mean	SD	Description
Need for Achievement	2.87	.404	The level of ET is high.
Need for Autonomy	3.13	.364	The level of ET is high.
Creative Tendency	3.37	.416	The level of ET is high.
Calculated Risk-taking	3.29	.409	The level of ET is high.
Drive and Determination	3.17	.421	The level of ET is high.
Overall Mean: 3.17 SD: .421			The level of ET is high.

Among the dimensions, the highest rating was *creative tendency* (M=3.37, SD=.416), while *calculated risk-taking* (M= 3.29, SD=.409) follows; *drive and determination* (M=3.17, SD=.421); *need for autonomy* (M=3.13, SD=.364); and the lowest mean is *need for achievement* (M=2.87, SD=.404). The result of the study finds affirmation from the study of Katundu & Gabagambi (2014), which showed that persons with entrepreneurial propensity are those with high creative tendency, above-average need for autonomy, and high calculated risk-taking orientation. Further, they concluded that persons with higher entrepreneurial tendencies are said to have a positive inclination towards entrepreneurship. These people may also have a high need for achievement and an internal locus of control or drive and determination.

Structural Model that best explains Entrepreneurial Tendencies
Hypothesized Model 1. Entrepreneurial tendencies are directly influenced by demographics, self-regulated learning, and social factors. However, demographics appeared to have little or no influence on entrepreneurial tendencies. For want of space, the model could not be reflected in this paper. The calculation of the overall fit of hypothesized model 1 shows that all criterion fit indices under the

categories have not been satisfied. Based on the standard fit criterion, as shown in Table 6, the Hypothesized Model 1 was not acceptable.

Hypothesized Model 2: Entrepreneurial tendencies are directly influenced by self-regulated learning, and social factors.

Table 4
Standard Fit Indices Criterion & Values for Hypothesized Model 1 and the Hypothesized Model 2(The Best Fit Model)

Model	X^2 value	df	Prob.	NFI	GFI	CFI	TLI	RMR	RMSEA
Hypothesized Model 1	280.28	87	0.000	.820	.906	.867	.839	.023	.080
Hypothesized Model 2 (Best Fit Model)	98.919	59	0.001	.931	.958	.970	.961	.009	.044
Standard Fit Criterion	not significant; ratio of X^2 to df ≤ 2 =1.677			$\geq .90$	$\geq .95$	$\geq .95$	$\geq .95$	nearing zero	$\leq .05$

As shown in Table 4, the values for the hypothesized model have passed the standard-fit criterion. The root mean square error of approximation (RMSEA) = .044 has reached the standard of $\leq .05$. ; the root mean square residual (RMR) = .009 is nearing zero. The three indices which are comparative fit index (CFI) =.970, Tucker Lewis index (TLI)= .961, the good fit index (GFI)= .958 met the standard fit of $\geq$ .95. The normed fit index (NFI) = .931 also passed the standard fir criterion, which is $\geq$ .90. Parsimonious fit calculation results in a ratio of X2 to df ≤ 2=1.677, a figure that is lower than 3.0. With this criterion, hypothesized model 2 is the most acceptable model because it is also the best fit model using the seven criteria for goodness-of-fit.
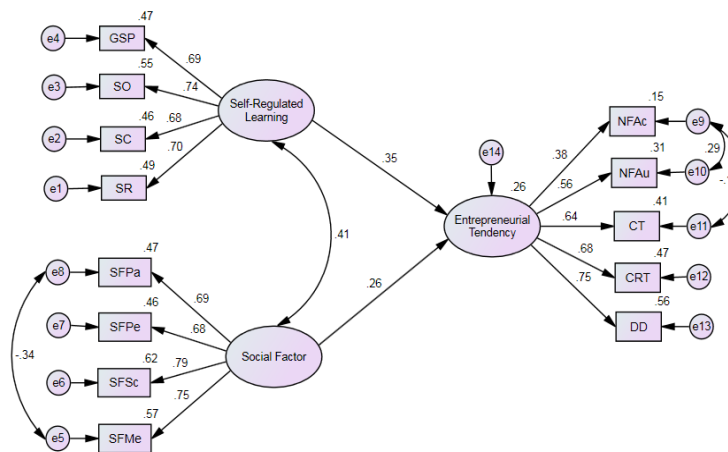
Figure 2. *Illustration of Hypothesized Model 2: The Best Fit Model*

Figure 2 also shows that both the independent variables of self-regulated learning and social factors directly influence entrepreneurial tendencies. As presented in Figure 4, the best fit model show that 26% of the entrepreneurial tendencies (R^2 = .26) is influenced by self-regulated learning (β = .35) and social factors (β = .26). The structural equation for entrepreneurial tendencies, based on the model, is presented as:

entrepreneurial tendencies= .35Self-regulated learning +.26social factors

Self-regulated learning covaries with social factors (cov=0.41) which means that changes in self-regulated learning are likely to have adjustments in the social factors. However, the model also showed that self-regulated learning has a higher significant influence (β=.35) compared to social factors (β=.26). This implies that the potential of an individual to engage in any entrepreneurial activities is influenced by his/ her level of self-regulated learning and the extent of influence of the social factors. This is corroborated by the study of Tiftik & Zincirkiran (2014) that emphasized entrepreneurial tendency as primarily a composition of the individual and environmental factors. Additionally, the individual's capacity to regulate himself can significantly affect his inclination to do business. Spagnoli, Caetana, & Santos (2015) whose study concluded that self-regulation of students has been emphasized as a key antecedent of entrepreneurial intention and entrepreneurial performance.

Looking closely at the observed variables of self-regulated learning, it is evident that the factor loadings of all variables have factors loadings of more than .60 and squared multiple correlation of more than .40. This satisfies the gauge established by Awang (2012) in his study which presents the deletion of any items with a factor loading of less than 0.6 and R^2 of less than .40 from the measurement model. The highest estimated regression weight is self-observation (β=.74), followed by self-reflection (β=.70), goal setting (β=.69) and self-control (β=.68).

Looking at the measure of social factors, it is also evident that school has the highest R^2 or a multiple correlation of .79. This means that school yields 79% influence among the measures of social factors. This result is supported by the study of Daniyal et.al. (2012) which concludes that the role of university was found significantly associated with the interest developed in the students towards entrepreneurship.

The structural model confirms the assumption of the study that the tendency for individuals to engage in any entrepreneurial activities is influenced by their level of self-regulated learning indicated by self-observation, self-reflection, goal setting and planning, and self-control. This inclination towards entrepreneurship is further influenced by social factors where the school, has the most influence followed by media, family, and peers.

CONCLUSIONS AND RECOMMENDATIONS

Higher levels of self-regulated learning and stronger influence of social factors make for a greater entrepreneurial inclination. High levels of need for achievement, need for autonomy, creative tendency, calculated risk-taking, and drive and determination can be nurtured with appropriate exposures and or activities that develop self-regulated learning together with the significant influence of social factors. The stronger influence of self-regulated learning to entrepreneurial tendencies suggests that improving levels of self-regulated learning among students from higher education institutions can gradually lead them to be inclined towards entrepreneurship.

Even if the social factors may have a weaker influence on entrepreneurial tendencies, these factors also co-vary with self-regulated learning. The strong association implies that self-regulated learning is significantly related to the social factors considered as the environment that contributes to the self-regulation of individuals. Thus, the school, first and foremost, having the most influence as a social factor, indicates the need for academic institutions to go back to their drawing board and map out plans to strengthen their curriculum to encourage entrepreneurship.

Based on the findings and conclusion presented in the study, the following recommendations are offered:

Academic Institutions. Academic institutions involved in this study may consider incorporating topics on self-regulated learning in its different business subjects, such as Accounting, Entrepreneurship, Finance and Management subjects that is instrumental in developing the entrepreneurial tendencies of the students. The self-regulating activities may come in a separate topic that will form part of the coverage for the business subjects. Also, being the strongest influence among the social factors, academic institutions may also organize increased number of entrepreneurial exposures for the students

through caravans, trade exhibits or trade fairs that will be an avenue for conception of business ideas by the students virtually and eventually physically when social situation allows.

Linkage with industry and government organization such as the Chamber of Commerce and Industry may also be initiated by the higher education institutions where programs and activities maybe created to widen the exposure of potential entrepreneurs and those who have the inclination to do entrepreneurial activities.

Educators. Educators, for Higher education institutions and also from senior high schools, may design teaching strategies that will help harness the students' level of self-regulated learning that gears towards the development of the entrepreneurial tendencies of the students. Also, educators may develop modules on self-regulated learning and entrepreneurial tendencies that will be utilized by the students for them to increase their level of self-regulation. A teacher's manual with various assessments and teaching methods may also be developed in order to properly gauge the level of progress of the students in their level of entrepreneurial tendencies based on their level of self-regulated learning.

Students. Students may also be guided by the institution in developing a checklist of the plans and goals for their studies and their future career and devise a journal of the progress that they have made which will be used later as the basis for evaluation of the outcomes. The checklist and journal making may help the students develop their self-regulated learning. On the other hand, students may also actively engage in school's entrepreneurial activities and engage in media platform that will increase their exposure to entrepreneurship.

Future Researchers. Future researchers may use the findings in the study to uncover more of entrepreneurial tendencies of the students. A separate in-depth study on each of the sub-variables and its influence on entrepreneurial tendencies can be made to provide a deeper understanding of entrepreneurial tendencies.

REFERENCES

Amouri, A., Sidrat,S., Boudabbous, S. & Boujelbene, Y. (2016). Effects of role models on developing entrepreneurial intention among graduate students in Tunisia. *Journal of Business and Management*, *18(7)*, 73-80. https://doi.org/10.9790/487X-1807037380

Apostolopoulos, N., Al-Dajani, H., Holt, D., Jones, P., & Newbery, R. (2018). *Entrepreneurship and the Sustainable Development Goals*, Contemporary Issues in Entrepreneurship Research, 8. Emerald Publishing Limited. https://doi.org/10.1108/S2040-724620180000008005

Awang, Z. (2012). *A handbook on SEM*. (2nd ed.). Universiti Technologi MARA Press.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Bandura, A. (1988b, in press). *Social cognitive theory and social referencing.* In S. Feinman (Ed.), Social referencing and social construction of reality. New York: Plenum

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited [Editorial]. *Journal of Management, 38(1),* 9–44. https://doi.org/10.1177/0149206311410606

Carmines, E. G. and J. P. McIver, 1981, *Analyzing Models with Unobserved Variables: Analysis of Covariance Structures,* pp. 65-115 in Social Measurement: Current Issues, edited by G.W. Bohmstedt and E.F. Borgatta. Beverly Hills: Sage.

Cetin, B. (2015). Academic Motivation and Self-Regulated Learning in Predicting Academic Achievement in College. *Journal of International Education Research*, 11(2), 95-106. https://doi.org/10.19030/jier.v11i2.9190

Cochran, W.G. (1977). *Sampling Techniques (3rd ed.).* John Wiley & Sons.

Commission on Higher Education (2017). CHED Memorandum Order No. 62 series of 2017. Revised policies and standards for bachelor of science in tourism management (BSTM) and bachelor of science in hospitality management (BSHM). Diliman, Quezon City. https://ched.gov.ph/2017-ched-memorandum-orders/

Dada, O., Watson, A. and Kirby, D. (2015). Entrepreneurial tendencies in franchising: evidence from the UK. *Journal of Small Business and Enterprise Development, 22(1),* 82-98. https://doi.org/10.1108/JSBED-11-2011-0021

Dagang, A. L. B. (2019). *Entrepreneurial tendencies: A causal model*. [Doctoral Dissertation, Xavier University - Ateneo De Cagayan].

Daniyal, M., Nawaz, T., Hassan, A., & Aleem, M.(2012). Entrepreneurial Inclination for Entrepreneurial Carrier: A Case Study of Management Students of Islamia University of Bahawalpur, Pakistan. *International Journal of Information, Business and Management*,4(1), 125-132.

Dela Fuente-Arias, J. (2017). Theory of Self vs. Externally-Regulated Learning: Fundamentals, Evidence, and Applicability. *Frontiers in Psychology*, 8:1675. https://doi: 10.3389/fpsyg.2017.01675

England Bayrón, C. (2016). Social Cognitive Theory, Entrepreneurial Self-Efficacy and Entrepreneurial Intentions: Tools to Maximize the Effectiveness of Formal Entrepreneurship Education and Address the Decline in Entrepreneurial Activity. Revista Griot, 6(1), 66-77. Retrieved from https://revistas.upr.edu/index.php/griot/article/view/1624

Gelderen, M.V., Kautonen, T. & Fink, M. (2015). From entrepreneurial intentions to actions: Self-control and action-related doubt, fear, and aversion. *Journal of Business Venturing*, 30(5), 655-673. https:// DOI: 10.1016/j.jbusvent.2015.01.003

Hakim, A., Hastuti, M.S. &, Sarita, B (2013). The impact of personality and environmental factors on entrepreneurial intention of economics and non-economics students of universitas haluoleo kendari. *International Journal of Economics, Business and Finance, 1(7),* 165-173

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1),1–55. https://doi.org/10.1080/10705519909540118

Kacperczyk, A. (2013). Social Influence and Entrepreneurship: The Effect of University Peers on Entrepreneurial Entry. *Organization Science, 24(3),* 664-683. https://doi.org/10.2139/ssrn.1961386

Katundu, M. A. & Gabagambi, D.M. (2014). Entrepreneurial Tendencies of Tanzanian University Graduates: Evidence from University of Dar-es-Salaam. *European Academic Research*, 1(12), 5525-5558. https://www.researchgate.net/publication/282133517_Entrepreneurial_Tendencies_of_Tanzanian_University_Graduates_Evidence_from_University_of_Dar-es-Salaam

Koe, W., Sa'ari, J.R., Abdul Majid,I., & Ismail, K. (2012). Determinants of entrepreneurial intention among millennial generation. *Procedia - Social and Behavioral Sciences*, 40, 197 – 208. https://doi.org/10.1016/j.sbspro.2012.03.181

Liengen, E.V. & Niekerk, G. (2015). Entrepreneurial tendencies of science, engineering and technology students. The *Southern African Journal of Entrepreneurship and Small Business Management,* (7), 118-144. DOI:10.4102/sajesbm.v7i1.1

Nachtigall, C., Khroehne, U., Funke, F. & Steyer, R. (2003). Why should we use SEM? pros and cons of structural equation modelling. *Methods of Psychological Research Online*, 8(2), 1-22.

OECD/The European Commission (2013). *The missing entrepreneurs: Policies for inclusive entrepreneurship in Europe*. Brussels: OECD. DOI: 10.1787/9789264188167-en

Othman,N, Mohammad, R, Radin, S.A.& Radin, A. R.(2017). Entrepreneurial competency and tendencies among pre-university students. *International Journal of Economic Research*, 14(15), 51-67.

Pihie, Z. A. L., & Bagheri, A. (2013). Self-Efficacy and Entrepreneurial Intention: The Mediation Effect of Self-Regulation. *Vocations and Learning*, 6(3), 385–401. https://doi.org/10.1007/s12186-013-9101-9

Rengiah, P. & Sentos, I. (2014). A Structural Equation Modelling of Entrepreneurial Education and Entrepreneurial Intensions Among Malaysian University Students. *International Journal of Business and Management Invention*, 3(11), 20-25.

Republic Act Number 10533: Enhanced Basic Education Act of 2013. 2013. (Phils.)

Rotter, J. B. (1989). Internal versus external control of reinforcement: A case history of a variable. *American Psychologist*, *45(4),* 489-493. https://doi: 10.1037//0003-066X.45.4.489

Said, N. (2013). *Dimensions of self-regulated learning and academic achievement in college students.* [Doctoral Dissertation, University of Northern Colorado].

Salumintao, M. T. (2018). *Personal finance practices of millenial students: An exploratory model.* [Doctoral Dissertation, Liceo de Cagayan University]

Sandhu, M.S., Jain, K.K. and Yusof, M. (2010). Entrepreneurial inclination of students at a private university in Malaysia. *New England Journal of Entrepreneurship*, 13(1), 61-72. https://doi.org/10.1108/NEJE-13-01-2010-B005

Shim, S., Barber, B.L., Card, N.A., Xiao, J.J. & Sarido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal of Youth and Adolescence,* 39(12), 14-57. https://doi.org/10.1007/s10964-009-9432-x

Schreiber, J.B., Stage, F.K., King, J. Nora, A. & Barlow, E. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6), 323-338. DOI:10.3200/JOER.99.6.323-338

Schumaker, R. & Lomax, R. (2010). *A beginner's guide to structural equation*. (*3rd ed.*). The Tailor and Francis Group, LLC.

Schunk, D. H., & Zimmerman, B. J. (1998). *Self-regulated learning: From teaching to self-reflective practice*. Guilford Press.

Senevirathne, A., Wadk, J., & Silva, G. (2016). Impact of financial socialization agents towards financial literacy among young micro business entrepreneurs in colombo district in sri lanka. *Journal of Accountancy & Finance*, 1,1-8.

Spagnoli, P., Caetana, A. & Santos, C. (2015). Entrepreneurial Sel-efficacy in Italy: An Emperical Study from a Gender Perspective. *Testing, Psychometrics, Methodology in Applied Psychology*, 22 (4), 485–506.

Tabachnick, B.G. and Fidell, L.S. (2007), *Using Multivariate Statistics* (*5th ed.).* Allyn and Bacon.

Tabai, A. V. (2013). *An Analysis of the enterprising tendencies and personality dimensions of the independent petroleum marketers of nigeria*,[Master's Thesis, Eastern Mediterranean University].

Tiftik, H., & Zincirkiran, M. (2014). A Survey of entrepreneurial tendencies candidate young entrepreneurs: foundation university sample. *Journal of Management Research*, *6(2),* 177-200. https://doi.org/10.5296/jmr.v6i2.5444

Toutain, O. and Byrne, J. (2012). Learning theories in entrepreneurship: new perspectives, *Academy of Management Conference*, Boston.

Trevelyan, R. (2011). Self-regulation and effort in entrepreneurial tasks. *International Journal of Entrepreneurial Behaviour and Research*, 17(1), 39-63. DOI:10.1108/13552551111107507.

Zimmerman, Barry J (1989). "A social cognitive view of self-regulated academic learning". *Journal of Educational Psychology, 81(3)*, 329–339. DOI:10.1037/0022-0663.81.3.329

Zimmerman, B. J. (1989). Models of self-regulated learning and academic achievement. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated learning and academic achievement: Theory, research, and practice* (pp. 1-25). Springer Series in Cognitive Development. Springer. https://doi.org/10.1007/978-1-4612-3618-4_1

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25(1), 3-17. https://doi.org/10.1207/s15326985ep2501

Correlating Self-Efficacy and Academic Motivation:
The Case of High School Students with Parents Working Abroad

Patrick Daren S. Campos[1] and Dennis V. Madrigal[2]

[1]St. Therese's High School, Inc., Antique, Philippines (patrickdarencampos104@gmail.com)
[2]University of Negros Occidental-Recoletos, Bacolod City, Philippines (dennis_madrigal@yahoo.com)

ABSTRACT

Individuals with a low sense of self-efficacy may experience depression, anxiety, and feeling of helplessness. More likely, they do not expend greater effort and don't persist longer regarding accomplishing tasks. On the contrary, people with high self-efficacy prefer to perform more challenging tasks and recovers quickly from setbacks, and ultimately are likely to achieve their personal goals. Hence, this descriptive-correlational paper aimed to determine the levels of self-efficacy and academic motivation and establish the relationship between self-efficacy and academic motivation. Using stratified random sampling, 110 high school students of a Catholic School in the province of Antique with parents working abroad participated in the study and were classified according to sex, academic performance, academic level, family monthly income, and membership in school organizations/clubs. The data were gathered using standardized questionnaires on self-efficacy and academic motivation. The findings reveal high school students in a Catholic school in Antique with parents working abroad generally are efficacious and academic-motivated. Their high levels of self-efficacy and academic motivation indicate their competencies and capabilities to accomplish and perform specific tasks assigned to them. Being efficacious and motivated are essential ingredients to prepare them in accomplishing academic tasks with determination. High levels of self-efficacy and self-determination are good indicators to succeed in school. However, external factors such as social support, rewards, and incentives for accomplishing a specific task or outcome may strengthen the extrinsic behavior in attaining the goal. Furthermore, the relationship between self-efficacy and academic motivation significantly influences students' competence and confidence to perform tasks in school.

Keywords: Self-efficacy, Academic motivation, Descriptive-Correlational, Catholic School, Antique

INTRODUCTION

Albert Bandura defines Self-efficacy as a belief in one's ability to perform tasks successfully and a sense of competence, efficiency, and ability to cope with life (Schwarzer, 2014). A sense of competence can be obtained by mastery experience, second-hand experience, verbal persuasion, or physiological feedback. Self-efficacy, however, is not identical to positive illusions or unreliable optimism. Consequently, it directly contributes to risky behavior within each of one's abilities. It makes a distinction in how people feel, think, and act. Self-efficacious and self-regulated individuals self-regulated are aware of their learning, determine personal goals, pick strategies to realize these goals, monitor their behaviors, and increase their motivation in performing academically (Zimmerman, 2002). However, individuals with low self-efficacy on a specific task will avoid the task and exhibit an increase in anxiety associated with the task. Self-efficacy, therefore, is a mediator of behavior and behavioral change (Catapano, 2013). Depression, anxiety, and helplessness (Schwarzer, 2014) may be experienced by individuals with a low sense of self-efficacy.

Academic motivation refers to a student's desire to excel in academic-related tasks. It pushes a person to do something. This can be intrinsic, extrinsic, and amotivation (Deci & Ryan, 2012). Motivation is associated with qualitative changes such as engaging in the learning process, responding to the learning environment and activities, and the way students perceive the task (Rieg, 2007). Educators recognize that there is a strong relationship between academic motivation and self-efficacy.

On the other hand, when discussing the implication of academic motivation to the students with parents working abroad, in terms of socio-economic variables, the children of migrants are notably better off matched to the children of non- migrants. Working overseas has positive and negative consequences on the individual themselves and the family members they left behind. Overseas work may positively contribute to the lives of overseas workers and their family members (Scalabrini, 2003).

In the light of private Catholic school in Antique, it has been observed that there are more Overseas Filipino Workers' (OFW) children enrolled in private schools. Factors to consider for the numerous number of enrolees are, the exceeding family income or the socio- economic status of the family and the quality of education that the school is providing for its students over the years, in which, sufficient reasons for parents to send their children into a private school. On the part of OFW children, they are more likely to engage in extracurricular activities, such as camping, educational seminars, school programs, and others. Their exposure to these programs, boosting their self-confidence and widens the scope of learning experiences for them. However, beyond those merits, there is a pulling factor that can hinder them to be fully competent, the parental absence. This causes negative impact on the motivation of the children to be self-determined students in school. Eventually, the parental absence results in behavioural problems of students. Their academic performance is not consistent, as well as their attendance in school for their parents are not physically present to push and to remind them the value of education that they should be consistently be in school and will participate actively in various learning activities. Those kind of scenarios really challenged the private Catholic schools on how they can strengthen the motivation of students and address the emptiness of students that will not result to any trouble because of behavioural problems.

Previous studies reported a correlation between self-efficacy and academic achievement (Chemers, Hu,& Garcia, 2001); self-efficacy correlated with educational outcomes in secondary school students (Linnerbank&Pintrich,2002); academic motivation and academic self-efficacy of students and compared them according to sex, grade level, the economic situation of the family and perceived academic achievement (Can &Satici, 2016); the role of academic self-efficacy, academic motivation and academic self-concept in predicting secondary school students' academic performance (Akomolafe,Ogunmakin, &Fasooto, 2013); relationship between self-efficacy and academic motivation, (Husain, 2014); relationships between academic motivation, self-efficacy, and academic procrastination (Cerino, 2014). So far, no attempts have been made to determine the level of self-efficacy and academic motivation specifically on students with parents working abroad in Catholic Schools in the Diocese of Antique.

Hence, the study intended to assess the level of one's capability to achieve and accomplish specific tasks and factors that might influence their motivation towards their academic performance among students in a Catholic high school in Antique with parents working abroad. The study's findings were utilized as a basis for crafting the Self-Efficacy Enrichment Program to increase their beliefs on their capabilities and capacities on performing task awareness.

FRAMEWORK OF THE STUDY

The study was mainly anchored on Self-Efficacy Theory of Albert Bandura stressed that human action and success depend on how deep the interactions between one's thoughts and a given task. Individuals with a low sense of self-efficacy will hold negative thoughts and think of task's demands as threatening not as challenging and therefore set low objectives for themselves (Suraya &Ali 2009). In the context of private Catholic schools that sets high standards in the implementation of the quality education as one of its mission, the tendency for the students with low sense of self-efficacy is to engage themselves passively towards high expectations that sets before them for the assigned task goes beyond their capabilities. In addition, they will even think that reporting to school is not rewarding, therefore, they tend to escape that will result to lower chances of finishing school which is stated also in the study of Wen and Lin (2012). Moreover, students with low sense of self-efficacy needs sufficient time to finish certain tasks and even asking for an extra time just to finish the task that is why they cannot beat the

deadline for submission. Consequently, they might be subjected to any kind of shallow knowledge and low academic achievement. In contrary, those students with high level of self-efficacy can be considered and associated as fast and competent learners. They are grouped homogenously according to their scholastic performance and ability to handle things towards their studies.

Moreover, the Self-efficacy theory posits that students who believe themselves capable are more likely to be motivated; those who believe themselves incapable will not be motivated (Seitfert, 2004). There is evidence for the transfer of self-efficacy and motivation in academic domains, but the transfer typically has been confined to generalization. Therefore, this theory is suitable to determine the level of self-efficacy and academic motivation of students. Reinforcing the previous theory, the Self-Determination Theory (SDT) contributes significantly to this study. Self-determination theory is a concept included in intrinsic motivation. Undoubtedly, students who are more intrinsically motivated are more likely to stay in school than students who are less intrinsically motivated (Deci& Ryan, 2012).

On the other hand, students who are more extrinsically motivated experience higher anxiety and a weaker ability to cope with failures (Deci& Ryan, 2012). SDT takes personal growth, self-arrangement, global psychological needs, the purpose of living, longings, energy and validity, unaware periods, cultural relations for motivation, and effects of motivation on social environments as reference (Deci& Ryan, 2008). Self-determination theory offers relatively more autonomy supplying social content or enriches internal motivation (Vansteenkiste et al., 2006). High motivation may enhance students' learning processes and results, interest, choosing a task, efforts to learn a hard task, and patience (Zimmerman, 2000).

METHODOLOGY

This study employed the descriptive, comparative, and correlational research design to gather relevant information. The descriptive approach was utilized to describe the levels of self-efficacy and academic motivation of students in Catholic high school with parents working abroad. A comparative approach determined the similarities or differences in self-efficacy levels and academic motivation when respondents were grouped according to demographics such as sex, academic performance, academic level, family monthly income, and membership in school organizations/clubs. Meanwhile, the correlational approach was employed to establish whether a relationship exists between self-efficacy and academic motivation.

The study respondents were the110 high school students with OFW parents of a Catholic school in the province of Antique for the school year 2019-2020.They were sampled using Raosoft online calculator with a 95 confidence level and 5 percent margin of error and determined using a stratified random sampling method where the total population is divided into smaller groups or strata that out of 116 Junior High School students, 84 were qualified and out of 36 Senior High School Students, 26 were selected therefore, in total of 152 students with OFW parents, only 110 high school students considered as final member of respondents. The actual respondents were identified using systematic sampling in which sample members from a larger population were selected according to a random starting point but with a fixed, periodic interval until the calculated number of respondents is achieved The researcher used standardized questionnaires to gather data. Firstly, the Self- Efficacy Scale (Zimmerman, Kitsantas, &Campillo, 2005) with five indicators: reading, studying, test preparation, note-taking and writing. Secondly, the Academic Motivation Scale (Vallerand, Pelletier, Blais, Briere, Senecal, &Vallieres, 1992) and was divided into three categories: intrinsic motivation, extrinsic and amotivation.

On the other hand, the approval of the School administrator of the Catholic high school was obtained before the conduct of the study. Likewise, the researcher secured the willingness of respondents to participate in the study. They were also assured that access to the data was solely by the researcher and utilized for the study. No information that discloses their identity was released or published without their specific consent to the disclosure. The materials that contained the raw information derived from

them were properly stored, protected, and disposed of by manual shredding after data processing within a given period.

The data were treated and analyzed using Mean, Standard Deviation, Frequency Count and Percentage for descriptive analysis while Mann Whitney U Test and Spearman rank correlation for comparative and correlational analyses.

RESULTS AND DISCUSSION

Level of Self-Efficacy for Learning of Students with Parents Working Abroad

Generally, the findings in Table 1 showed that students demonstrated a high level of self-efficacy for learning (M=3.75, SD=0.53), which means that they can probably perform their specific learning tasks. In terms of areas of self-efficacy for learning, test preparation (M=3.82, SD=0.53) and note-taking and writing (M=3.69, SD=0.53) were the highest and lowest, respectively.

When grouped according to demographics, high school students also showed a high level of self-efficacy for learning regardless of sex, academic performance, academic level, family monthly income, and membership in school organizations/clubs. Descriptively, female (M=3.87, SD=0.47), academically performing (M=3.95, SD=0.40), senior high school (M=3.87, SD=0.47), high income (M=3.85, SD=0.51), and members of school organizations/clubs (M=3.87, SD=0.48) exhibited higher academic self-efficacy. Likewise, high school students demonstrated a high level of self-efficacy for learning in all areas except for note-taking, where non-members of school organizations/clubs (M=3.70, SD=0.51) had higher mean.

The findings of the study generally signified that students with OFW parents in a private Catholic school regardless have a strong sense of self-efficacy and were more likely capable of performing necessary tasks to achieve goals both curricular and extracurricular activities. Moreover, they demonstrate a willingness to challenge themselves with difficult tasks knowing that they are capable of doing. Kirk (2020) states that self-efficacious students quickly recover from setbacks and are likely to achieve their personal goals. Meaning, despite their failures, shortcomings, and weaknesses cannot affect their belief about themselves that in their own way they can surpass it. In addition, their capacity and capability to cope up and bounce back are evident in the achievement of a particular goal. Also, Schunk and Ertmer (2000) opined that efficacious students in learning are more likely to choose difficult tasks, expend more significant effort, persist longer apply appropriate problem-solving strategies on tasks. Evident enough into the context of private Catholic school in Antique in which they enjoy so much of allowing themselves to show their maximum capability in whatever school activities just to show that they are competent and above others. Little and small tasks might be boring for them and tend to respond passively.

In the areas of self-efficacy for learning, reading, studying, test preparation, note-taking, and writing were descriptively high. Looking at the figures, the data showed that the highest area was test preparation. It signifies that students could find a way on how they prepare themselves on a specific exam or test, true enough because they can be seen at student lounges and in the library during their free time, taking time to In addition, students create a strategic plan or strategy to equip themselves with the necessary information. They can make use of social support such as their classmates to help them in the process by performing peer-tutorial and group study that sometimes their teachers advising them to do just to enhance and sharpen their minds most especially if there are exminations

Moreover, self-regulated and self-efficacious learners engage in strategic planning. They can select appropriate strategies that can help them to achieve the goal. By selecting and applying appropriate strategies, their worries and anxieties towards the test decreased. Those strategies can be cultured through social assistance such as their teachers, peers, and family members and also learned through printing materials (Zimmerman, 2000).

On the other hand, the areas of note-taking and writing were the lowest compared to other areas. It indicates that students were not able to fully maximize their abilities in finding a way to clarify uncleared things or the information and marking coherent words on composing text (Novak &Cañas, 2008). Also, due to the influence of technologies brought by modernization, students became more dependent on using the internet about their lectures, assignments, and projects just to meet the expected output towards their studies (Nakayama, Mutsuura & Yamamoto, 2014). By that, students' interest in note-taking and writing were diminished. When the moment comes to do note-taking and copying important pointers written on board, sometimes they will not do it by themselves, instead, asking their classmates to do it for them. However, it does not mean that students' self-efficacy towards areas of note-taking and writing for learning cannot indicate if they are performing well or not. It merely shows that students perform and can learn in their own ways considering their differences intelligences. On the other hand, on the part of teachers, they are flexible and able to adapt new skills in designing and implementing their lessons by integrating the use of modern technologies to make things meaningful and can arouse the interest of the students, especially in the areas of self-efficacy for learning as Nakayama, Mutsuura, and Yamamoto (2014) states that the use of technology can enhance learning performance.

Table 1. Level of Self-Efficacy for Learning of Students with Parents Working Abroad

Variable	Self-Efficacy			Reading			Studying			Test Preparation			Note-taking			Writing		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex																		
Male	3.66	0.41	Hi	3.67	0.530	Hi	3.67	0.49	Hi	3.72	0.49	Hi	3.65	0.47	Hi	3.56	0.44	Hi
Female	3.87	0.47	Hi	4.01	0.460	Hi	3.80	0.51	Hi	3.96	0.56	Hi	3.73	0.61	Hi	3.87	0.52	Hi
Academic Performance																		
Performer	3.95	0.40	Hi	4.10	0.390	Hi	3.91	0.44	Hi	3.99	0.49	Hi	3.84	0.54	Hi	3.93	0.49	Hi
Non-Performer	3.60	0.43	Hi	3.61	0.520	Hi	3.60	0.51	Hi	3.71	0.53	Hi	3.58	0.50	Hi	3.52	0.43	Hi
Academic Level																		
JHS	3.72	0.44	Hi	3.79	0.540	Hi	3.70	0.49	Hi	3.78	0.53	Hi	3.68	0.54	Hi	3.66	0.49	Hi
SHS	3.84	0.47	Hi	3.89	0.490	Hi	3.83	0.53	Hi	3.97	0.54	Hi	3.72	0.51	Hi	3.79	0.52	Hi
Family Monthly Income																		
Low	3.70	0.41	Hi	3.75	0.520	Hi	3.67	0.47	Hi	3.78	0.48	Hi	3.67	0.48	Hi	3.62	0.47	Hi
High	3.85	0.51	Hi	3.94	0.530	Hi	3.85	0.54	Hi	3.91	0.63	Hi	3.73	0.64	Hi	3.83	0.54	Hi
Membership in School Organization/Club																		
Yes	3.84	0.48	Hi	3.97	0.470	Hi	3.84	0.55	Hi	3.91	0.61	Hi	3.66	0.58	Hi	3.85	0.51	Hi
No	3.71	0.43	Hi	3.74	0.540	Hi	3.68	0.47	Hi	3.79	0.50	Hi	3.70	0.51	Hi	3.62	0.48	Hi
As Whole	*3.75*	*0.45*	*Hi*	*3.81*	*0.530*	*Hi*	*3.73*	*0.50*	*Hi*	*3.82*	*0.53*	*Hi*	*3.69*	*0.53*	*Hi*	*3.69*	*0.50*	*Hi*

Note: Hi=High

Level of Academic Motivation of Students with Parents Working Abroad

Generally, the findings in Table 2 showed that students demonstrated a very high level of academic motivation (M=5.75, SD=0.71), which means that they manifest a strong desire to excel in related academic tasks. In terms of types of academic motivation, students demonstrate extrinsic motivation (M=6.07, SD=0.82) and amotivation (M=4.99, SD=1.63) as the highest and lowest, respectively.

When grouped according to demographics, high school students also showed a very high level of academic motivation regardless of sex, academic performance, academic level, family monthly income, and membership in school organizations/clubs. Descriptively, female (M=6.01, SD=0.56), academically performing (M=6.18, SD=0.44), senior high school (M=5.94, SD=0.69), high income (M=5.96, SD=0.67), and members of school organizations/clubs (M=6.19, SD=0.49) exhibited higher academic motivation.

Overall, high school students demonstrated a very high level of extrinsic academic motivation regardless of demographics (M=6.07, SD=0.82). The findings of the study indicate that, generally, students were very highly motivated. Meaning to say, they manifest a strong desire to excel in academic-related tasks. A high level of academic motivation demonstrates a great deal of interest in participating in different school engagement and makes way to academic adjustment when a problem arises. It is well anticipated if the findings would tell that students are highly motivated they are interested enough to engage on different school activities because of the presence of gifts or rewards that their parents negotiated to them. This affirms by Schunk et al. (2008), that motivated students tend to engage in activities that help them to learn and achieve highly in academic settings. For instance, motivated students are more likely to pay attention during course activities, take the time to use effective learning and study strategies, and seek help from others.

Moreover, it was found out that as a whole that students were extrinsically motivated. The results imply that their desire to excel academically was driven by external rewards and anchored outside of an individual. It further suggests that their successes were always attributed to external factors, enabling them to cope with the challenging experience in performing academic tasks. Besides, they took the time to use effective learning strategies and even sought help from others if necessary (Schunk et al., 2008)

On the other hand, students' amotivation got the lowest mean, which signifies that lack of motivation was not so evident because they were extrinsically motivated. The desire of having their parents' presence physically and thinking all of their sacrifices outside country just for them can be the best reason why students are well extrinsically motivated and maybe because of the values education and formation that the Catholic school is injecting for them most especially the value of appreciation and strengthening the sense of empathy. Students are amotivated if they do not have motivation literally (Legault, Green-Demers, & Pelletier, 2006). Meaning to say, students who are amotivated tend to sit passively, sleep, and even skip class or just act as if they are participating. In addition, the same study would tell that amotivated students only go through the motions of classroom work rather than engaging themselves in learning activities.

Table 2. Level of Academic Motivation of Students with Parents working Abroad

Variable	Motivation			Intrinsic			Extrinsic			Amotivation		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex												
Male	5.55	0.74	VH	5.57	0.730	VH	5.90	0.90	VH	4.46	1.65	Hi
Female	6.01	0.56	VH	5.82	0.600	VH	6.31	0.64	VH	5.70	1.31	VH
Academic Performance												
Performing	6.18	0.44	VH	6.02	0.490	VH	6.48	0.42	VH	5.78	1.46	VH
Non-Performing	5.44	0.70	VH	5.44	0.710	VH	5.78	0.91	VH	4.43	1.52	Hi
Academic Level												
JHS	5.70	0.71	VH	5.66	0.690	VH	6.01	0.84	VH	4.86	1.67	VH
SHS	5.94	0.69	VH	5.77	0.680	VH	6.28	0.73	VH	5.43	1.43	VH
Family Monthly Income												
Low	5.65	0.70	VH	5.65	0.710	VH	5.97	0.82	VH	4.71	1.65	VH
High	5.96	0.67	VH	5.75	0.650	VH	6.29	0.79	VH	5.60	1.42	VH
Member of School Organization												
Yes	6.19	0.49	VH	5.99	0.510	VH	6.52	0.45	VH	5.77	1.49	VH
No	5.56	0.71	VH	5.55	0.720	VH	5.88	0.87	VH	4.66	1.58	VH
As Whole	*5.75*	*0.71*	*VH*	*5.68*	*0.690*	*VH*	*6.07*	*0.82*	*VH*	*4.99*	*1.63*	*VH*

Note: Hi=High, VH=Very High

Difference in the Level of Self-Efficacy for Learning

Mann Whitney U test was used to determine the significant difference in the level of self-efficacy of high school students when categorized according to sex, academic performance, academic level, family monthly income, and membership in school organizations/clubs.

The data found in Table 3 shows that there was a significant difference in the level of self-efficacy when categorized according to sex [U=1116.0, p=0.028] and academic performance [U=836.0, p=0.000]. On the other hand, there was no significant difference in the level of self-efficacy of high school students when they are categorized according to academic level [U=947.0, p=0.410], family income [U=1075.5, p=0.128], and membership in school organizations/clubs [U=1072.5, p=0.196]. Hence, the null hypothesis was partly rejected and accepted, respectively.

The findings of the study indicate that students differ in their self-efficacy when it comes to sex. Significantly, females were more efficacious than males. The results supported the findings of Kumar (2014) that gender difference is found in adolescents' self-efficacy as girls scored higher than their male counterparts. Into the context of this study, females are positive in language and in writing while males are more effective in areas of mathematics and in technologies. In addition, males are more engaging on difficult tasks that is requiring physical ability while female students are performing well in making their learning environment neat and organized. However, in a separate study, Kumar and Lal (2006) found no significant interaction between self-efficacy and gender. In addition, differences in self-efficacy across sex among high school students revealed no association (Tenaw, 2013; Zhang, Zhang, Liu, Zhang, Wang, & Liu, 2015). Another study conducted by Rooij, Jansen, & Grift (2017) found no gender differences in self-efficacy. Also, Villar (2019) yielded the same result that one's self-efficacy is not attributed to sex.

On the other hand, self-efficacy is predictive of school achievement. Thus, efficacious students can be a good indicator of academic performance. As what has been observed, academic performer students receive higher expectations from their teachers than those who were not. The tasks being designated to them were slightly more cumbersome, allowing them to maximize their capabilities to perform adequately. Mostly these are students who can receive better compliments and recognitions to the people around them. Due to the presence of verbal persuasions and social, their confidence is boosted, and their beliefs toward their capabilities are lifted. This affirms the study of Engler (2009); D' Amico and Cardaci (2003); Parker, Gurarino, and Smith (2002) that students' beliefs in their ability to learn academic subjects coupled with teachers' beliefs in their ability motivate and encourage learning affect academic performance.

On the other hand, there was no significant difference in the level of self-efficacy of high school students when they are categorized according to academic level, family monthly income, and membership in school organizations/clubs. Meaning to say, these variables are not significant factors to gain a high sense of belief in one's capabilities. Regardless of academic level, family monthly income, and membership in school organization/club, students demonstrate a high sense of belief in their capabilities to achieve a specific goal. This finding is much accepted in the context of private Catholic school since there are working abroad, it is understood that their family income is averaging to above average regardless if they are Junior high school students or Senior high school students. In addition, since they have sufficient funds for their schooling, they have the same and equal opportunity to be engaged in different organizations in school, attending seminars and trainings that can boost up their skills and can develop their capabilities towards on their studies. The study of Callander and Schofield (2016) found out that multidimensional poverty led to declining self-efficacy.

Table 3. Difference in the Level of Self-Efficacy of Students

Variable	Self-Efficacy for Learning		U	p
	Male	Female		
Sex	3.66	3.87	1116.0*	0.028
	(0.41)	(0.47)		
	Performing	Non-Performing		
Academic Performance	3.95	3.60	836.0*	0.000
	(0.40)	(0.43)		
	JHS	SHS		
Academic Level	3.72	3.84	947.0	0.410
	(0.44)	(0.47)		
	Low	High		
Family Monthly Income	3.70	3.85	1075.5	0.128
	(0.41)	(0.51)		
	Yes	No		
Membership in School Organization	3.84	3.71	1072.5	0.196
	(0.48)	(0.43)		

Note: *the difference is significant when $p \leq 0.05$

Difference in the Level of Academic Motivation

Mann Whitney U test was used to determine the significant difference in the level of academic motivation of high school students when they are categorized according to sex, academic performance, academic level, family monthly income, and membership in school organizations/clubs.

The data in Table 4 indicated that there was no significant difference in the academic motivation of high school students when they are categorized according to sex [U=1362, p=0.474], academic level [U=1040.5, p=0.875], and family monthly income [U=1225.5, p=0.576]. On the other hand, there was a significant difference in the academic motivation of high school students when they are categorized according to academic performance [U=1015.5, p=0.006] and membership of school organization [U=954.0, p=0.039]. Hence, the null hypothesis was partly accepted and rejected, respectively.

The study's findings indicate that sex, academic level and family monthly income did not make a difference in students' desire towards academic-related tasks. They can be intrinsically and extrinsically motivated or can be amotivated (Ryan &Deci, 2000). On the other hand, a significant difference in the academic motivation of high school students was found in their academic performance and membership n school organization. Indeed, their motivation dictates their performance in school. Students who are motivated performs better than those students with less or no motivation. In addition, some studies have found that students with higher levels of intrinsic motivation had higher GPAs (Cokley, 2003; Davis, Winsler, & Middleton, 2006; Komarraju et al., 2009). In like manner, students who are motivated have greater chance to be part of school organizations/clubs because of the strong desire to extend service.

Table 4.Difference in the Level of Academic Motivation of Students

Variable	Academic Motivation		U	p
	Male	Female		
Sex	5.42	5.53	1362.0	0.474
	(0.64)	(0.46)		
	Performing	Non-Performing		
Academic Performance	5.67	5.32	1015.5*	0.006
	(0.37)	(0.64)		
	JHS	SHS		
Academic Level	5.45	5.53	1040.5	0.875
	(0.60)	(0.47)		
	Low	High		
Family Monthly Income	5.45	5.50	1225.5	0.576
	(0.59)	(0.54)		
	Yes	No		
Membership in School Organization	5.68	5.38	954.0*	0.039
	(0.37)	(0.62)		

Note: *the difference is significant when p≤0.05

Relationship between Self-Efficacy and Academic Motivation

Spearman rank correlation was used to determine the significant relationship between self-efficacy and academic motivation. There was a significant relationship between self-efficacy and academic motivation [$\rho(108)=0.471*$, p=0.000].

The findings of the study indicate that students with a high sense of the level of self-efficacy have a high level of academic motivation. In other words, they are directly proportional in terms of relationship; the higher the belief on their capabilities, the higher and greater desire to complete the academic-related tasks. Inversely, if the students are not efficacious, eventually, they are not academically motivated.

Moreover, self-efficacy levels can intensify the motivation of individuals. Husain (2014) found that there is a strong relationship between academic motivation and self-efficacy. Students' views about their educational abilities play an indispensable role in their motivation to succeed. Meaning to say, if the students are self-determined and trusting their capabilities, they can perform the task and be highly motivated to achieve it. Moreover, Vansteenkiste et al. (2006) affirmed that high motivation might enhance students' learning processes and results, interest, choosing a task, efforts to learn a hard task, and patience. Also, the findings validate the self-efficacy theory of Albert Bandura, which states that students who believe in themselves to be capable are more likely motivated. However, those who believe themselves incapable will not be motivated (Seitfert, 2004). Relating the findings into the context of students at private Catholic school, those who are intrinsically motivated, they are more likely to stay in school. Thus, self-determined students are strong and resilient enough to face challenges, no matter how tough. Giving up has no space in their minds because they are intrinsically motivated to perform the task. However, the downside is that if the students fail to build self-efficacy, they will eventually feel incompetent. Consequently, they may experience and suffer low academic achievement because self-efficacy is directly correlated with academic motivation.

Table 5. Relationship between Self-efficacy and Academic Motivation

Variable	P	df	p
Self-Efficacy x Motivation	0.471*	108	0.000

Note: *the correlation is significant when p≤0.05

CONCLUSION

High school students in a Catholic school in Antique with parents working abroad generally are efficacious and academic-motivated. Their high levels of self-efficacy and academic motivation indicate their competencies and capabilities to accomplish and perform specific tasks set for them. Being efficacious and motivated are essential ingredients to prepare them to accomplish their academic tasks with their determination. High levels of self-efficacy and self-determination are good indicators to succeed in school. However, external factors such as social support, rewards, and incentives for accomplishing a specific task or outcome, may strengthen the extrinsic behavior in attaining the goal.

Moreover, membership in school organizations/clubs contributes to a higher level of academic motivation for students to excel in academic-related tasks. Their capacities mentally, exposure and engagement in different school-related activities and programs play a significant role in building a greater desire to be productive.

Furthermore, the relationship between self-efficacy and academic motivation significantly influences students' competence and confidence to perform their tasks in school. Both parents and teachers play an essential role in this aspect so that students may develop and enhance their desires and capabilities in the attainment of their holistic transformation.

In this context, school's guidance personnel may create additional programs and services that will allow high school students to build a high level of self-efficacy and academic motivation. They may conduct seminars and invite experts in the community to talk to the students that can contribute to their holistic formation, conduct symposia, interviews, and follow-ups about the students' progress and status.

REFERENCES

Akomolafe, M. J., Ogunmakin, A. O., &Fasooto, G. M. (2013). The role of academic self-efficacy, academic motivation and academic self-concept in predicting secondary school students'

Bandura, A. (2010). Self-efficacy. *The Corsini encyclopedia of psychology*, 1-3.

Callander, E. J., & Schofield, D. J. (2016). The impact of poverty on self-efficacy: an Australian longitudinal study. *Occupational Medicine*, *66*(4), 320-325.

Cerino, E. S. (2014). Relationships between Academic Motivation, Self-Efficacy, and Academic Procrastination. *Psi Chi Journal of Psychological Research*, 19(4).

Chemers, M. M., Hu, L. T., & Garcia, B. F. (2001). Academic self-efficacy and first-year college student performance and adjustment. *Journal of Educational Psychology, 93(1),* 55.

Cokley, K. (2003). What do we know about the motivation of African American students? Challenging the" anti-intellectual" myth. *Harvard educational review*, *73*(4), 524-558.

D'Amico, A., &Cardaci, M. (2003). Relations among perceived self-efficacy, self-esteem, and school achievement. *Psychological Reports*, *92*(3), 745-754.

Deci, E. L., & Ryan, R. M. (2012). Self-determination theory.

Deci, E. L., & Ryan, R. M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory.

Husain, U. K. (2014, December). Relationship between self-efficacy and academic motivation. In *International Conference on Economics, Education, and Humanities(ICEEH'14)* (pp. 10-11).

Nakayama, M., Mutsuura, K., & Yamamoto, H. (2014). Impact of Learner's Characteristics and Learning Behaviour on Learning Performance during a Fully Online Course. *Electronic Journal of e-Learning*, *12*(4), 394-408.

Novak, J. D., &Cañas, A. J. (2008). The theory underlying concept maps and how to construct and use them.

Rooij, E. C., Jansen, E. P., & van de Grift, W. J. (2017). Factors that contribute to secondary school students' self-efficacy in being a successful university student. *ReseaRch in Post-comPulsoRy education*, *22*(4), 535-555.

Schunk, D. H., & Zimmerman, B. J. (2007). Influencing children's self-efficacy and self-regulation of reading and writing through modeling. *Reading & writing quarterly*, *23*(1), 7-25.

Schunk, D. H., Pintrich, P. R., &Meece, J. (2008). L.(2008). *Motivation in education*, *3*.

Schwarzer, R. (2014). *Self-efficacy: Thought control of the action*. Taylor & Francis.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C., &Vallieres, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and motivation in education. *Educational and psychological measurement*, *52*(4), 1003-1017.

Vansteenkiste, M., Lens, W., &Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational psychologist*, *41*(1), 19-31.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary educational psychology*, *25*(1), 82-91.

Zimmerman, BJ, Kitsantas, A., &Campillo, M. (2005). Evaluation of regulatory self-efficacy: a cognitive social perspective. *Review magazine*, *5* (1).

English-Medium Instruction in Higher Education:
A Case Study from Taiwan

Szu-Yin Lin[1], Ching-Hui Lin[2], Syariful Muttaqin[3]

[1]*National Sun Yat-sen University (lin.sy@mail.nsysu.edu.tw)*
[2]*National Sun Yat-sen University (chclin2100@g-mail.nsysu.edu.tw)*
[3]*National Sun Yat-sen University (smuttaqin@ub.ac.id)*

ABSTRACT

English-medium instruction (EMI) is the use of English to teach academic subjects except for other languages and has become an emerging trend in higher education institutions (HEIs), especially in non-English speaking countries. It is a growing practice not only the impact of globalization, but also English is the dominant language in academic communications. As a country in which English is currently a foreign language, Taiwan has set a national goal of achieving a bilingual country by 2030. In order to successfully align the university mission with the national policy, the National Sun Yat-sen University (NSYSU) aims to become a full EMI university by 2030. The current study aims to explore the feasibility of implementing EMI by exploring students' perception of EMIs, followed by an empirical analysis of students' response to EMI from the course evaluation surveys. The results showed that students in NSYSU generally have adequate English comprehension for EMI courses, however, students from different colleges differ in English proficiency. This study provides a preliminary institutional analysis of students' feedback to EMIs in Taiwan and the implications of the results for institutional policies and practices are discussed.

Keywords: English-Medium Instruction, EMI, Bilingual, Medium of Instruction Policy, Higher Education.

INTRODUCTION

English-medium instruction (EMI) has become an emerging trend in higher education institutions (HEIs) in non-English speaking countries (Wächter and Maiworm 2014). Not only the impact of globalization (Dearden, 2014), but also English is the most dominant language in academic communication. EMI refers to the use of the English language to teach academic subjects, excluding those whose primary aim is language learning (Macaro, Curle, Pun, An, & Dearden, 2018). Therefore, some HEI policies are directed towards implementing EMI to benefit HEIs in several ways. For example, graduate employability increased student and faculty mobility; higher university ranking; teaching, research, and publication collaboration, and university marketization in global HEI competition. However, EMI policy often lacks linear agreement from the macro, meso, and micro levels (Aizawa & Rose, 2018). It is therefore important to accommodate the micro level inputs as a bottom-up process to formulate such EMI policy as it involves students and lecturers' insights in order to meet their needs and conditions.

From its term, EMI is aimed more to teach content subject rather than learning English (Pecorari & Malmström, 2018). However, it can also be an alternative way of developing students' English proficiency, thus EMI is a dual-benefit approach (Macaro et. al., 2018). It is argued that EMI provides contextual (Galloway, Kriukow, & Numajiri, 2017), real (Genesee, 1994), and authentic (Dearden, 2014) use of English that is considered an effective way of acquiring the foreign language. However, applying EMI is a challenge for an HEI as the final goal is content mastery. Therefore, it requires comprehensive preparation so that EMI can be implemented well without sacrificing content mastery. Another aspect is the lecturer's preparedness in teaching EMI as it is not just using the language to deliver content, but also assuring the students' understand the concept delivered in English, which for the students is a foreign language.

As a non-English speaking country, Taiwan has set up a national goal of becoming a bilingual country by 2030 (National Development Council, 2017). One of the macro-level strategies in reaching this goal is to promote bilingual education at the university level. At the meso level, National Sun Yat-sen University (NSYSU) currently has initiated EMI programs in both master and doctoral programs, including 5 master programs and 1 doctoral program. In order to realize this university mission and to align with the national policy, NSYSU aims at becoming a full EMI university by 2030. Starting in academic year 2021, 3 undergraduate programs will begin teaching full EMI to local students, the EMI policy will gradually expand to all other departments. We further discuss the implications for EMI practice and policy.

LITERATURE REVIEW

EMI in brief

EMI has been defined as using English as a means of instruction to teach content in an educational setting where English is not the mother language (Macaro et al., 2018). Here, English is more used as a means of instruction to teach content subjects, rather than taught separately as a learned second or foreign language (ESL/EFL) subject. EMI has also been implemented under different names, such as content and language integrated learning (CLIL), immersion program, bilingual teaching, and Integrated Language and Content at Higher Education (ICLHE). In principle, EMI is more about learning a subject, not learning the language (Pecorari & Malmström, 2018) also adopting language acquisition principles of meaningful, interactive, and contextualized learning (Dearden, 2014). Meaningful learning provides learners with the opportunities in comprehending (receptive) and expressing their discipline concepts either in speaking or writing using English (productive). Using interactive learning, students are provided with opportunities to use their English in working with fellow friends, local or international, to discuss, solve problems, design a project, etc. as guided by the lecturers. Finally, in contextualized learning, the use of English is directed towards their specific disciplinary needs, such as using specific disciplinary terms, specific communicative functions, or specific academic writing based on their field of study.

EMI has been driven by the position of English as a *lingua franca* (EFL) (Crystal, 2003), such as the need to use English for academic, tourism and hospitality, and media purposes. English has also been widely and globally used by people from different English backgrounds, based on three circles, namely the inner, outer, and expanded circles (Kachru, 1995). Native speaker English, such as British, American, and Australian English are spoken by the inner circle, Singlish and Indian English are those from outer circle, while that used in countries such as Japan, Korea, Taiwan, or Indonesia, is included in the expanded circle. More recently, globalization has forced people to connect with each other, travel everywhere, and promote mobility in all aspects of life. In academic fields, collaborations in teaching, research and publication have made English use undeniable thus making English a necessity for academics.

Benefits and Challenges in EMI implementation

English medium instruction (EMI) is a fast-growing phenomenon now, especially in higher education institutions (HEIs) (Dearden, 2014) in response to the increasing trend in higher education (HE) internationalization (Doiz et al., 2014). The need to uplift university ranking, attract more international students, increasing financial income due to lower government funding are among the internationalization targets (Macaro et. al., 2018). So, institutionally EMI is a promising trend. In addition, from learning outcomes, EMI is expected to provide students with the dual-benefits, namely disciplinary or content knowledge as primary and language improvement as the by-product (Macaro et. al., 2018). EMI is also believed to be beneficial for students' future professional life (Wanphet & Tantawy, 2018). Socio-culturally, EMI policy has encouraged international cooperation and interaction in various education fields and is also helping to influence cultural awareness and learning abilities

(Crystal, 2003). Therefore, more universities worldwide have turned their policy into EMI with different degrees of implementation specific to their contexts (Macaro et al., 2018).

However, as English is a foreign language in EMI contexts, it is a big challenge for universities to apply this policy. From an institutional aspect, as language policy has to be in line with the national government policy (macro), university (meso), and to students/teachers (micro) level implementation, there are often cases that EMI practices in HE institutions have not really addressed the needs or expectations the ease of teachers and students in its implementation (Aizawa & Rose, 2019; Doiz et. al., 2014; Shimauchi, 2018). If this is not addressed carefully, the dual benefits of EMI will not be achieved (Ibrahim, 2001) thus even leading to deteriorating students' content understanding of the students and complicating or burdening teachers' jobs (Shimauchi, 2018). Criticisms about EMI are also related to "language-related issues (English proficiency and the impact on undermining national language(s)/*Englishization*, cultural issues (*Westernisation*), social issues (inequalities), management, administration and resources (staffing, support for international students, management and faculty culture)" (Galloway et. al., 2017; Dearden, 2014).

EMI practice is "not simply a question of teaching in English" (ICLHE at the Universite libre de Bruxelles, 2015 in Valcke, 2017). As content is taught through a second or even foreign language, some discrepancies often occur in English proficiency due to specific limitations in the lack of a strong language focus in typical content teaching (Valcke, 2017). More serious concerns have been addressed in the practice primarily on teachers' lack of language proficiency (Dearden, 2014), lack of communicative functions (Wilkinson et. al., 2017), lack of EMI guidelines (Dearden, 2014; Hamid et. al., 2013), and limited training (Vu & Burns, 2014) in addition to students' problems regarding their language adequacy in following an EMI course (Aizawa & Rose, 2019; Evans & Morrison, 2011; Floris, 2014; Ibrahim, 2001).

Student perceptions of EMI

Previous studies have revealed how EMI has been practiced and perceived in different institutional contexts across the globe. In Europe, Coleman (2006) found that content and language integrated learning teaching had improved students' subject knowledge and target language proficiency, such as in Austria, where this language integration model had been successfully introduced in several schools. Another study by (Haagen-Schützenhöfer & Mathelitsch, 2001) indicated students instructed with EMI showed enhanced flexibility in foreign-language communication and were able to talk about a large variety of subject-specific topics if explained more slowly and on a simpler linguistic level, thus leading to a deeper subject understanding. In addition, EMI instruction often increased students' motivation and avoided the confusion between everyday concepts and scientific concepts. Further, students in UAE felt positive about reading skills, as they developed self-reading strategies such as using an English-English dictionary and developed their scientific and medical terms in their study (Wanphet & Tantawy, 2018). This can be due to the instructors' assignment in doing more reading in their classes as also revealed in Chang's (2010) study yielding a similar finding concerning the students' perceptions of EMI on their reading abilities. In terms of productive skills, most students in UAE felt more comfortable interacting in oral communication in EMI class (Wanphet & Tantawy, 2018). In Taiwan, a study comparing two classes with different means of instruction, one using Mandarin and the other English, showed that although there was no difference in terms of grades obtained, the EMI class tended to show a more positive learning attitude and was perceived to improve proficiency in English in four skills (Wu, 2006). Another study in Taiwan by Chang (2010) also reported that most of the students believed that EMI courses helped them improve their English language proficiency, followed by both content and language improvement and language improvement.

Despite all the positive outcomes, some drawbacks have been noticed from EMI implementation in different contexts. Looking at the impacts of EMI on content understanding, Wu (2006) found that students experienced greater difficulties in understanding the course content and inhibition from expressing themselves fluently due to the lack of English proficiency. Lei and Hu's (2014) study

reported a corresponding finding that the low students' lecture comprehension derived from the fact that the subjects taught in English were in themselves difficult, added by the limited English vocabulary of the students. In terms of interaction, it was found out that very few students asked questions in class, even most of them looked confused during the lectures causing the teachers less able to determine students' specific problems and difficulties to adjust their lectures in a timely manner which in turn further impeded students' comprehension of the lectures (Chang, 2010). In Malaysia, EMI classes seemed to be struggling to fully use English as teachers preferred to apply code mixing or switching in class interaction, thus for those already good in English even felt their language deteriorated (Ariffin & Husin, 2011). Chang (2010) also found that English was used more than 90% of the class time in only a minority of the courses carrying the label of "English-medium instruction" in a Taiwanese university. Here, code switching was found from English to Mandarin when: (1) students looked confused; (2) students asked for an explanation in Mandarin; and (3) the concept introduced was difficult. Similarly, UAE Students in interaction among them mostly preferred using their L1 than English but switched to English when interacting with their lecturers causing them little improvement in their English-speaking ability which might be due to the inappropriate implementation of EMI and students' preference in using L1 inside and outside classrooms as they felt that L2 even hindered their listening skills (Wanphet & Tantawy, 2018). In terms of language improvement, EMI did not benefit students' writing skills though they had no difficulties in writing which was due to the instructor's emphasis on content, while neglecting linguistics aspects (Wanphet & Tantawy, 2018). Evans and Morrison's (2011) study indicated a similar concern about the instructors' error-fixing and feedback strategy

Study 1

The aim of the first study is twofold, we designed a questionnaire that captures students' self-evaluation of their English comprehension, and secondly to explore students' perceptions of EMIs, including their willingness of taking EMI courses based on instructors' nationality and classmates' nationality, and their motivation of enrolling EMI courses

METHOD

Procedures and Participants

We collected our data through online questionnaires. The links to the questionnaire were sent to undergraduate students in NSYSU through e-mails and posts through social networking sites. We assured the anonymity of the survey since the responses cannot be traced back to the respondent. A total of 171 complete responses were received, 3 were eliminated (2 graduate students and 1 suspended), resulting in 168 valid responses. Including 46 freshmen (27.5%), 40 sophomore (24%), 42 junior (25.1%), and 39 senior students (23.4%). The number of students who have an English proficiency test is 103 (63.2%), and 132 students took at least one EMI course before, accounting for 80.1%.

Measures

English proficiency. We asked respondents to evaluate their listening, speaking, reading, and writing comprehension, based on a 4-point Likert's scale, ranging from "1-not at all" to "4-fluently". 2 additional questions asked respondents to report if they have taken any English-language proficiency tests. We also asked if have enrolled in EMI courses before, if so, what is the total number of EMI courses they have completed.
Willingness of enrollment. To explore the reasons affecting students' willingness to enroll in EMI courses, we asked them to indicate their willingness based on 6 items, when their instructors or fellow classmates are foreign, local, and both, on a 5-point Likert's scale, ranging from "1-very unwilling" to "5-very willing".
Motivation of enrollment. Respondents were also asked to report the reasons behind enrolling in EMIs with 4 questions, including "plans to study abroad in the future", "improve English ability", "enhance

international perspective", and "interested in the course". Based on a 5-point Likert's scale, ranging from "1-strongly disagree" to "5-strongly agree".

Personal information. The last part of the questionnaire asked respondents to report the current year of their studies.

RESULTS

Table 1 shows the students' self-report English proficiency, we averaged the evaluation scores. Overall, results showed that students have better performance in reading comprehension, and do not perform well in speaking comprehension. We conducted t-tests to test the differences between students who took an English proficiency test or have taken EMI courses before. Most of the students have taken the General English Proficiency Test (GEPT) commissioned by the Taiwan Ministry of Education. It appears that there are significant differences in listening ($t(165)=3.22^{**}$), speaking ($t(165)=4.01^{***}$), and writing ($t(165)=3.00^{**}$) between students who had taken English proficiency tests and the ones who did not. As for students with prior experience in EMI courses, we also compared their English proficiency with those who have not enrolled in any EMI courses. Results showed that students who took EMI courses only performs better in writing comprehension ($t(165)=.41^*$), compared to the students who haven't taken any EMI courses.

Table 1. Mean scores for Self-report English proficiency and t-test results

Abilities	Overall Mean (SD)	English Proficiency Test				EMI Courses			
		Mean (SD)		t-test		Mean (SD)		t-test	
		No	Yes	*t(df)*	*p*	No	Yes	*t(df)*	*p*
Listening	2.68 (.57)	2.50 (.59)	2.79 (.54)	3.22 (165)	.002	2.57 (.66)	2.70 (.55)	1.22 (165)	.133
Speaking	2.17 (.50)	1.98 (.49)	2.29 (.48)	4.01 (165)	.000	2.11 (.58)	2.19 (48)	.79 (165)	.075
Reading	2.89 (.54)	2.81 (.59)	2.94 (.50)	1.52 (165)	.132	2.77 (.65)	2.92 (.50)	1.50 (165)	.153
Writing	2.44 (.36)	2.27 (.60)	2.54 (.57)	3.00 (165)	.003	2.40 (.70)	2.45 (.57)	.41 (165)	.047

Total N= 167; English Proficiency Test: Y=103, N= 63; EMI Courses: Y=132, N=35.

As for the willingness for taking EMI courses, the respondents prefer to have local instructors paired with foreign instructors (M=3.44, SD=.97), whereas for preference in classmates, local classmates (M=3.37, SD=.72) or local plus foreign classmates (M=3.35, SD=.87) have similar ratings, a class with mostly foreign classmates were less preferred (M=2.83, SD=1.02). The ratings were shown in Figure 1 and Figure 2.
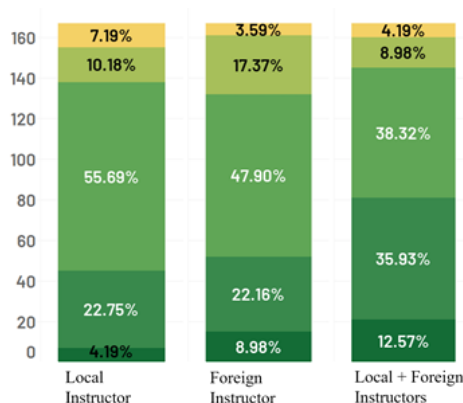
Figure 1. Willingness based on instructors' nationality
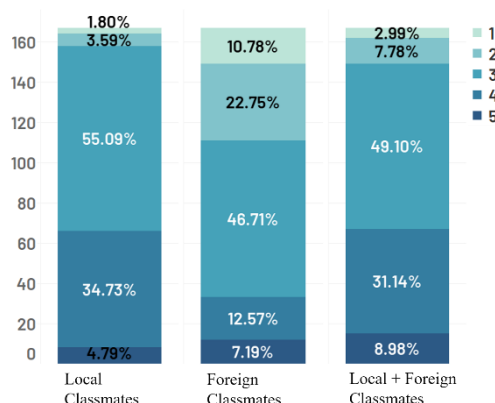
Figure 2. Willingness based on classmates' nationality

Figure 3 shows respondents' motivation to enroll in EMI courses, improve English ability received the highest mean score of 3.88 (SD=1.04), followed by enhancing international perspective (M=3.75, SD=1.03), interested in the course (M=3.65, SD=.95), and have future plans to study abroad is the lowest (M=3.47, SD=.96).
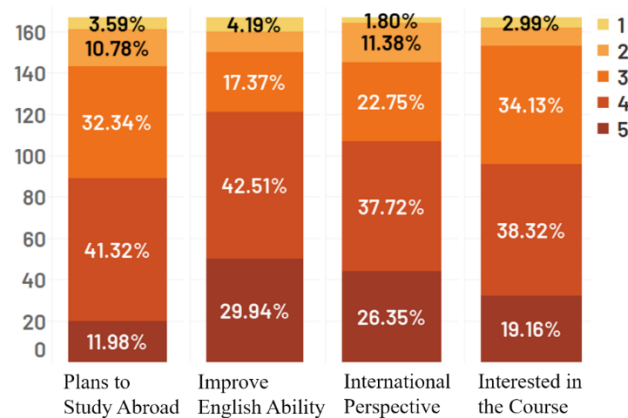
Figure 3. Motivation to EMI course enrollment

Study 2

Following study 1 that obtained students' views on EMI courses, we conducted study 2 to examine the results of students' evaluation after taking EMI courses, to understand students' perceptions after completing EMI courses.

METHOD AND DATA COLLECTION

For EMI courses, students are required to answer questions additional questions: the first question asked students level of agreement with "my English proficiency is sufficient to understand the teaching materials of this EMI course and meet the course requirements", based on a 5-point Likert's scale. We obtained data of bachelor-level students from 2016 to 2020, a total of 9945 responses were collected. The second is their evaluation of the actual percentage of English used by the instructor, responses include "1=almost fully in Mandarin", "2=20%-40%", "3=60%-80%", "4=40%-60%", and "5=over 80%". This question was added to the course evaluation survey in the 2020 winter semester, therefore, we are only able to obtain data for one semester, and a total of 62 EMI courses with 1330 responses were obtained.

RESULTS

From the results of question 1, students generally have good English proficiency to meet the course requirements, the average evaluation score is 4.43 (SD=.77), Table 2 shows the mean score of English proficiency evaluation from different colleges. Students from College of Management have the higher evaluation scores on English proficiency, whereas College of Science received the lowest average score.

Table 2. Students' evaluation of English proficiency by colleges

Colleges	Mean	SD	N
College of Liberal Arts	4.55	0.65	3,760
College of Science	3.91	0.94	290
College of Engineering	4.01	0.98	1,284
College of Management	4.63	0.7	1,427
College of Marine Sciences	4.34	0.78	575

College of Social Sciences	4.19	0.96	144
Siwan College	4.43	0.7	2,465

Note: data were collected from 2016-2020

Next, we examine the actual percentage of English used by the instructor. Since this question was a new addition to the course evaluation, we only obtained data for one semester. Results showed that EMI courses were mostly delivered in English, up to 86.17% responded above 80%; 9.7% reported 60%-80%; 3.01% reported 40%-60%; and only 0.9% reported 20%-40%. Although there were 3 responses from 3 different courses indicated that the course was almost fully delivered in Mandarin, we examined other responses from the same course and find all other responses indicate a higher percentage. To explore if there is a significant relationship between students' self-report English proficiency and instructors' use of English. Correlation results showed that the two were positively correlated (r=.139**), we then conduct a regression analysis with the percentage of English used in class as the result, students' English proficiency as a predictor, results showed a significant relationship (F(1, 2236) = 43.75, p<.001, $R^2_{adjusted}$=.019), however, as the data was obtained as cross-sectional, we should not assume a causal relationship between the two.

DISCUSSION

The current study has found that overall, students perceived that attending an EMI course has helped them improve their reading comprehension. This is in line with Wanphet and Tantawy's (2018) finding that reading comprehension is the most improved skill among the four skills. This finding is different from what Chang (2010) found that listening was the language skill they improved most. It reveals that students' English receptive skill has improved after being exposed to texts in English during their study, thus being more familiar with disciplinary terms and academic writing style in their field of study. This is a crucial point in the learning process as by having better reading ability, the students will absorb and digest information more as a source of their cognitive ability. The teaching approach that assigns students more reading materials in English undoubtedly helps them develop their reading ability. Their productive skills, such as speaking, however, was not reported to improve which is also in line with Wanphet and Tantawy's (2018) finding among UAE students. This might be related to either pedagogical or cultural aspects. A teacher-centered teaching model might minimize students to utilize their language orally. In addition, as Taiwanese students are culturally more passive as following Confucianism, unwilling to ask questions or speak up in class (Tran, 2013) different from those from western cultural backgrounds who are outspoken, they will tend to keep silent when asked to work on speaking activities, such as discussion or presentation. Moreover, their lack of confidence in their English might hinder them to speak out or express ideas orally. Though not showing improvement in speaking, their writing ability seemed to be better. This is especially shown by those who have experienced EMI courses previously. It indicates that students' previous learning experience, either in their secondary school or previous EMI course at the university, helps them in writing better after following an EMI course to some degree. So, although in terms of oral skills they did not perform well, in writing skills they show significant improvements.

Regarding their preference in the instructor and classmates, local instructors and classmates are more preferred by the respondents. This might be due to their belief that local lecturers and classmates can help the local students feel more relaxed or have a closer relationship, thus feeling more comfortable in case they have difficulties in understanding or expressing in English, with possible code-switching between English and Mandarin during their study. Code-switching is common in any EMI classroom interaction as long as it is intentionally performed to assure students' understanding (Ariffin & Husin, 2011; Chang, 2010). They might also feel that socio-culturally secured when they are interacting with local lecturers or classmates as they have the same background and know how to handle any problems in interaction when getting stuck due to linguistic problems. Regarding students' motivation to take EMI courses, they prioritize that improving their English proficiency is the most common aim for following the English medium courses followed by strengthening their international perspectives, interest in their course, and finally their plan to study abroad. This indicates that they realize how EMI

will be beneficial for their English proficiency improvement for their future plans, either for their future study or being part of the international competition. The main aim to improve English proficiency is similar to Chang's (2010) study among Taiwanese students.

The majority of the students also reported that their English was at a very high level of proficiency-based on their self-report. This indicates that they have more confidence in partaking in EMI courses. This result is different from Wu's (2006) findings among Taiwanese students who felt their English was not adequate for following EMI courses. The difference might be due to the limited sample of his study and specific to Engineering students only, while this study it has a larger sample and from all majors of study. The high confidence found in this study indicates that EMI is quite feasible to be conducted as also shown by the percentage of the lecturers' use of English that the majority of the lecturers used more than 80% in their EMI course. Finally, the lecturers' use of English was reported to be quite high, with most students reporting 86.17% of the lecturers using more than 80% English in delivering the content subjects. This indicates the lecturers possessed enough language proficiency in teaching EMI courses, unlike what Dearden (2014) was concerned regarding lecturers' lack of English proficiency. However, it should be further investigated here whether their high language proficiency also reflects their communicative competence as stated by Wilkinson et. al. (2017).

CONCLUSION

Preliminary findings from this study indicated that students in NSYSU have fairly good English listening and reading comprehension skills, but relatively poor speaking ability. Students are willing to enroll in EMI courses to improve their English skills, and those who enrolled in EMI courses do not have significant better English ability than the others. Students prefer to have a mix of local and foreign instructors and classmates; this implies that students still consider it necessary to use a familiar language in class. To become a full EMI university by 2030, creating an international environment would help facilitate a better bilingual learning condition.

REFERENCES

Aizawa, I., & Rose, H. (2019). An analysis of Japan's English as medium of instruction initiatives within higher education: the gap between meso-level and micro-level practice. *Higher Education, 77*, 1125-1142.

Ariffin, K., & Susanti Husin, M. (2011). Code-switching and Code-mixing of English and Bahasa Malaysia in Content-Based Classrooms: Frequency and Attitudes. *Linguistics Journal*, *5*(1).

Chang, Y. Y. (2010). English-medium instruction for subject courses in tertiary education: Reactions from Taiwanese undergraduate students. *Taiwan International ESP Journal*, *2*(1), 53-82.

Coleman, J. A. (2006). English-medium teaching in European higher education. *Language Teaching, 39*(1), 1–14.

Crystal, David (2003) *English as a Global Language*, 2nd edn. Cambridge: Cambridge University Press.

Dearden, J. (2014). *English as a medium of instruction-a growing global phenomena.* London: British Council.

Doiz, A., Lasagabaster, D., & Sierra, J. M. (2014). CLIL and motivation: The effect of individual and contextual variables. *The language learning journal*, *42*(2), 209-224.

Evans, S., & Morrison, B. (2011). Meeting the challenges of English-medium higher education: The first-year experience in Hong Kong. *English for Specific Purposes*, *30*(3), 198-208.

Floris, F. D. (2014). Learning subject matter through English as the medium of instruction: Students' and teachers' perspectives. *Asian Englishes*, *16*(1), 47-59.

Galloway, N., Kriukow, J., & Numajiri, T. (2017). *Internationalisation, higher education and the Growing Demands for English: An Investigation into the English Medium of Instruction (EMI) Movement in Japan and China* . London: British Council.

Genesee, F. (1994). *Integrating language and content: Lessons from immersion. NCRCDSLL Educational Practice Reports.* Berkeley: Center for Research on Education, Diversity and Excellence, UC Berkeley.

Haagen-Schützenhöfer, C., & Mathelitsch, L. (2001). English as a Medium of Instruction in Science-Teaching. *Developing Formal Thinking in Physics*, 293-295.

Hamid, M. O., Nguyen, H. T. M., & Baldauf Jr, R. B. (2013). Medium of instruction in Asia: Context, processes and outcomes. *Current Issues in Language Planning*, *14*(1), 1-15.

Ibrahim, J. (2001). The implementation of EMI (English medium instruction) in Indonesian universities: Its opportunities, its threats, its problems, and its possible solutions. *k@ ta*, *3*(2), 121-138. doi.org/10.9744/kata.3.2.121-138

Kachru, Y. (1995). Contrastive rhetoric in world Englishes. *English Today*, *11*(1), 21-31.

Lei, J., & Hu, G. (2014). Is English-medium instruction effective in improving Chinese undergraduate students' English competence?. *International Review of Applied Linguistics in Language Teaching*, *52*(2), 99-126.

Macaro, A., Curle, S., Pun, J., An, J., & Dearden, J. (2018). A systematic review of English medium instruction in higher education. *Language Teaching, 51*(1), 36-76.

National Development Council. (2018). *Blueprint for Developing Taiwan into a Bilingual Nation by 2030*. Taipei, Taiwan: National Development Council.

Pecorari, D. & Malmström, H. (2018). At the crossroads of TESOL and English medium instruction. *Tesol Quarterly, 52*(3), 497-515.

Shimauchi, S. (2018). English-medium instruction in the internationalization of higher education in Japan: rationales and issues. *Educational Studies in Japan*, *12*, 77-90.

Tran, T.T. (2013). Is the learning approach of students from the Confucian heritage culture problematic? *Educational Research for Policy and Practice, 12*, 57–65. https://doi.org/10.1007/s10671-012-9131-3

Vu, N. T., & Burns, A. (2014). English as a medium of instruction: Challenges for Vietnamese tertiary lecturers. *Journal of Asia TEFL*, *11*(3).

Wächter, B., and F. Maiworm, (2014). English-taught Programmes in European Higher Education: The State of Play in 2014. Bonn: LemmensMedien GmbH.

Wanphet, P., & Tantawy, N. (2018). Effectiveness of the policy of English as a medium of instruction: perspectives and outcomes from the instructors and students of university science courses at a university in the UAE. *Educational Research for Policy and Practice*, *17*(2), 145-172.

Wu, C. J. (2006). Look who's talking: Language choices and culture of learning in UK Chinese classrooms. *Language and Education*, *20*(1), 62-75.

Exploring the Relationship between Classroom Climate and Academic Performance of Public Junior High School Students

Cecile S. Gentova[1] and Dennis V. Madrigal[2]

[1]Antique National School, Antique, Philippines (cecile.gentova@deped.gov.ph)
[2]University of Negros Occidental-Recoletos, Bacolod City, Philippines (dennis_madrigal@yahoo.com)

ABSTRACT

Classroom climate is a comprehensive set of educational, psychological, social, cognitive, organizational, and physical variables that may affect the academic achievement of learners. Perceptions of students on their learning environment affect the way they perform in the classroom. This descriptive-correlational study was used to assess, compare, and correlate the classroom climate of a public school in Antique. The data were generated from 474 students and teachers as assessors using the standardized Classroom Climate Inventory (CCI) developed by the Alliance for the Study of School Climate (ASSC). On the other hand, the secondary data were utilized for student's academic achievement during the first and second quarters. The data were analyzed using the Mean, Standard Deviation, Mann Whitney U test, and Spearman rank correlation. The findings revealed that the degree of classroom climate is high. When grouped according to the designation, results revealed a significant difference in the degree of classroom climate in terms of discipline, learning assessment, attitude, and culture. In terms of student interaction, no significant difference was observed when assessors were grouped according to the designation. There was no significant relationship between the degree of classroom climate and academic performance. The high degree of classroom climate implies that the prevailing mood, attitude, standards, and tone inside the classroom are conducive to learning. The difference in the degree of classroom climate when assessors are grouped according to designation implies that teachers have a more positive perception attributed to their experiences. Furthermore, the non-association between classroom climate and academic performance implies other factors linked with their academic performance.

Keywords: Education, Classroom Climate, Academic Performance, Descriptive-Correlational, Antique

INTRODUCTION

Classroom climate refers to a collective set of educational, psychological, social, cognitive, organizational, and physical variables that may affect students' achievement. The perceptions of students on classroom climate significantly affect learning, motivation, satisfaction, and achievement (Barr, 2016). The Alliance for the Study of School Climate (2014) categorized classroom climate into four main categories, namely, discipline, student interactions, learning and assessment, and attitude and culture. Globally, there is a growing interest in classroom climate. United Nations Children's Fund and the number of Department of Education from different states focusing on school reform and classroom climate is increasing. Reforms on classroom climate are considered essential components of school improvement (Thapa, Cohen, Guffey, & Higgins-D' Alessandro, 2013). In Asia, classroom climate is characterized by teacher-centered educational practices but with a less complicated structure than in Western schools (Kim, 2018). In addition, classroom climate is associated with academic performance of students. A positive classroom climate is associated with higher academic achievement (Ekpo, Akpan, Ekpenyong & Essien, & Obot, 2009). As an important concern in the education system, academic achievement is one of the measures to determine the quality of education that will determine the quality of the graduates (Ali, Jusof, Mokhtar, & Salamat, 2009). It is also one of the most widely observed indicators of any educational institution. On the societal level, the learners' academic performance is directly related to social and economic development (Singh, Malik, & Singh, 2016). Compared to other developed countries, high school students' academic performance in the United

States has been lagging in terms of mathematics, science, and reading (Desilver, 2017). In the 2018 Programme for International Student Assessment survey results, U.S. only ranked 13th in reading, 38th in mathematics, and 19th in science (Punongbayan, 2019).

In the Philippines, the performance of the students in achievement tests has been dismal over the past years. Data from the Department of Education show that from school year (S.Y.) 2007-2008 until 2011-2012, results of National Achievement Tests (NAT) in public high schools have been below fifty percent (50%) (Ordinario, 2013). On the other hand, in Region VI, the Division of Antique is in the fourth spot among six provinces with an achievement score of 52.2% for Grade 10 learners and 68.7% for Grade VI learners. These scores are better than the national average but still below the criterion standard set by the Department of Education. The criterion standard is 75%. (Ordinario, 2013).

Previous studies conducted focused on the influence of student-centered classrooms on the academic achievement of students (Kim, 2018); association of positive classroom with higher academic achievement of the students (Ekpo, Akpan, Ekpenyong & Essien, & Obot, 2009). However, the classroom climate remained a less explored construct (Cuarto & Arenillo, 2015), creating so much dearth in the local literature. One relevant study conducted in the Philippines by Cardenas and Cerado (2016) found no significant correlation between classroom climate and academic performance. From the perspective of the implementation of K-12 in the Philippines, it is imperative to address the relationship between classroom climate to academic performance to realize the goals and objectives of the recent educational reforms in the Philippines. Hence, the study intended to determine the degree of classroom climate on the campus and its relationship to junior high school students' academic performance in a public school. The findings of this study were utilized as a basis for designing an enhanced School Improvement Plan (SIP) to promote a positive classroom climate towards a more improved academic performance of students.

FRAMEWORK OF THE STUDY

The study theorized that the classroom climate is associated with academic performance. A positive classroom climate leads to higher academic achievement of students. Grounded on the theoretical assumption that classroom climate is associated with academic performance, the study is anchored on Self-Determination Theory (SDT). The Self-Determination Theory (SDT) is a systematic learning theory that posits that psychological needs in the context of competence, relatedness, and autonomy with the social context affect the wellness of that context (Ryan & Deci, 2000). Competence is described as the need to be effective when interacting with the environment. A competent student will strive for more challenging learning experiences to further his or her effectiveness. Relatedness is a need to have attachments with others, allowing students to feel emotionally connected and safe in school environment. A related-centered student is interpersonally involved in warm, personal relationships. Autonomy is the need to express behavior from within and to be self-endorsed in actions. An autonomous student has a high sense of choice, and the learner can initiate actions with great volition (Jang, Reeve, Ryan, & Kim, 2009).When applied in the setting of classroom climate and academic performance, the degree of classroom climate in terms of discipline, student interactions, learning and assessment, and attitude and culture is associated with the level of academic performance of junior high school students in a public school in Antique.

Moreover, as a framework for improving academic performance, there is a need to improve the learning environment. In relation to the current study, the degree of classroom climate and level of academic performance of junior high school students in a public school in Antique is further described as the capacity of students to manage to learn through motivation and setting ambitious goals for themselves (Doll, Spies, LeClair, Kurien, & Foley, 2010). Moreover, the evaluation of students' classroom climate and academic achievement is anchored on the Systems Theory by Ludwig von Bertalanffy (1968). Systems theory is a multidisciplinary approach to understanding a phenomenon. This theory introduces the concepts of a system composed of different elements interacting with each other. Systems theory emphasizes the importance of the relationship between parts to understand the organization,

functioning, and outcomes of an entity. Moreover, this theory argues that different systems can be found in nature, such as in science, society, economics, information, and others.

In the context of the study, classroom climate and academic performance were associated with each other. Academic performance as a system was associated with many factors, such as the classroom climate (Mele, Pels, & Polese, 2010). In line with this, the study theorized that a positive classroom climate in terms of discipline, learning assessment, attitude and culture, student interactions are the different components of the system that is linked with academic performance. As a structure applied in the study's context, a high degree of discipline, learning assessment, attitude and culture, and student interactions work together as a system that leads to an improved level of academic performance. Hence, the school administrators should always seek ways to improve the degree of classroom climate in terms of discipline, learning assessment, attitude and culture, and students.

METHODS

The study employed a quantitative research design using descriptive-comparative and correlational approaches. This design described, compared, and assessed the relation of the variables of the study (Creswell, 2014). The use of design was appropriate because it determined the degree of classroom climate and the levels of students' academic performance of the Junior High School Students of a public school in Antique for SY 2019-2020. Likewise, it measured whether a difference exists in the respondents' level of academic achievement when compared to the designation. Also, it determined if a relationship exists between the degree of classroom climate and the level of students' academic performance. The respondents of the study were junior high school students and teachers in a public school in Antique. A total of 358 junior high school students were selected through stratified sampling based on their grade level. Meanwhile, a total of 116 junior high school teachers were selected through stratified sampling as respondents of the study.

Furthermore, after a series of literature review from various sources such as books, journals, and other research materials, the researcher adapted and modified the Classroom Climate Inventory developed by John Shindler of the Alliance for the Study of School Climate (ASSC), California State University, United States of America. Permission was obtained to use the research instrument. The research instrument has two parts. Part I contains the Classroom Climate Inventory with four categories, such as discipline, student's interactions, learning assessment, and attitude and culture. Each item will have four options, namely, 4- strongly agree, 3- agree, 2-disagree, and 1-strongly disagree. The subcategory discipline has ten (10) items, student's interactions have nine (9) items, learning assessment has eleven (11) items, and attitude and culture have nine (9) items. The degree of classroom climate was interpreted as very high, high, low, and very low. In addition, academic performance of the respondents was interpreted as outstanding, very satisfactory, satisfactory, fairly satisfactory, and did not meet expectations.

To establish the validity of the instrument, the researchers sought the services of five Master Teachers in junior high school using Good and Scates criteria. The comments and suggestions of the Master Teachers were incorporated. The validity index of the test was 4.21 which is highly acceptable.
On the other hand, the instrument was pilot tested to 30 respondents for reliability testing. Cronbach Alpha was applied to compute the index of internal consistency of the instrument. The results yielded the Cronbach alpha values 0.821 for both teachers and students which indicate that the instrument is highly reliable.

The permission of the school administrator was sought before the administration of the survey questionnaire. Upon approval for the study's conduct, the researcher oriented the respondents of the purpose of the research and secured their informed consent before they answered the questionnaire. The parents' consent for their children to participate in the study was also secured before the study's conduct. After all the data shall have been retrieved from the respondents, they were coded, encoded, and tabulated for statistical treatment and analysis.

In the analysis of quantitative data, descriptive analyses were used to assess the degree of classroom climate in the categories of discipline, student's interaction, learning assessment, and attitude and culture, and the level of students' academic performance of a public school in Antique. The researcher used mean and standard deviation. Moreover, the comparative analysis was used to assess the degree of classroom climate when classified according to the designation. Mann Whitney U test was used to determine the significant difference in the degree of classroom climate in terms of discipline, student interaction, and attitude, and culture when grouped according to designation. Furthermore, a correlational analysis was used to determine the relationship between the degree of classroom climate and junior high school's academic performance. Spearman rank correlation was used to determine the significant relationship between the degree of classroom climate and academic performance.

RESULTS AND DISCUSSION

Degree of Classroom Climate

Table 1 showed the degree of classroom climate when assessors were taken as a whole and when classified according to designation. When taken as a whole, the respondents reported a high degree of classroom climate (M=3.20, SD=0.31). Furthermore, learning assessment had the highest score (M=3.27, SD=0.38). High degrees were observed on other sub-categories of classroom climate such as discipline (M=3.25, SD= 0.35), attitude and culture (M=3.21, SD= 0.41), and student interaction (M=3.11, SD=0.35) meaning to say, the degree of classroom climate is high. Likewise, when classified according to designation, teachers reported a high degree of classroom climate (M=3.27, SD=0.33). For teachers, discipline (M=3.43, SD=0.39), had the highest score. Teachers also reported a high degree of learning assessment (M=3.41, SD=0.41), attitude and culture (M=3.30, SD=0.42), and student interaction (M=3.16, SD=0.33) which means that for the teachers, the degree of classroom climate is high.

Congruently, students reported a high degree of classroom climate (M=3.18, SD=0.30). In terms of subcategories of classroom climate, learning, and assessment (M=3.22, SD=0.36) had the highest score followed by discipline (3.19, SD=0.31). Attitude and culture (M=3.21, SD=0.41) and student interactions (M=3.10, SD=0.36), which means that for the student assessors, the degree of classroom climate is high.

The study's findings showed that the degree of classroom climate in terms of discipline, student interaction, learning assessment, attitude, and culture in a public school in Antique is high. Meaning to say, the "high" degree of classroom climate indicated that the prevailing mood, attitude, standards, and tone inside the classrooms are conducive for facilitating learning. The high degree of discipline environment in a public school in Antique implies that the classroom's discipline approaches are consistent, clear, and effective (Lopes & Oliveira, 2017)

Moreover, the "high" degree of student interactions implies that students and teachers in a public school in Antique has a high degree of interrelations, sense of belongingness, and interactions. Moreover, the "high" degree of learning and assessment indicated that assessment strategies in the classroom are student-centered, dynamic, and reflective through clear and attainable assessment targets. The findings imply that assessment strategies promote a sense of competence of the students, allowing them to reflect on their learning progress systematically. In addition, the high degree of attitude and culture in the classroom of a public school in Antique imply that students feel a sense of community, collectiveness, and openness in the classroom (Galini & Efthymia, 2009). On the other hand, the findings and the implications observed in the study are consistent with the observations of Kaplan and Miller (2007). A classroom with a high degree of classroom climate is characterized by inclusiveness and sense of belonging.

Table 1. Degree of Classroom Climate

Variables	Discipline			Student Interaction			Learning Assessment			Attitude and Culture			Classroom Climate		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Teacher	3.43	0.39	Hi	3.16	0.33	Hi	3.41	0.41	Hi	3.30	0.42	Hi	3.27	0.33	Hi
Student	3.19	0.31	Hi	3.10	0.36	Hi	3.22	0.36	Hi	3.18	0.40	Hi	3.18	0.30	Hi
As a whole	3.25	0.35	Hi	3.11	0.35	Hi	3.27	0.38	Hi	3.21	0.41	Hi	3.20	0.31	Hi

Note: Hi=High

Level of Academic Performance of Junior High School Students

The findings in Table 2 indicated that the level of academic performance as a whole and when classified according to grade level. When taken as a whole, students were proficient in their academic performance (M= 87.59, SD= 4.06), which means the level of academic performance of Junior High School students is very satisfactory according to the department's standards of Education. All grade levels reported proficient academic performance in the first and second quarters of the school year 2019-2020. Grade 8 (M=88.21, SD= 3.57) had the highest academic performance followed by Grade 10 (M=88.14), Grade 9 (M=87.37, SD=3.94), and Grade 7 (M=86.71, 4.38) meaning to say that the level of academic performance of junior high school students of a public school in Antique, when classified according to Grade level, is very satisfactory as described by standards set by the Department of Education. The findings signify that the students could perform well based on the learning standards of the Department of Education as measured through the content standards, performance standards, and learning competencies.

The findings implied that students were able to learn the essential knowledge that should be learned. They were also able to demonstrate skills and abilities in relation to the content standards (Department of Education, 2015). The very satisfactory performance of the junior high school students in junior high school in a public school in Antique implies that the learners have a clear understanding of the lesson, can identify their strengths and weaknesses, monitor their progress, and can seek support when necessary to further improve their academic performance (Ghazvini & Khajepour, 2011). This is consistent with the academic performance standards in terms of written works, performance tasks, and quarterly exams stipulated by the Department of Education Order no. 8 series of 2015.

Table 2. *Level of Academic Performance of Junior High School Students*

Grade	M	SD	Interpretation
Grade 7	86.71	4.38	Proficient
Grade 8	88.21	3.57	Proficient
Grade 9	87.37	3.94	Proficient
Grade 10	88.14	4.23	Proficient
As a whole	*87.59*	*4.06*	*Proficient*

Difference in the Degree of Classroom Climate

Table 5 showed the significant difference in the degree of classroom climate when assessors are grouped according to designation. Mann Whitney U test was used to determine the significant difference in the degree of classroom climate in terms of discipline, student interaction, and attitude, and culture when grouped according to designation. There was significant difference in the degree of classroom climate [U=17327.00, p=0.007] in terms of discipline [U=12932.00, p=0.000], learning assessment [U=15794.00, p=0.000], and attitude and culture [U=17491.00, p=0.010] when grouped according to designation. There was no significant difference in the degree of classroom climate in terms of student interaction [U=19254.00,p=0.237] when grouped according to designation. Hence, the null hypothesis was partly rejected and accepted. The significant difference in the degree of classroom climate when assessors are classified according to designation implies that teachers have a more positive perception

of the degree of classroom climate. This may be attributed to teachers' experience in terms of theimprovement of discipline, learning assessment, attitude, and culture through the years (Könings, Seidel, Brand-Gruwel, Merriënboer, 2014). Moreover, no significant difference in classroom climate in terms of student interactions implies that the teachers and students have a high degree of interrelatedness, sense of belongingness, and interactions among students and teachers in a public school in Antique. It means that the students can freely communicate with their teachers. In addition, the high degree of student interactions show that students can easily connect and communicate with their classmates and peers in the classroom (Barr, 2016).

Table 5. *Difference in the Degree of Classroom Climate when Grouped According to Designation*

Variable	Designation		U	p
	Teacher	**Student**		
Classroom Climate	3.27	3.18	17327.00*	0.007
	(0.33)	(0.30)		
Discipline	3.43	3.19	12932.00*	0.000
	(0.39)	(0.31)		
Student Interaction	3.16	3.10	19254.00	0.237
	(0.33)	(0.36)		
Learning Assessment	3.41	3.22	15794.00*	0.000
	(0.41)	(0.36)		
Attitude and Culture	3.30	3.18	17491.00*	0.010
	(0.42)	(0.40)		

Note: *the difference is significant when $p \leq 0.05$

Relationship between Classroom Climate and Academic Performance

Spearman rank correlation was used to determine the significant relationship between the degree of classroom climate and academic performance. There was no significant relationship between the degree of classroom climate and academic performance [$U(356)=-.007$, $p=0.896$]. Hence, the null hypothesis was accepted. The findings showed that there are other factors linked with the students' academic performance in a public school in Antique. The findings of the study were supported by the study conducted among 300 secondary students. The study shows that no significant relationship was observed between the classroom climate and the academic performance of selected secondary school students in public and private schools (Tharanie & Geetha, 2017). In contrast, the study of Patrick, Ryan, and Kaplan (2007) showed different results. Their findings showed that a task-oriented classroom climate had a significant positive relationship with academic performance. Similar results were observed in a study conducted in 64 selected public schools. Results revealed that classroom climate and academic performance were associated (Javed & Ashgar, 2017).

Table 6. *Relationship between Degree of Classroom Climate and Academic Performance*

Variable	χ	df	p
Academic Performance x Classroom Climate	-0.007	356	0.896

Note: the correlation is significant when $p \leq 0.05$

Overall, the study's findings refuted the initial theoretical assumptions that classroom climate in terms of discipline environment, student interactions, learning and assessment, and attitude and culture is associated with academic performance. This implies that other factors associated with the students' competence and wellness inside the classroom affect their academic performance.

Moreover, the study's findings reveal that academic achievement is a complex system associated with many factors, not only limited to the context of the classroom environment. Classroom climate describes a part of the external factors that affect academic performance of the students. This implies that there are other internal factors such as students' self-concept, level of academic stress and parental pressures influence academic performance of students (Omran & Saleh, 2019). Furthermore, study habits, self-

motivation, class attendance, and student's interest on the subject matter were also observed to influence academic performance (Abaido, 2018). There is a need to examine other factors associated with academic performance to enhance further students' performance (Cardenas and Cerado, 2016).

CONCLUSION

Teachers view classroom climate in a more ideal and institutional perspective compared to students. In this regard, teachers need to collaborate with students to attain a more positive classroom climate. Likewise, teachers need to revisit the areas of discipline environment, learning assessment, and attitude, and culture to utilize effective discipline strategies, address various learning styles, and share high expectations with students. In addition, the non-association between classroom climate and academic performance implies that the public school has been performing well despite the problems and issues in the classroom climate. There may be other factors that may account for the level of academic performance of the junior high school students in a public school in Antique.

Hence, school administrations and teachers must integrate student-related factors such as improvement of students' well-being, reduction of academic stress, improvement of study habits and discipline when creating School Improvement Plans (SIPs).

Moreover, while the study has described interesting findings on classroom climate and academic performance, it is confronted by several limitations. Primarily, the study being self-report. Some of the respondents may have not accurately described their classroom climate. In addition, the study evaluated a limited sample of junior high school learners. Finally, this study was conducted in a public school in the Antique, Philippines. Thus, the findings may not be generalizable in other contexts. Therefore, findings must be interpreted with great prudence and caution. Hence, qualitative, or mixed method research design with expanded participants in both public and private schools may provide more insights and generalizable findings in the future.

REFERENCES

Ali, N., Jusof, K., Ali, S., Mokhtar, N., & Salamat, A. (2009). The factors influencing students' performance at universiti teknologi Mara Kedah, Malaysia. *Management Science and Engineering*, *3*(4), 81-90.

Alliance for the Study of School Climate. (2014). Retrieved April 26, 2019, from Alliance for the Study of School Climate, California State University, Los Angeles, California: http://web.calstatela.edu/centers/schoolclimate/research/reliability_validity.html

Barr, J. (2016). Developing a Positive Classroom Climate. *IDEA Papers*, 61.

Cardona, R., Reyes, R., & Tangalin, M. (2015). The Bullying Experiences and Classroom Discipline Techniques in an Urban National High School in the Philippines: A Basis for an Anti-Bullying Program. *American International Journal of Contemporary Research, 5*(2), 49-52.

Capuno, R., Necesario, R., Etcuban, J., Espina, R., Padillo, G. & Manguilimotan, R. (2019). Attitudes, Study Habits, and Academic Performance of Junior High School Students in Mathematics. International Electronic Journal of Mathematics Education. 14. 10.29333/iejme/5768.

Cardenas, H. C., & Cerado, E. C. (2016). School Climate, Teachers' Efficiency and Learning Outcomes in Koronadal City Schools Division, Philippines. *Journal of Modern Education Review, 6*(1), 19-25.

Creswell, J. W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA: Sage

Cuarto, P., & Arenillo, S. (2015). Classroom Climate among Teacher Education Mathematics Students. *Asia Pacific Journal of Multidisciplinary Research*, 78-85.

Department of Education (2015). Department of Education Order No. 8 Series of 2015. Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program.

Desilver, D. (2017, February 15). *U.S. students' academic achievement still lags that of their peers in many other countries*. Retrieved September 21, 2019, from Pew Research Center: https://www.pewresearch.org/fact-tank/2017/02/15/u-s-students-internationally-math-science/

Dev, M. (2016). Factors Affecting the Academic Achievement: A Study of Elementary School Students of NCR Delhi, India. *Journal of Education and Practice, 7*(4), 70-74.

Doll, B., Spies, R. A., LeClair, C. M., Kurien, S. A., & Foley, B. P. (2010). Student perceptions of classroom learning environments: Development of the ClassMaps survey. School Psychology Review, 39(2), 203–218.

Dong, Y., & Lucey, A. (2013). Relationships between student satisfaction and assessment grades in a first-year engineering unit. *Design, develop, evaluate: The core of the learning environment. Proceedings of the 22nd Annual Teaching Learning Forum.* Murdoch University.

Ekpo, K & Akpan, OE & Ekpenyong Essien, Essien & Obot, Imo. (2009). Classroom Climate and Students' Academic Achievement in Social Studies in Cross River, Nigeria. African Research Review. 3. 10.4314/afrrev.v3i4.47576.

Gehlback, H., Brinwoth, M., King, A., Hsu, L., McIntyre, J., & Rogers , T. (2016). Creating Birds of Similar Feathers: Leveraging similiarity to improve teacher-student relationships and academic achievement. *Journal of Educational Psychology, 103*(3), 342-352.

Gentilucci, J., & Gentilucci, A. (2016). Student Perceptions of Classroom Learning: Plus Ça Change, Plus C'est la Même Chose?. International Journal of Educational Reform. 25(56) 10.1177/105678791602500104.

Illionois State Board of Education. (n.d.). *Classroom Management and Discipline*. Retrieved September 1, 2019, from Illionois State Board of Education: https://www.isbe.net/Pages/Classroom-Management-and-Discipline.aspx

Lopes, J., & Oliveira, C. (2017). Classroom discipline: Theory and practice. In J. P. *Bakken (Ed.), Classrooms:Academic content and behavior strategy instruction for students with and without disabilities (Vol. 2, pp. 231-253)*. New York: Nova Science Publishers

Maina, M.J. (2010). Strategies Employed by Secondary School Principals to Improve Academic Performance in Embu West District. Kenyatta University.

Mele, Cristina & Pels, Jacqueline & Polese, Francesco. (2010). A Brief Review of Systems Theories and Their Managerial Applications. Service Science. 2. 126-135. 10.1287/serv.2.1_2.126.

Ojo, J. (2018). Teachers' Professional Attitudes and Students' Academic Performance in Ilorin Metropolis of Kwara State. eJournal of Education Policy, 1-8.

Onderi, P., Okwara, M., Raburu, P., Barongo, S., Mokaya, E., Mokogi, H., & Omae, D. (2015). Assessment of School Factors Related to Academic Achievement in Mathematics among Secondary School Students of Masaba South Sub County, Kenya. Journal of Education and Practice, 6(12), 70-73.

Ordinario, C. U. (2013, March 20). Low NAT scores may worsen under K to 12. *Rappler*.

Ouma, M. O., Simatwa, E. W., & Serem, T. D. (2016). Impact of Discipline on Academic Performance of Pupils in Public Primary Schools in Muhoroni Sub-County, Kenya. *Journal of Education and Practice, 7*(6), 164-173. Retrieved from https://files.eric.ed.gov/fulltext/EJ1092484.pdf

Ozan, C. & Kıncal, R. (2018). The Effects of Formative Assessment on Academic Achievement, Attitudes toward the Lesson, and Self-Regulation Skills. Educational Sciences: Theory & Practice. 18. 10.12738/estp.2018.1.0216.

Patrick, H., Ryan, A. M., & Kaplan, A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. Journal of Educational Psychology, 99(1), 83–98. https://doi.org/10.1037/0022-0663.99.1.83

Punongbayan, J. (2019, December 4). Dismal PISA rankings: A wake-up call for Filipinos. *Rappler*. Retrieved from https://www.rappler.com/thought-leaders/246384-analysis-dismal-programme-international-student-assessment-rankings-wake-up-call-filipinos

Ryan, R. & Deci, E. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. The American psychologist. 55(1). 68-78. 10.1037/0003-066X.55.1.68.

Reyes, Chin & Brackett, Marc & Rivers, Susan & White, Mark & Salovey, Peter. (2012). Classroom Emotional Climate, Student Engagement, and Academic Achievement. Journal of Educational Psychology. 104. 700-712. 10.1037/a0027268.

Rodrigo-Ruiz, D. (2016). Effect of teachers' emotions on their students: Some Evidence. Journal of Education & Social Policy. 3(1). 73-79.

Ruff, R., Senthi, S., Susser, S., & Tsutsui, Atsuko. (2018). Oral health, academic performance, and school absenteeism in children and adolescents. The Journal of the American Dental Association. 150 (1). 10.1016/j.adaj.2018.09.023.

Tsouloupas, C. N., Carson, R. L., & Matthews, R. A. (2014). Personal and school cultural factors associated with the perceptions of teachers' efficacy in handling student misbehavior. *Psychology in the Schools*, *51*(2), 164-180. https://doi.org/10.1002/pits.21739

von Bertalanffy, L. (1968). General System Theory: Foundations, Development, Applications. New York: George Brazille

Wang, M., & Holcombe. (2010). Adolescents' perception of school environment engagement, and academic achievement in middle school. *American Educational Research Journal, 47*(3), pp. 633-662.

Wentworth, D. K., & Middleton, J. H. (2014). Technology Use and Academic Performance. Computers & Education, 78(1), 306-311. doi:http://dx.doi.org/10.1016/j.compedu.2014.06.012

World Bank. (2018). Growing Smarter: Learning and Equitable Development in East Asia and Pacific. World Bank East Asia and Pacific Regional Report. Washington, DC: World Bank. doi:10.1596/978-1-4648-1261-3

Yan, C., & Fraser, B. (2009). Classroom environment, achievement, attitudes and self-esteem in geography and mathematics in Singapore. *International Research in Geographical and Environmental Education, 18*(1), 29-44. doi:10.1080/10382040802591530

Communication Styles and Academic Performance in Oral Communication in Context of Senior High School Students

Joseph Karl C. Tatlonghari[1] and Ma. Judy b. Legaspi[2]

University of Negros Occidental – Recoletos, Bacolod City, Philippines sirkarltatlonghari@gmail.com
University of Negros Occidental – Recoletos, Bacolod City, Philippines mariajudy2012@yahoo.com

ABSTRACT

This study seeks to find out the dominant communication style and level of academic performance in Oral Communication in Context of the Grade 11 students when they are taken as a whole and when they are grouped according to sex, strand, and school of origin. This study used descriptive, comparative, and correlational research design and systematic random sampling for the sample size to answer the problem. The study results revealed that the dominant communication style was the Assertive Communication Style when taken as a whole and grouped according to sex, strand, and school of origin. The level of academic performance in Oral Communication in Context of the Grade 11 students when they are taken as a whole and when they are grouped according to sex, strand, and school of origin was very satisfactory. There is a significant difference in the level of academic performance in Oral Communication in Context of Grade 11 students when grouped according to sex and strand. There is no significant difference in the level of academic performance in Oral Communication in the Context of Grade 11 students when grouped according to the school of origin. There is no significant relationship between the students' dominant communication style and academic performance in Oral Communication in Context. The researcher found out that regardless of the dominant communication styles of the Grade 11 students, their academic performance was still very satisfactory.

Keywords: Communication Styles, Academic Performance, Oral Communication in Context, Senior High School Students

INTRODUCTION

Communication style refers to the full range of strategic actions and performances that speakers engage in to construct themselves and their social lives (Coupland, 2007). It explains how speakers project different social identities and create different social relationships through their style choices and how communication style and social context inter-relate. Styles of communication draw on and integrate a wide variety of contemporary sociolinguistic research and extensive research in this field. The emphasis is on how social meanings are made locally, in specific relationships, genres, groups, and cultures, and on studying language variation as part of spoken discourse analysis. Students cannot express their point of view consistently and persuasively, replacing the logic of the arguments with unsubstantiated statements wherein they cannot participate in professional communications (Bissenbayeva, 2013).

The Philippine education system emphasizes the language communication arts; this is why in the current curriculum, there are English subjects to strengthen the development and improvement of the students' communication skills either in written or spoken discourse. It is necessary to train a person who will be oriented appropriately in all spheres of social life and actively influence them; without which, it was impossible to proceed to the educational community with a high level of spiritual, legal, and professional culture.

This study looked into the relationship between the students' dominant communication style and their academic performance in their subject Oral Communication in Context. Students struggle to express their ideas because they find it challenging to talk, considering how they communicate. Thus, instead of achieving proficiency in oral communication, they do not develop their skill. Since the K-12 Program is new, there is a need to explore the Senior High School to understand further how the students respond

to the need to extend the primary education curriculum, especially in improving their communication skills through language-related subjects.

Numerous studies have been conducted about the communication styles linked to how employees' communication style affects their behavior in their excellent? Other studies suggest that classifying the applicants' communication styles helped managers decide which applicant they would hire. Limited studies seek to correlate communication styles with academic performance in a subject, specifically Oral Communication in Context (Blas et al., 2018). This study provides the link between academic performance and communication style by showing how the students use their communication styles based on what they have learned in ORLCOM080. The results of this study were used to fill this gap and improve the students' communication skills through the proposed outputs, which is the enhanced learning log in ORLCOM080 that will immerse the students in different contexts to prepare them to communicate without any difficulty.

THE FRAMEWORK OF THE STUDY

This study theorized that communication styles influence the academic performance of the students in Oral Communication in Context. Senior High School students' oral communication style varied to whom they were speaking. When students talk to their friends and classmates, the style was also different when they were talking to their parents and teachers. The sociolinguistic relationship and environment where the students explored impacted their oral communication styles. This study was anchored on the Communication Accommodation Theory of Howard Giles and Tania Ogay and Social Interaction Theory by Lev Vygotsky. Communication was influenced by features of the immediate situation, participants' initial orientations to it, and the socio-historical context in which the interaction was embedded. For example, an isolated encounter between any particular police officer and citizen could be marred by alleged and past hostile relations between other members of these two groups in the neighborhood or on the media (as would be apparent probably for many citizens of color in the Rampant area of Los Angeles).

Vygotsky believed that language develops from social interactions for communication purposes. Vygotsky viewed language as man's most excellent tool, a means for communicating with the outside world. According to Vygotsky (1962), language plays two critical roles in cognitive development: First, it is the primary means adults transmit information to children. The second is that language itself becomes a potent tool of intellectual adaptation. Vygotsky (1987) differentiates between three forms of language: social speech, which is external communication used to talk to others (typical from the age of two); private speech (typical from the age of three), which is directed to the self and serves an intellectual function; and finally private speech goes underground, diminishing inaudibility as it takes on a self-regulating function and is transformed into silent inner speech (typical from the age of seven). For Vygotsky, thought and language were initially separate systems from the beginning of life, merging at around three years of age. At this point, speech and thought become interdependent: an idea becomes verbal, speech becomes representational. When this happens, children's monologues are internalized to become inner speech. The internalization of language is essential as it drives cognitive development. Vygotsky (1987) was the first psychologist to document the importance of private speech. He considered private speech the transition point between social and inner speech, the moment in development where language and thought to unite to constitute verbal thinking. Thus private speech, in Vygotsky's view, was the earliest manifestation of inner speech. Indeed, private speech is more similar (in its form and function).

METHODS

This study used a descriptive, comparative, and correlational research design. A descriptive design was used because it served to determine the dominant communication style of the students. The respondents in the study were the 158 STEM students, 38 ABM students, 40 HUMSS students, and 29 TVL-HE students, with a total of 265 Grade 11 students from the population of 836 students who were officially

enrolled during the Academic Year 2018 – 2019. The distribution by categories was as follows: sex, strand, school of origin, and semester grade in ORLCOM080. This study used systematic random sampling. It was a strategy for selecting samples so that specific subgroups have a sufficient number of representatives to provide sample numbers for the sub-analysis of the members of subgroups.

The profile of the Grade 11 students is presented in Table 1. When grouped according to sex, most of the respondents were 146 female Grade 11 students (55%) since more than half of the population was female. On the other hand, there were 119 male respondents (45%). As cited by Koch, D'Mello, and Sacket (2015), the influence of the gender and communication style of job applicants and the gender and sex-role stereotyping of interviewers on hiring decisions.

When grouped according to strand, most of the respondents were from Science, Technology, Engineering, and Mathematics (STEM) with 158 students (60%) since there were 12 sections of Grade 11 STEM students with 45 students in each section. They were followed by Accountancy, Business, and Management (ABM) with 38 students (14%), Humanities and Social Sciences (HUMSS) 40 students (15%), and Technological Vocational Livelihood – Home Economics (TVL-HE) 29 students (11%). Davis (2014) said communication failure is possibly due to the sender's use of an inappropriate communication style for the cognitive type of the receiver. Students need to be immersed in the field they want to pursue in college.

Based on their school of origin, the majority of the respondents were 163 students who completed their junior high school from private schools (62%) and 102 students completed from government schools (38%). Teachers in private institutes feel significantly more efficacious than their counterparts in public schools. This considerable difference was attributed to both frequency and variety of exposure to sources of teacher self-efficacy. In contrast, an unfavorable educational setting is the main factor diminishing EFL teachers' self-efficacy (Moradkhani & Hagni, 2017).

Table 1. Profile of Respondents

Variable	n	Percentage (%)
Sex		
Male	119	45
Female	146	55
Total	**265**	**100**
Strand		
STEM	158	60
ABM	38	14
HUMES	40	15
TVL-HE	29	11
Total	**265**	**100**
School of Origin		
Private	163	62
Government	102	38
Total	**265**	**100**

RESULTS AND DISCUSSIONS

Dominant Communication Style

This section discusses the descriptive results on the dominant communication style of the Grade 11 students based on sex, strand, and school of origin. According to sex, the male (61.3%) and female (53.4%) respondents had assertive communication styles. Female respondents stated their opinions and

feelings and firmly advocated for their rights and needs without violating the rights of others. Moreover, they value themselves, their time, and their emotional, spiritual, and physical needs, and we are strong advocates for them while being very respectful of the rights of others.

When grouped according to strand, Technological Vocational Livelihood – Home Economics (TVL-HE) students were assertive at 72.4%; Accountancy, Business, and Management (ABM) students were assertive at 60.5%; Humanities and Social Sciences (HUMSS) students were assertive at 57.5%; and the Science, Technology, Engineering, and Mathematics (STEM) students were assertive at 53.2%. This only means that respondents, regardless of the strand, can clearly state their opinions and feelings and firmly advocate for their rights and needs without violating the rights of others. Most Grade 11 students value themselves, time, emotional, spiritual, and physical needs in all strands. They are strong advocates for them while being very respectful of the rights of others.

As to the school of origin, the students coming from the private school were assertive at 57.1%, followed by the students from government schools at 56.9%. They can clearly state their opinions and feelings and firmly advocate for their rights and needs without violating the rights of others regardless of which school they completed their Junior High School. Grade 11 students value themselves, their time, and their emotional, spiritual, and physical needs, and we are strong advocates for them while being very respectful of the rights of others.

Overall, the findings show that the dominant communication style of the Grade 11 students, regardless of sex, strand, and school of origin, is assertive. This only means that the Grade 11 students can clearly state their opinions and feelings and firmly advocate for their rights and needs without violating the rights of others. Grade 11 students value themselves, their time, and their emotional, spiritual, and physical needs, and we are strong advocates for them while being very respectful of the rights of others.

Table 2. Dominant Communication Style

Variables	Assertive		Passive		Passive-Aggressive		Aggressive		As A Whole
Sex	n	%	n	%	n	%	n	%	n
Male	73	61.3	23	19.3	16	13.4	7	5.9	119
Female	78	53.4	43	29.5	22	15.1	3	2.1	146
Total	151	57	66	24.9	38	14.3	10	3.8	265
Strand									
STEM	84	53.2	42	26.6	25	15.8	7	4.4	158
ABM	23	60.5	9	23.7	3	7.9	3	7.9	38
HUMES	23	57.5	11	27.5	6	15.0	0	0.0	40
TVLHE	21	72.4	4	13.8	4	13.8	0	0.0	29
Total	151	57	66	24.9	38	14.3	10	3.8	265
School of Origin									
Private	93	57.1	45	27.6	18	11.0	7	4.3	163
Government	58	56.9	21	20.6	20	19.6	3	2.9	102
Total	151	57	66	24.9	38	14.3	10	3.8	265

Academic Performance in Oral Communication in Context

The student's academic performance in ORLCOM080, as seen in Table 3 according to sex, is that male respondents obtained ($\bar{x}$ = 86.56, SD = 4.17) and female respondents obtained ($\bar{x}$ = 88.04, SD = 3.29) which is interpreted that both sexes performed very satisfactory. Regardless of sex, they demonstrate mastery manifested in their academic performance in Oral Communication towards various speaking situations.

When grouped according to strand, Science, Technology, Engineering, and Mathematics (STEM) students were very satisfactory ($\bar{x}$ = 88.61, SD = 3.05), Accountancy, Business, and Management (ABM) students were very satisfactory ($\bar{x}$ = 86.55, SD = 3.08), Humanities and Social Sciences (HUMSS) students were a very satisfactory ($\bar{x}$ = 85.80, SD = 3.22). The students enrolled in the academic track demonstrate mastery manifested in their academic performance in Oral Communication towards various speaking situations. However, the Technological Vocational Livelihood – Home Economics (TVL-HE) students performed satisfactory ($\bar{x}$ = 83.90, SD = 5.38). The students almost fulfilled the required usage demonstrated in their academic performance in Oral Communication towards various speaking situations.

When grouped according to the school of origin, students coming from government schools were very satisfactory at ($\bar{x}$ = 87.90, SD = 3.55) while students from private schools got a very satisfactory ($\bar{x}$ = 87.11, SD = 3.90). They demonstrate mastery manifested in their academic performance in Oral Communication towards various speaking situations.

Overall, the results showed that the level of academic performance in ORLCOM080 of Grade 11 students according to variables was very satisfactory. They were able to demonstrate mastery manifested in their academic performance in Oral Communication towards various speaking situations. This means that the Grade 11 students could communicate their ideas and feelings honestly in most sociolinguistic contexts. The benefits of competent oral communication skills do not relate only to students' lives after leaving university. The development of oral communication skills can contribute to students' success in their studies. It was well documented that the social aspect is a significant part of a successful transition to university, and oral communication skills were a significant facet in interpersonal interactions (Yusuf & Adigun, 2010)

Table 3. Level of Academic Performance in ORLCOM080 According to Sex, Strand, and School of Origin

Variable	Mean	SD	Interpretation
Sex			
Male	86.56	4.17	Very Satisfactory
Female	88.04	3.29	Very Satisfactory
Strand			
STEM	88.61	3.05	Very Satisfactory
ABM	86.55	3.08	Very Satisfactory
HUMES	85.80	3.22	Very Satisfactory
TVLHE	83.90	5.48	Satisfactory
School of Origin			
Private	87.11	3.90	Very Satisfactory
Government	87.80	3.55	Very Satisfactory
As a Whole	*87.38*	*3.78*	*Very Satisfactory*

Difference between Academic Performance in Oral Communication in Context and Variables

Table 4 shows that the difference in the academic performance in ORLCOM080 when the students were grouped according to sex is significant. On the other hand, the difference in the academic performance in ORLCOM080 in terms of the school of origin is not significant. Based on the data on the table, the male respondents scored ($\bar{x}$ = 86.56, SD = 4.17) while the female respondents scored ($\bar{x}$ = 88.04, SD = 3.29) with a value of (p = 0.001) which was interpreted as significant.

On the other hand, the difference between academic performances in ORLCOM080 when grouped according to the school of origin is not significant. Students coming from private schools scored ($\bar{x}$ =

87.11, SD = 3.90) while the students from government schools scored ($\bar{x}$ = 87.80, SD =3.55) with a value of (p = 0.149) which was interpreted as not significant. The result shows that female Grade 11 students were more satisfactory in their academic performance than the male Grade 11 students. This means that the female respondents were more into academic development rather than the male respondents.

This result is contrary to the findings of the study by Goldin et al. (2006), where there was evidence that female students may be more susceptible than male students to the negative consequences of "fear of success" or "fear of failure." Such motivational differences between the sexes could lead to differences in academic performance and, more specifically, female students "underperforming" their male counterparts. Another, sex differences in the frequency and intensity of depressed moods have been well documented, with females generally the more frequently depressed sex (Nolen-Hoeksema, 2001). Dysphoric effect is a more salient emotional motivation for females than for men. Lastly, females make up an increasingly large proportion of the senior high school population.

Table 4. The difference in the Academic Performance in ORLCOM080 According to Sex and School of Origin

Variable	n	Mean	T	df	p	Interpretation
Sex						
Male	119	86.56 (4.17)	3.214	263	0.001	Significant
Female	146	88.04 (3.29)				
School of Origin						
Private	163	87.11 (3.90)	1.446	263	0.149	Not Significant
Government	102	87.80 (3.55)				

Note: the difference in the means is significant when p≤0.05

Meanwhile, the difference in the academic performance in ORLCOM080 when the students were grouped according to strand was significant, as shown in Table 5. The semester grades of the Science, Technology, Engineering, and Mathematics (STEM) students were a very satisfactory ($\bar{x}$ = 88.61, SD = 3.05); Accountancy, Business, and Management (ABM) students were very satisfactory ($\bar{x}$ = 86.55, SD = 3.08), Humanities and Social Sciences (HUMSS) students were very satisfactory ($\bar{x}$ = 85.80, SD = 3.22). Technological Vocational Livelihood – Home Economics (TVL-HE) students were satisfactory ($\bar{x}$ = 83.90, SD = 5.38). The value was (p = 0.000) when grouped according to the strand, which was interpreted as significant.

The findings showed that the strands of the Grade 11 students affected their academic performance in ORLCOM080 because the approach in the teaching-learning process of ORLCOM080 was different according to strand. Meaning the teachers varied their approach depending on the strand the students were enrolled. The Science Technology Engineering and Mathematics (STEM) used either medical-related contexts or engineering-related contexts. In contrast, the Accountancy Business and Management (ABM) students used business-related contexts to have the learning environment preparing them for their future field. The same approach was used with the Humanities and Social Sciences (HUMSS) students, immersed in the various social contexts. However, in the case of the Technical Vocational Livelihood – Home Economics (TVL-HE) students, they were trained to develop their skills first, developing their academics next. This was one of the reasons why their performance in ORLCOM080 was satisfactory, unlike with other strands.

Sison, Galvez, and Coronel (2017) found out that Accountancy, Business, and Management (ABM) Strand students were identified as Social/Applied learners, Social learners, and Social/Conceptual learners. Social learners learn best when given opportunities to interact with peers and even their teachers. Humanities and Social Sciences (HUMSS) strand help to build a solid liberal arts foundation, detailed exploration of the theoretical aspects of the student's chosen field, and hands-on professional experience. This activity strengthens logical reasoning and critical thinking, which needed skills were

once going to college. Social learners who prefer instructions involving small group and has no preference for either applied or conceptual approaches. The science, Technology, Engineering, and Math (STEM) strand focuses on equipping with the knowledge and skills to solve challenging problems, evaluate evidence, and make sense of the available information in creating innovative solutions through invention and discovery to improve the way of life. The students were mainly social learners who preferred extensive opportunities to interact with peers and instructors. In contrast, some students were much specific as they were Social/Conceptual learners who preferred to interact with students and instructors using highly organized language-oriented materials. The Technology- Vocational Livelihood (TVL) Home Economics; mainly focuses on manual, technical, and fundamental skills. Students of this strand from both campuses were identified as Social/Applied learners who prefer instruction involving role-playing, group problem solving and supervised practicums, which fit their chosen fields.

Table 5. The difference in the Academic Performance in ORLCOM080 According to Strand

Strand	n	M	F	df	p	Interpretation
STEM	158	88.61	20.426	3	0.000	Significant
		(3.05)		261		
ABM	38	86.55				
		(3.08)				
HUMES	40	85.80				
		(3.22)				
TVLHE	29	83.90				
		(5.48)				

Note: the difference in the means is significant when p≤0.05

Relationship between Dominant Communication Style and Academic Performance in ORLCOM080

The relationship between the dominant communication style and academic performance in ORLCOM080 is not significant, as shown in Table 6. Assertive communication style is not significantly correlated to the academic performance in ORLCOM080 with the value (p = 0.273). On the other hand, passive communication style is not significantly related to the academic performance in ORLCOM080 at (p = 0.859). Passive-aggressive communication style with the value of (p = 0.310) is not significant to the level of academic performance in ORLCOM080. Aggressive communication style at (p = 303) was interpreted as not significant to students' level of academic performance in ORLCOM080. Overall, the communication styles of the Grade 11 students with the value (0.589) were interpreted as not significantly related to their academic performance in ORLCOM 080.

Sison, Galvez, and Coronel (2017) found out that Accountancy, Business, and Management (ABM) Strand students were identified as Social/Applied learners, Social learners, and Social/Conceptual learners. Social learners learn best when given opportunities to interact with peers and even their teachers. Humanities and Social Sciences (HUMSS) strand help to build a solid liberal arts foundation, detailed exploration of the theoretical aspects of the student's chosen field, and hands-on professional experience. This activity strengthens logical reasoning and critical thinking, which needed skills were once going to college. Social learners who prefer instructions involving small group and has no preference for either applied or conceptual approaches. The science, Technology, Engineering, and Math (STEM) strand focuses on equipping with the knowledge and skills to solve challenging problems, evaluate evidence, and make sense of the available information in creating innovative solutions through invention and discovery to improve the way of life. The students were mainly social learners who preferred extensive opportunities to interact with peers and instructors. In contrast, some students were much specific as they were Social/Conceptual learners who preferred to interact with students and instructors using highly organized language-oriented materials. The Technology-Vocational Livelihood

(TVL) Home Economics; mainly focuses on manual, technical, and fundamental skills. Students of this strand from both campuses were identified as Social/Applied learners who prefer instruction involving role-playing, group problem solving and supervised practicums, which fit their chosen fields.

Table 6. The relationship in the Academic Performance in ORLCOM080 and Communication Styles

Variable	r	df	p	Interpretation
Assertive and Academic Performance	0.068	263	0.273	**NOT Significant**
Passive and Academic Performance	0.011	263	0.859	**NOT Significant**
Passive –Aggressive and Academic Performance	0.063	263	0.310	**NOT Significant**
Aggressive and Academic Performance	0.064	263	0.303	**NOT Significant**
Communication Style As a Whole and Academic Performance	0.033	263	0.589	**NOT Significant**

This study theorizes that communication styles influence the academic performance of the students in ORLCOM080. However, after understanding the study results, it was found out that the communication styles of the Grade 11 students do not affect their academic performance in ORLCOM080. The researcher found out that regardless of the dominant communication styles of the Grade 11 students, their academic performance was still very satisfactory. No communication style could associate with the academic performance of the Grade 11 students since overall, they manifested a very satisfactory rating.

CONCLUSIONS

The dominant communication style in consideration of all the variables is the Assertive Communication Style. Although it was found out that there is a dominant communication style, there were still other communication styles that they were using every time they were being challenged into various sociolinguistic speaking situations. Based on the results, students can select appropriate and alternative communication styles depending on what is being asked of them by the situation. They were using not only one communication style in all speaking situations. They can adapt to the context and situation, which makes them flexible and effective communicators.

Meanwhile, the academic performance of the students is very satisfactory. The result means that the course they were enrolled in helps them improve their oral communication skills by deciding on the style to be used according to the context. The significant difference in the level of academic performance when grouped according to sex was attributed to the fact that female respondents have more satisfactory academic performance than male respondents. However, the absence of significant difference when grouped according to the school of origin implies that the origin of the school has nothing to do with their academic performance. Furthermore, academic performance in the subject varies according to strands. Finally, the communication style of students was not correlated to their academic performance. Other factors affect their dominant communication style, and these can be psychological or socio-cultural.

REFERENCES

Arvind Singhal & Motoko Nagao (1993) Assertiveness as communication competence a comparison of the communication styles of American and Japanese students, Asian Journal of Communication, 3:1, 1-18, DOI: 10.1080/01292989309359570

Blas, F., et al., (2018, January 30). Articulated difficulties of Grade 11 students at Taytay Senior High School (TSHS) in English proficiency. Retrieved January 13, 2019, from http://grdspublishing.org/index.php/people/article/view/1090

Brown, J. (2017). How clinical communication has become a core part of medical education in the UK. Retrieved January 13, 2019, from https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2923.2007.02955.x

Cheng, W. (2013). The Asian ESP Journal, 9(3), 5-34. Retrieved January 13, 2019.

Cristobal, Jay-ar A., and Lasaten, Ronald Candy S. (2018) Oral Communication Apprehensions and Academic Performance of Grade 7 Students, Asia Pacific Journal of Multidisciplinary Research, Retrieved March 20, 2019, from http://www.apjmr.com/wp-content/uploads/2018/07/APJMR-2018.6.3.02a.pdf

Crosling, G. (2019). Transition to University: The role of oral communication in the undergraduate curriculum. Retrieved January 13, 2019.

Darwish, A. Y. (2017). Factors influencing academic performance in quantitative courses among undergraduate business students of a public higher education institution. *Journal of International Education in Business, 10*(01), 12-30. doi:http://dx.doi.org/10.1108/JIEB-07-2016-0016

Davis, D. L. (2014, November). The Effect of Cognitive Type and Communications Style on the Communication of Management Information System Concepts. Retrieved January 21, 2019, from https://www.tandfonline.com/doi/abs/10.1080/00011037.1983.11008338

Huang, S., & Tsai, R. (2003). A Comparison between High and Low English Proficiency Learners' Beliefs. Retrieved January 13, 2019, from https://eric.ed.gov/?id=ED482579

Johnson, N. J., & Klee, T. (2007). Passive-Aggressive Behavior and Leadership Styles in Organizations. *Journal of Leadership & Organizational Studies*, *14*(2), 130–142. https://doi.org/10.1177/1071791907308044

Kassing, J. W., & Avtgis, T. A. (1999). Examining the Relationship between Organizational Dissent and Aggressive Communication. *Management Communication Quarterly*, *13*(1), 100–115. https://doi.org/10.1177/0893318999131004

Levy, J., & Wubbles, T. (1992). Student and Teacher Characteristics and Perceptions of Teacher Communication Style. Retrieved January 21, 2019, from https://www.jstor.org/stable/23869399

Martirosyan, N. M., Hwang, E., & Wanjohi, R. (2015). Impact of English proficiency on the academic performance of international students. *Journal of International Students, 5*(1), 60-71. Retrieved from https://search.proquest.com/docview/1644294631?accountid= 34542

Moradkhani, S., & Hagni, S. (2017, October). Context-based sources of EFL teachers' self-efficacy: Iranian public schools versus private institutes. Retrieved January 16, 2019, from https://www.sciencedirect.com/science/article/pii/S0742051X17300379

Musibau Adeoye Yusuf & Johnson Tayo Adigun (2010) The Influence of School Sex, Location and Type on Students' Academic Performance, International Journal of Educational Sciences, 2:2, 81-85, DOI: 10.1080/09751122.2010.11889992

Palmer, J. M., Callan, V. J., & Gallois, C. (1992, July). The Influence of Applicant Communication Style and Interviewer Characteristics on Hiring Decisions. Retrieved December 11, 2018, from https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1559-1816.1992.tb00941.x#fn1

Pernsteiner, A. J. (2015). The value of an accounting internship: What do accounting students gain? *Academy of Educational Leadership Journal, 19*(3), 223-233. Retrieved from https://search.proquest.com/docview/1768629626?accountid=34542

Shilpee A. Dasgupta, Damodar Suar, Seema Singh, (2012) "Impact of managerial communication styles on employees' attitudes and behaviors," Employee Relations, Vol. 35 Issue: 2, pp.173-199, https://doi.org/10.1108/01425451311287862

Sison, M., Galvez, R., & Coronel. (December 2017). Assessing the Learning Styles of Senior High School Students of La Consolacion University Philippines: Implications in the Teaching-Learning Process. *International Journal of Education and Research, 5*(12), 49-51. Retrieved January 13, 2019, from http://www.ijern.com/journal/2017/December-2017/04.pdf

Yoshiro Takanashi (2004) TEFL and Communication Styles in Japanese Culture, Language, Culture and Curriculum, 17:1, 1-14, DOI: 10.1080/0790831040866667

Awareness and Utilization of Web 2.0 Technology of Young Teachers in Catholic Schools

Christoper Y. Jungco[1] and Dennis V. Madrigal[2]

[1] St. Luke's Academy, Inc. (jungcochristoper85@gmail.com)
[2] University of Negros Occidental-Recoletos, Bacolod City, Philippines (dennis_madrigal@yahoo.com)

ABSTRACT

The emergence of Web 2.0 technology allows users to generate information online. However, its application is considered as a disruptive technology in education.The paper describes the level of awareness and extent of utilization of Web 2.0 technology of young teachers in Catholic Schools in Antique. It explores the relationship between the teachers' demographics and their awareness and extent of utilization. It also determines the correlation among awareness and utilization of Web 2.0 technology. A descriptive, comparative and correlational research design were utilized using Mean, Standard Deviation, Independent sample t-test and Pearson's r to analyze the data. The level of awareness on Web 2.0 technology of young teachers is generally high. Likewise, the extent of utilization is moderate. The level of awareness of Web 2.0 technology in terms of ICT training has no significant difference and in terms of sex, findings revealed that there is a significant difference. In addition, males have higher level of awareness than females. The extent of utilization, when grouped to sex and ICT training, findings revealed that there is no significant difference.While, there was significant relationship between the level of awareness and the extent of utilization. The findings indicated that the awareness significantly predict utilization of Web 2.0 technology. Therefore, the high level of awareness of Web 2.0 technology among teachers indicates wider idea of the different platforms. It signifies that teachers of Catholic schools are digital natives. However, the moderate utilization of the Web 2.0 technology signifies that teachers need improvements in integration of technology.

Keywords: Educational Management, Web 2.0 technology, Descriptive-Comparative and Correlational, Catholic School, Antique

INTRODUCTION

The development of the World Wide Web in the 1990s has brought about various technological advancements in Information and Communication Technology (ICT), which provides fast-growing web solutions (Gough, 2010). One of these web innovations is the emergence and growth of Web 2.0 technology, which has dramatically influenced globally (Thomas & Thomas, 2012). Web 2.0 Technology with different web sites allows users to create, generate, and share information online. However, its application has been tagged as a critical disruptive technology in education with the developments in electronic learning or e-learning (Mutula, 2013; Fleck, 2007).

Integrating Web 2.0 technologies as classroom tools, teachers are encouraged to situate their use in participatory learning or contribution-oriented learning theoretical frameworks. These may include constructivism, connectivism, collaborative learning, and communicative learning (Blees & Rittberger, 2009; Pieters, 2004; Siemens, 2014).

In the Philippines, Tomaro (2018) reported that the government had recognized the prime importance of ICT in the Philippine educational system. It has enacted several policies and exerted efforts to address the ICT challenges with ICT training for teachers, the provision of computer infrastructures, ICT curriculum integration, and strong ICT leadership.So far, there has been no attempt to explore the awareness and extent of utilization of Web 2.0 Technology of teachers in Diocesan Catholic schools in Antique. Hence, this study determined the level of awareness and extent of utilization of Web 2.0 technology of young teachers of Catholic schools in the Province of Antique. The study's findings were

utilized in designing a Proposed Enhanced ICT Capability Plan for high school teachers to help them integrate new technologies in teaching and learning activities.

RELATED LITERATURE

Education and information and communication technology. Due to the demand for a 21st-century education, the presence of ICT in teaching commences the development of the teaching-learning process. Its emphasis on education is to meet the global community's standards that promote globalization and internationalization. Educator, therefore, is the center of innovation in ICT (Collins & Halverson, 2010). Thus, this will make them well-equipped and informed to meet the 21st-century learning competencies. Hence, the educational system must design a curriculum with a prerequisite of ICT resources, promoting learner-centered and collaborative environments. Consequently, 21st-century educators must be prepared for its demands, one of which is the skills in utilizing the technology (Boholano, 2017).

Web 2.0 technology. The emergence of Web 2.0 technology is the start of the more complicated innovation in the teaching-learning process. It is the second generation of the world wide web. This is previously acknowledged as a site that inspires usergenerated content in the forms of text, video, and photo postings, along with comments, tags, and ratings (Cormode & Krishnamurthy, 2008). The ability to post content in many forms and establish connections among users in the system comply with the essential features of Web 2.0 (Kuss & Griffiths, 2011).

Awareness of Web 2.0 technology. Knowledge and the consciousness of the Web 2.0 is a requirement of its utilization. The uptake of Web 2.0 tools depends much on the level of awareness designed to intended users. Usefulness and advantages incorporated with the use of these tools should be recognized for one to utilize a particular technology. According to Collins and Hide (2010), awareness of Web 2.0 is relevant to practices of scholarly communications. Extension workers, researchers, and tutors who are used to do their responsibilities collaboratively are more likely to be knowledgeable of the instruments than others.

The Associated Press (2011) stated that the speedy growth of smartphones and electronic tablets influences consumers' choice of technology, especially those looking for news. Numerous studies have shown that the internet has become necessary for most people, and Web 2.0 technology has become increasingly common, especially in education (Ho, 2011). However, the level of awareness about Web 2.0 in some educational institutions is low and that some people are deceived about the uses of Web 2.0. It was found that some students did not even know that the Web 2.0 tools could be utilized for personal purposes and their education. Besides, Collins and Hide (2010) found other determinants affecting awareness on Web 2.0 to include the age and sex of the user.

Utilization of Web 2.0 technology in teaching. Many of the researchers are trying to strengthen the connection between the classroom and the technologically savvy culture. The lecture is a time-honored instructional practice (Friesen & Lowe, 2012). However, successful teachers do more than lecture. They carefully select various instructional approaches to match activities with objectives (Bain, 2004; Lemov, 2010). Lectures that utilized the Web 2.0 technology in different engagements with students are gaining momentum now and then, including creating learning materials for the content, providing online distance learning, and announcements to students for information dissemination and assessment of students (Okello-Oburo & Ssekitto, 2015). According to Watson et al. (2008), a classroom that utilizes wikis, blogs, and other technologies provides students with the ability to engage in class and real-life activities completely. In a study about the utilization of web 2.0 technologies in tertiary institutions, Gibbs, Varghese, Horowitz, and McKeown (2013) reported that better teaching and better learning were the greatest benefits of web 2.0 technologies. Web 2.0 technologies change the ways users collect and handle data and information, and these technologies allow users to create their content. Web 2.0 technologies offer learners a self-regulated learning model that no longer depends on formal settings, such as a classroom with a teacher lecturing (Abbas et al., 2015).. Effective Web 2.0 technologies

connect with constructivist ideas, allowing learners to control learning experiences and construct their knowledge (Parker & Chao, 2007).

Challenges encountered in using technology in teaching. In the education sector, challenges are very evident. Web 2.0 tools can support the flexible delivery of courses (Chan, Bernal, & Camacho 2013). Wikis, instant messaging, audio and video calls can be used to supplement some of the activities in blended or online courses, as well as in face-to-face courses, where usually class time or class size may limit the numbers of activities to be used in the classroom (An & Williams, 2010; Cherney, 2008). However, as with every technology, there are some issues and concerns that present challenges in integrating Web 2.0 tools in teaching and learning. These issues include faculty and student privacy, shifting pedagogical approaches, technology effectiveness, time of integration, technical problems such as no internet connection and weak signal, and lack of technical support (An & Williams, 2010; Anderson, 2007; Bennett et al., 2012; Reid, 2014).

Privacy is considered an issue when it comes to technology, and Web 2.0 tools are no exception to privacy concerns. Faculty members and students alike have mentioned that privacy issues hinder their use of Web 2.0 tools in teaching and learning, primarily when used outside a Learning Management System (An & Williams, 2010; Anderson, 2007). Privacy concerns may result from feeling uncomfortable with the openness of Web 2.0 tools and interacting publicly with peers (Conway, Munguatosha, Muyinda, & Lubega, 2011).

However, students and faculty should increase their knowledge about how to set and control access to their accounts and content by other users of Web 2.0 tools (Gunter, 2014). Furthermore, institutions can provide measures and develop guidelines and policies to ensure students' privacy and faculty when using Web 2.0 tools (Gunter, 2014).

Moreover, some institutions provide their faculty members and students with materials that educate them about some of the privacy issues about utilizing Web 2.0 tools, as well as tips about how to protect their privacy and restrict access to account information and content to the involved parties (Kose, 2010).

Lack of time is another barrier that could affect the use of Web 2.0 tools. Learning new technologies and integrating them into courses effectively may cause time constraints in course development (Reid, 2014). Rogers-Estable (2014) found that lack of time to learn a new technology was one of the most reported barriers of using Web 2.0 tools in higher education by faculty members, along with the lack of training and suppor

METHODOLOGY

This study utilized a descriptive, comparative, and correlational research design (Creswell, 2014). The descriptive approach was used to assess the level of awareness and utilization of Web 2.0 Technology of young teachers and the challenges they have encountered in utilizing the said technology. On the other hand, the comparative approach was employed to compare the awareness and utilization of teachers of Web 2.0 when they are grouped according to demographics. The correlational design was also utilized to determine whether a relationship exists between awareness and utilization of Web 2.0 technology.

The total enumeration of 67 young high school teachers who have one to five years of teaching experience in the Diocesan Catholic Schools in the province of Antique was the study's respondents. Having been exposed to ICT training and practices through their formal undergraduate education and seminars attended, their participation in the study was valuable in terms of assessing their awareness and utilization of Web 2.0 Technology in classroom instruction.

The researcher used a validated and reliability-tested researcher-made questionnaire devised by Dedosin (2018). The questionnaire included three parts. Part I solicited information about the profile of

the respondents. Part II included questions on the level of awareness and extent of utilization of Web 2.0 Technology in the teaching of young high school teachers in terms of content, method, and assessment. Part III was a checklist of the challenges encountered by teachers in the utilization of the aforementioned technology.

Scale on the Level of Awareness of Web 2.0 Technology

Scale	Mean Range	Verbal Description	Verbal Interpretation
5	4.21-5.00	Very High Awareness	The teachers are very familiar with the Web 2.0 technology
4	3.41-4.20	High Awareness	The teachers are familiar with the Web 2.0 technology
3	2.61-3.40	Moderate Awareness	The teachers are slightly familiar with Web 2. 0 technology
2	1.81-2.60	Poor Awareness	The teachers are somewhat unfamiliar of the Web 2.0 technology
1	1.00-1.80	Very Poor Awareness	The teachers are not familiar with Web 2.0 technology

Scale on the Extent of Utilization of Web 2.0 Technology

Scale	Mean Range	Verbal Description	Verbal Interpretation
5	4.21-5.00	Very Great Extent	The teachers always use Web 2.0 technology in the content/method of teaching/assessment.
4	3.41-4.20	Great Extent	The teachers often use Web 2.0 technology in the content/method of teaching/assessment.
3	2.61-3.40	Moderate	The teachers sometimes use Web 2.0 technology in the content/method of teaching/assessment.
2	1.81-2.60	Little Extent	The teachers seldom use Web 2.0 technology in the content/method of teaching/assessment.
1	1.00-1.80	Very Little Extent	The teachers never use Web 2.0 technology in the content/method of teaching/assessment.

The descriptive, comparative, and correlational analyses were used to analyze the data. The descriptive analysis was used to assess the level of awareness and the extent of utilization of the Web. 2.0 using Mean and standard deviation; and challenges encountered by teachers in using Web 2.0 Technology using frequency count, ranking, and percentage. On the other hand, the comparative analysis was employed to compare the respondents' awareness and extent of use of web 2.0. Meanwhile, the correlational analysis was utilized to establish the relationship between awareness and extent of utilization. The inferential statistical tools were identified after the test of normality was conducted.

Using the Kolmogorov-Smirnov and Shapiro Wilk test, the results of the normality tests showed that the data for the variable awareness (KS=0.161, p=.200) (SW=0.945, p=0.564) and for utilization (KS=0.053, p=.200), (SW=0.991, p=0.917) were normally distributed. Hence, the use of Pearson Product Moment Correlation for statistical treatment was justified.

RESULTS AND DISCUSSION

Level of Awareness of Web 2.0 Technology of High School Teachers

As shown in Table 1, the overall assessment of the level of awareness of Web 2.0 Technology of High School Teachers in Antique was high (M=4.06, SD= 0.60). The result indicates that those teachers are aware of the different platforms of Web 2.0. When they were grouped according to sex, the result showed that male teachers have ―Very High Awareness‖ (M=4.24, SD=0.44) compared to the female counterparts having ―high awareness.‖ (M=3.91, SD=0.67). When they were grouped according to their ICT Training, both teachers who have the ICT Training and without the ICT Training have ―High Awareness‖ of the Web 2.0 technology (M=4.17, SD=0.54) and (M=3.99, SD=0.62), respectively.

Table 1. Level of Awareness of Web 2.0 Technology

Variable	M	SD	Int
Sex			
Male	4.24	0.44	VHA
Female	3.91	0.67	HA
ICT Training			
Yes	4.17	0.54	HA
No	3.99	0.62	HA
As a whole	*4.06*	*0.60*	*HA*

Note: HA=High Awareness, VHA=Very High Awareness

As a whole, high awareness indicates that teachers of the Catholic schools in Antique are familiar with Web 2.0 technology. Meaning to say, they are mindful of platforms that are useful and necessary in the success of teaching and learning processes. However, there is a need for these Catholic institutions to continuously improve the awareness of their teachers since the assessment did not meet the highest rating. This simply implies that these schools, through their administrators, should provide effective programs to enhance the full knowledge of the incorporation of technology in the educational operation.

Meanwhile, the findings showed that males have a higher awareness of Web 2.0 technology than female teachers. This shows that these young male educators are more familiar with the use, processes, and integration of these technological platforms in the instructional pedagogy. Studies have shown that boys are more technologically oriented than girls (He & Freeman, 2019; Carlson, 2007; Almekhlafi & Almeqdadi, 2010; Kumar, 2013). Most of the boys engage in computers and other technological devices. The study of Chan She Ping and Issa (2011) argued that males know more about Web 2.0 technologies than females.

Extent of Utilization of Web 2.0 Technology of High School Teachers

Data show that extent of the Utilization of Web 2.0 Technology of High School Teachers when taken as a whole was "moderate" (M=2.88, SD-0.84). This implies that in terms of utilization, a high school teacher in Antique needs the necessary skills to engage the use of Web 2.0. Among the seven(7) platforms of Web 2.0 Technology, the most utilized platform when their sex and ICT training was considered as social networking (M=3.30, SD=0.97) and then followed by the content hosting Service (M=3.20, SD=0.90), Wikis (M=2.93, SD=0.94), utilized of the web (M=2.90, SD=0.80), Blogs (M=2.88, SD=0.93), Cloud-Based File sharing (M=2.60, SD=1.26) and Podcasting (M=2.53, SD= 1.06) as the last.

The moderate result of the extent of utilization indicates that the teachers in Catholic schools sometimes use the Web 2.0 technology in the content, method of teaching, and assessment. In other words, they may have a high awareness of these technological platforms, but in terms of utilizing them in the instructional pedagogies, they occasionally practice. This finding encourages Catholic schools in the

diocese to highly focus on developing the skills of their teachers in the integration of these technological platforms in curriculum and instruction.

Table 2. Extent of Utilization of Web 2.0 Technology of High School Teachers

Variable	Wikis			Blogs			Social Networking			Content Hosting Services			Podcasting			Cloud-Based Sharing			Utilization of Web 2.0		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex																					
Male	3.07	0.97	M	2.82	0.76	M	3.40	0.72	GE	3.10	0.77	M	2.50	0.93	LE	2.70	1.24	M	2.96	0.63	M
Female	2.81	0.91	M	2.92	1.06	M	3.22	1.14	M	2.94	0.99	M	2.55	1.16	LE	2.54	1.28	LE	2.85	0.93	M
ICT Training																					
Yes	2.97	0.88	M	3.00	0.86	M	3.43	0.85	GE	3.06	0.73	M	2.68	0.94	M	2.96	2.40	M	3.03	0.72	M
No	2.90	0.98	M	2.81	2.81	M	3.22	1.04	M	2.98	0.98	M	2.44	1.12	LE	2.40	1.31	LE	2.83	0.85	M
As a whole	*2.93*	*0.94*	*M*	*2.88*	*0.93*	*M*	*3.30*	*0.97*	*M*	*3.01*	*0.90*	*M*	*2.53*	*1.06*	*LE*	*2.60*	*1.26*	*M*	*2.90*	*0.80*	*M*

Difference in the Level of Awareness of Web 2.0 Technology

Independent samples t-test was used to determine the significant difference in the level of awareness of Web 2.0 Technology when school teachers are compared to sex and ICT training. There is no significant difference in the level of awareness of web 2.0 technology when high school teachers are grouped according to ICT training [t(65)=1.99, p=0.235]. However, there is a significant difference in the level of awareness of web 2.0 technology when high school teachers are compared according to sex [t(65)=2.321, p=0.023]. In terms of sex, males have a significantly higher level of web 2.0 technology awareness than females. Hence, the hypothesis on the difference in the level of awareness of Web 2.0 Technology when teachers were compared according to ICT training and sex is rejected and accepted, respectively.

The no difference result in the level of awareness on Web 2.0 technology when grouped according to ICT training indicates that the young teachers of the Catholic schools of Antique have the same assessment on their awareness. Meaning to say, both teachers with or without training are cognizant of the different technological platforms like wikis, blogs, social networking, podcasting, among others, as means to the delivery of content, method of teaching, and assessment.

The probable reason for the no difference in the awareness of these young diocesan teachers regardless of training is because these Web 2.0 technological platforms are already available online, and they are self-directed processes. Meaning they can learn it on their own. Most of these teachers can access them through the aid of the internet. The only difference between the two is that those who have training on these technological platforms are more knowledgeable in terms of their fundamental information, as supported by the findings of Quinney, Smith, and Galbraith (2010) and Wilczynski, Labrie, Kaake, Marchi, and Zoder-Martell (2017).

Table 5. Difference in the Level of Awareness of Web 2.0 Technology

	Sex		t	df	p
	Male (N=30) 4.24 (0.44)	Female (N=37) 3.91 (0.67)	2.321	65	0.023
Awareness of Web 2.0	ICT Training		t	df	p
	Yes (N=24)	No (N=43)			

			1.199	65	0.235
4.17 (0.54)	3.99 (0.62)				

Note: the difference is significant when p< 0.05

Difference in the Extent of Utilization of Web 2.0 Technology

Independent samples t-test was used to determine the significant difference in the extent of utilization of Web 2.0 Technology when high school teachers are grouped according to sex and ICT training. The result showed that there is no significant difference in the extent of utilization of web 2.0 technology when high school teachers are grouped according to sex [t(65)=0.551, p=0.584] and ICT training [t(65)=1.014, p=0.314]. Hence, the hypothesis is accepted.

Table 6. Difference in the Extent of Utilization of Web 2.0 Technology

	Sex	t	df	p
Utilization of Web 2.0 Technology	Male (N=30) 2.96 (0.63) Female (N=37) 2.85 (0.93)	0.551	65	0.584
	ICT Training	t	df	p
	Yes (N=24) 3.03 (0.72) No (N=43) 2.83 (0.85)	1.019	65	0.314

Note: the difference is significant when p< 0.05

The absence of difference in the extent of utilization indicates that the teachers of Catholic schools of Antique have the same perspective on the use of Web 2.0 technology in the processes of content, method of teaching, and assessment. Meaning, diocesan teachers, whether male or female, are trained or not, both utilize the technological platforms in the instruction.

Apparently, technology for teachers nowadays is a necessity. One cannot teach anymore without the aid of these devices in teaching because everything is made easier by technology. That is why whether teachers were trained or not in ICT, they need to learn how to operate these technological facilities to improve their instructional pedagogy on their own. Moreover, everything is downloadable online, and any teacher can utilize these without undergoing training. These factors positively influenced a similar assessment on the extent of utilization of these Catholic teachers, whether male or female, trained not as supported by the findings of Say and Yildirim (2020) and Caliskan, Guney, Sakhieva, Vasbieva, and Zaitseya (2019).

The findings of this current study validated the findings of Dedosin (2018), claiming that in terms of the extent of utilization of Web 2.0 technology in teaching, there was no significant difference. This is also agreed by the findings of Top et al. (2011).

Relationship between Awareness and Extent of Utilization of Web 2.0 Technology

Pearson product-moment correlation was used to determine the significant relationship between the level of awareness of Web 2.0 and the extent of utilization of Web 2.0. There was a significant relationship between the level of Web 2.0 awareness and the extent of Web 2.0 utilization [r(65)=-0.558, p=0.000]. Hence, the hypothesis is rejected.

The correlation between awareness and utilization implies that the teachers' awareness strongly influences the utilization of technological platforms in teaching. Meaning, when teachers are fully aware of the Web 2.0 technological platforms, then they can utilize them in the instruction.

The result implies that Catholic schools need to provide all means and avenues for teachers to become aware of Web 2.0 technology's importance in the educational process. Moreover, they consider these technological facilities provided to them to enhance the utilization of these technologies

Table 7. Relationship between Awareness and Utilization of Web 2.0 Technology

Variables	r	df	p
Awareness of Web 2.0 x Utilization of Web 2.0	0.558	65	0.000

Note: the relationship is significant when p< 0.05

Challenges Encountered in Using Web 2.0 Technology

Table 8 presents the challenges encountered by the young teachers of Catholic schools in Antique in using the Web 2.0 technology. The data show the rank of the challenges from the greatest to the least: time to manage, poor technical support, no wifi connectivity, availability of the computer/ laptop, fear of misusing personal information, lack of knowledge, time-consuming, poor administrative supports and others.

Apparently, the greatest difficulty of these young teachers in terms of Web 2.0 technology is time management. Several factors affect teachers relative to the management of time in the use of Web 2.0 technology. Catholic teachers find it challenging to manage their time because the use of technology indeed is time-consuming (Bakla, 2020; Isaias, Miranda, & Pifano, 2019).

Another reason is that even if teachers are aware and knowledgeable about the use of these technological platforms, they are not trained enough to incorporate them in the instruction, as supported by Bowling's (2015) findings.

In terms of poor technical support, the teachers find this a difficulty in the utilization of Web 2.0 technology because usually in private institutions like Catholic schools, they do not have the technical support staff to ensure the maintenance and handling of the technological facilities of the schools (Unal & Uzun, 2019). This is also due to the fiscal constraints of Catholic institutions, which depend on the students' tuition fees. Unlike in government schools, they are well-provided with the necessary devices and technical support personnel to help monitor these facilities (Adomi, 2010).

Meanwhile, one thing that also prohibits teachers from utilizing Web 2.0 technology is the deficiency of wifi connectivity. Some companies provide internet services in the country, but it is poor in terms of performance and accessibility (Ding, 2013; Kim, 2014). Moreover, some Catholic schools do not have a budget allocation for internet connectivity, which makes it difficult for these teachers to utilize Web 2.0 platforms as supported by the findings of Al-Maini (2013).

The teachers of Catholic schools seldom use technology because of the poor availability of computers and laptops. The reason is that Catholic schools lack the budget to purchase computers for teachers (McShane, 2019). Usually, the school's budget allocation for developmental aspects does not focus on the improvement of the technological aspects, and this affects the teachers' rating on this assessment (Abdullah, 2020

Table 8. Challenges Encountered in using Web 2.0 Technology

hallenges	f	%
Time to Manage	42	62.7
Poor Technical Support	38	56.7
No wifi connectivity	36	53.7
Availability of Computers/ laptop	37	40.3
Fear of Misusing Personal Information	26	38.8
Lack of Knowledge	26	38.8

hallenges	f	%
Time Consuming	25	37.3
Poor administrative support	21	31.1
Others	3	4.5

One of the netizens' fears nowadays, not only the teachers, is the misuse of personal information since most of them input personal data on the internet. That is why the government issued the Data Privacy Act to ensure the security of the users. In the context of Web 2.0 technology utilization, teachers of these Catholic institutions would inevitably input important personal details for instructional purposes, and they fear that this information is disclosed publicly as supported by the findings of Habibu (2012).

Habibu (2012) also claimed that the reason why a lack of knowledge on Web 2.0 technology is difficult among Catholic teachers is that these educators are education graduates. They are not designed to manipulate computers. Most of their training is focused on the delivery of instruction and faith formation.

Another problem with the use of Web 2.0 technology is time-consuming. Considering the profession of the teachers, their job is indeed full of work. One needs to prepare lesson plans and visual aids, check student attendance and study the lessons to be discussed. Correspondingly, to include technology would take so much of their time because of the long preparation needed. Aside from this, not all are equipped in incorporating these technologies in the instruction, as supported by the findings of Karkoulia (2016).

Lastly, the administrators are commonly focused on instructional leadership and tend to miss the need for technological development and instruction integration. That is why Catholic teachers experience a lack of administrative support because these leaders in the Catholic institutions are focused on the spiritual and academic formation of the school, as supported by the findings of Brook (2017).

CONCLUSION

The high level of awareness of Web 2.0 technology among teachers indicates that they have the idea of the different current available platforms of Web 2.0. It signifies that teachers of Catholic schools are digital natives, very knowledgeable of digital technology. However, the moderate utilization of the Web 2.0 technology signifies that teachers still need to improve in the aspect of utilization and integration of the technology in their teaching and learning activities. The overall findings imply that Web 2.0 technology education and skill training are vital factors for teachers of Catholic schools to become adept in integrating the available digital technology in classroom instruction.

Moreover, training is not the guarantee to achieve the high extent of utilization and great awareness of the web technology but but requency of the utilization of the technology. Also, sex matters based on the fact that male has more aware and high extent of utilization because of the patience and manipulative skills they had for utilizing the technology frequently.

REFERENCE

Abdullah, S. N. (2020). Comparative assessment on the full implementation of senior high school curriculum among private and public high schools. Educational. Research. Journal, 10(2), 8-25.

Adebowale, O. F., & Dare, N. O. (2012). Teachers' Awareness of Nigeria's Educational Policy on ICT and the use of ICT in Oyo State Secondary Schools. *International Journal of Computing & ICT Research*, 6(1).

Almekhlafi, A. G., & Almeqdadi, F. A. (2010). Teachers' perceptions of technology integration in the United Arab Emirates school classrooms. Journal of Educational Technology & Society, 13(1), 165-175.

Amutha, S., & Kennedy, S. J. (2015). Awareness and utilization of social networking among teacher trainees. International journal of innovative research & development, 4(10), 327-329.

An, Y. J. & Williams, K. (2010). Teaching with Web 2.0 technologies: Benefits, barriers, and lessons learned. International Journal of Instructional Technology and Distance Learning, 7(3), 41-48.

Andersen, L., & Jo Matkins, J. (2011). Web 2.0 tools and the reflections of preservice Secondary science teachers. *Journal of Digital Learning in Teacher Education*, *28*(1), 27-38.

Baro, E. E., Idiodi, E. O., & Zaccheaus Godfrey, V. (2013). Awareness and use of Web 2.0 tools by librarians in university libraries in Nigeria. *OCLC Systems & Services: International digital library perspectives*, *29*(3), 170-188.

Bennett, S., Bishop, A., Dalgarno, B., Waycott, J., & Kennedy, G. (2012). Implementing Web 2.0 technologies in higher education: A collective case study. *Computers & Education*, *59*(2), 524-534.

Bonifacio, A. L. (2013). Developing Information Communication Technology (ICT) curriculum standards for K-12 schools in the Philippines. In *The Sixth Conference of MIT's Learning International Networks Consortium (LINC), MIT, Cambridge, Massachusetts, USA*.

Boulos, M. N. K., Maramba, I. 1and Steve Wheeler, S. (2006). Wikis, blogs, and podcasts: a new generation of Web-based tools for virtual collaborative clinical practice and education. BMC Medical Education 2006, 6:41

Burhanna, K. J., Seeholzer, J., & Salem, Jr, J. (2009). No natives here: a focus group study of student perceptions of Web 2.0 and the academic library. *The Journal of Academic Librarianship*, *35*(6), 523-532.

Caliskan, S., Guney, Z., Sakhieva, R., Vasbieva, D., & Zaitseva, N. (2019). Teachers' views on the availability of Web 2.0 tools in education. *International Journal of Emerging Technologies in Learning (iJET)*, *14*(22), 70-81.

Cakir, H. (2013). Use of blogs in pre-service teacher education to improve student engagement. *Computers & Education*, *68*, 244-252.

Chan, D., Bernal, A., & Camacho, A. (2013). Integration Of Ict In Higher Education: Experiences and Best Practices In The Case Of The University Of Baja California In Mexico. In *Edulearn13 Proceedings* (pp. 1040-1049). IATED

Chan She Ping, C., & Issa, T. (2011). The awareness and knowledge of Web 2.0 technologies in education: an Australian perspective. *The International Journal of Learning*, *18*(2), 121-132.

Chiou, Y. F. (2011). Perceived usefulness, perceived ease of use, computer attitude, and User experience of Web 2.0 applications as predictors of intent to use Web 2.0 by Pre-service teachers for teaching (Doctoral dissertation, Ohio University).

Collins, E., & Hide, B. (2010). Use and relevance of Web 2.0 resources for researchers. Retrieved from http://elpub.scix.net/data/works/att/119_elpub2010.content.pdf

Collis, B., & Moonen, J. (2008). Web 2.0 tools and processes in higher education: Quality perspectives, Educational Media International, 45(2), 93-106.

Conole, G. (2010). Facilitating new forms of discourse for learning and teaching: Harnessing the power of Web 2.0 practices. Open Learning, 25(2), 141-151. doi:10.1080/ 02680511003787438

Dar, C. (2017 November 24). DepEd intensifies the use of ICT in school and office management. *Philippine Information Agency.* Retrieved on February 2, 2020, from https://pia.gov.ph/news/articles/1002520.

Dedosin, (2018, Unpublished) Utilization of Web 2.0 Technology in Teaching Social Science Teachers

Eyyama, R., Menevi, I. & Dogruer, N., 2011, 'Perceptions of teacher candidates towards Web 2.0 technologies', Procedia Social and Behavioural Sciences 15(5), 2663–2666. http://dx.doi.org/10.1016/j.sbspro.2011.04.166

Fırat, E. A., & Köksal, M. S. (2017). The relationship between use of Web 2.0 tools by prospective science teachers and their biotechnology literacy. Computers in Human Behavior, 70, 44-50.

Folorunso, B. E. (2018). Teachers' awareness and use of online instructional resources in teaching basic science for sustainable development in Osun State, Nigeria. Journal of Emerging Trends in Educational Research and Policy Studies, 9(5), 192-200.

Franklin, T., & Harmelen, M. V. (2007). Web 2.0 for content for learning and teaching in higher education. Garnada, V. D. (2011). Perceptions of Secondary School Teachers on the Utilization of Educational Technology. JPAIR. 183. 46

Gough, J. (2010). The implications of Web 2.0 technologies based on openness, sharing, and collaboration for professional translators and their future. *Unpublished MA Dissertation, University of Surrey*.

Greenhow, C., Robelia, B., & Hughes, J. E. (2009). Learning, teaching, and scholarship in a digital age: Web 2.0 and classroom research: What path should we take "now"? Educational Researcher, 38(4), 246-259. doi:10.3102/0013189X09336671

Habibu, T., Abdullah-Al-Mamun, M., & Clement, C. (2012). Difficulties faced by Teachers in using ICT in teaching-learning at technical and higher educational Institutions of Uganda. *International Journal of Engineering Research and Technology*, *1*(7), 1-9.

Hao, Y., & Lee, K. S. (2015). Teachers' concern about integrating Web 2.0 technologies and its relationship with teacher characteristics. *Computers in Human Behavior*, *48*, 1-8.

Harris, A. L., & Rea, A. (2009). Web 2.0 and virtual world technologies: A growing impact on IS education. Journal of Information Systems Education, 20(2), 137.

Hossain, M. M., & Aydin, H. (2010, April). Web 2.0 in teaching-learning multiculturalism. In *2010 9th International Conference on Information Technology Based Higher Education and Training (ITHET)* (pp. 355-362). IEEE.

Horzum, M. B. (2010). Investigating teachers' Web 2.0 tools awareness, frequency and purposes of usage in terms of different variables. Journal of Human Sciences, 7(1), 604-634.

Isaias, P., Miranda, P., & Pífano, S. (2019). Higher Education and Web 2.0: Barriers and Best Practices from the Standpoint of Practitioners. In *Advanced Web Applications and Progressing E-Learning 2.0 Technologies in Higher Education* (pp. 103-127). IGI Global.

Jazeel, A. M. (2017). A Study on Awareness of Sri Lankan Graduate Teachers towards Web Blog Based Instruction at School Level. Journal of Social Welfare and Management, 9(1), 9.

Kim, K. S., Sin, S. C. J., & Yoo-Lee, E. Y. (2014). Undergraduates' use of social media as information sources.

Kim, H. J., & Jang, H. Y. (2015). Motivating pre-service teachers in technology integration of web 2.0 for teaching internships. *International Education Studies*, *8*(8), 21-32.

Köse, U. (2010). A blended learning model supported with Web 2.0 technologies. Procedia-Social and Behavioral Sciences, 2(2), 2794-2802.

Liggayu, E.M.,2010. "The value of online social networking services as learning media among selected college students," unpublished B.S. thesis, University of the Philippines Los Baños, Laguna, Philippines.

Lin, M. H., Li, J. J., Hung, P. Y., & Huang, H.-W. (2014). Blogging a journal: Changing students' writing skills and perceptions. ELT Journal: English Language Teaching Journal, 68(4), 422–431.

Mason, L. L. (2016). Are we ready for Web 2.0? Web 2.0 in higher education classrooms (Doctoral dissertation, Wilmington University). Retrieved from: https://search.proquest.com/docview/1782296776

Moran, M., Seaman, J., & Tinti-Kane, H. (2011). Teaching, learning, and sharing: How today's higher education faculty use social media. Babson Survey Research Group.

Murugesan, S. (2007). Understanding Web 2.0. *IT professional*, *9*(4), 34-41.

Myer, J. M., & Halpin, R. (2002). Teacher's Attitude and Use of Multimedia Technology in the Classroom: Constructivist Based Professional Development Training for School Districts. *Journal of Computing in Teacher Education*, *18*(4), 133-140.

Naveen, C., & Nagesh, R. (2017). Use of social media & its impact on the academic performance of engineering students: A study. Library of Progress-Library Science, Information Technology & Computer, 37(2), 154–163

Okello-Obura, C., & Ssekitto, F. (2015). Web 2.0 technologies application in teaching and learning by Makerere University academic staff.

Okereke, E. (2014). Awareness, competencies and use of social media in teaching by lecturers in higher institutions in south-east of Nigeria. European Journal of Business and Management, 6(36), 50-52.

Osika, E., Johnson, R., & Butea, R. (2009). Factors influencing faculty use of technology in online instruction: A case study — *Online Journal of Distance Learning Administration*, *12*(1).

Reid, P. (2014). Categories for barriers to adoption of instructional technologies. Education and Information Technologies, 19(2), 383–407.

Rogers-Estable, M. (2014). Web 2.0 use in higher education. European Journal of Open, Distance and E-Learning, 17(2), 130–142.

Sahlberg, P. & Boce, E. (2010). Are teachers teaching for a knowledge society? Teachers and Teaching: Theory and Practice, 16(1), 31-48.

Schneckenberg, D., Ehlers, U., & Adelsberger, H. (2011). Web 2.0 and competence-oriented design of learning—Potentials and implications for higher education. *British Journal of Educational Technology*, *42*(5), 747-762.

Sendag, S., Erol, O., Sezgin, S., & Dulkadir, N. (2015). Preservice teachers' critical thinking dispositions and web 2.0 competencies. *Contemporary Educational Technology*, *6*(3), 172-187

Soomro, K. A., Zai, S. Y., & Jafri, I. H. (2015). Competence and usage of Web 2.0 technologies by higher education faculty. *Educational media international*, *52*(4), 284-295.

Tasir, Z., Abour, K. M. E. A., Halim, N. D. A., & Harun, J. (2012). Relationship between Teachers' ICT Competency, Confidence Level, and Satisfaction toward ICT Training Programmes: A Case Study among Postgraduate Students. *Turkish Online Journal of Educational Technology-TOJET*, *11*(1), 138-144.

Thomas, M. & Thomas, H., 2012. Using new social media and Web 2.0 technologies in business school teaching and learning, Journal of Management Development. 31(4), 358 – 367

Tomaro, Q. P. V. (2018). ICT integration in the educational system of the Philippines. Journal of Governance and Public Policy, 5(3), 259-282.

Top, E., Yukselturk, E., & Cakir, R. (2011). Gender and Web 2.0 technology awareness among ICT teachers. British Journal of Educational Technology, 42, E106–E109

Unal, E., & Uzun, A. M. (2019). Using Web 2.0 technologies to support teacher candidates' content development skills. *Cypriot Journal of Educational Sciences*, *14*(4), 694-705.

Usluel, Y. K. & Mazman, S. G. (2009). Adoption of Web 2.0 tools in distance education. *Procedia-Social and Behavioral Sciences*, *1*(1), 818-823.

Wilczynski, S. M., Labrie, A., Baloski, A., Kaake, A., Marchi, N., & Zoder-Martell, K. (2017). Web-Based Teacher Training and Coaching/Feedback: A Case Study. *Psychology in the Schools*, *54*(4), 433-445.

Zhang, T., Wen, D., & Ding, X. (2013, March). Person-based video summarization and Retrieval by tracking and clustering temporal face sequences. In *Imaging and Printing in a Web 2.0 World IV* (Vol. 8664, p. 86640O). International Society for Optics and Photonics.

Zheng, B., Niiya, M., & Warschauer, M. (2015). Wikis and collaborative learning in higher education. Technology, Pedagogy, and Education, 24(3), 357–374

Teaching Anxieties of Beginning Teachers in Senior High School

Angelica P. Panique[1] and Ma. Cecilia D. Alimen[2]

[1 & 2] *University of San Agustin, Philippines (apanique@usa.edu.ph and mcalimen@usa.edu.ph)*

ABSTRACT

This descriptive-correlational study examines the level and sources of teaching anxiety experienced by the beginning teachers as related to their demographic variables. Thirty (30) beginning teachers in the University of San Agustin-Senior High School (USA-SHS) answered the adapted Student Teaching Anxiety Scale (STAS) by Hart (1987). Mean, t-test, and ANOVA were used in the treatment of the data gathered. Results show that beginning teachers were moderately anxious and were most anxious about having unsuccessful lesson. No significant difference was identified on class control, professional preparation, and school staff relationship anxieties when they were classified as to sex. However, significant difference was found on evaluation and unsuccessful lesson anxieties. Meanwhile, no significant difference was noted on anxiety factors when classified according to age. No significant difference was noted on the evaluation and unsuccessful lesson anxieties when they were classified according to marital status but significant difference was found on class control, professional preparation, and school staff relationship anxieties.

Keywords: Teaching anxiety, Beginning teachers, Senior high school

INTRODUCTION

Anxiety is a normal event in life and it can happen anytime. Anxiety is a group of somatic (physical sensations), cognitive (expectation of danger), and behavioral changes (fight or flight) occurring in response to a danger or a threat by creating a sense of caution, care and focus (Barlow, 2002). Though a defense mechanism, it can result to unsatisfactory performance or lack of enjoyment in any given situation.

Everyone experiences anxiety now and then, even teachers. The term *teaching anxiety* is conceptualized by Gardner and Leak (1994) as "anxiety experienced in relation to teaching activities that involve the preparation and execution of classroom activities." Beginning or novice teachers, those who have just started their career, are identified to be more vulnerable to the pressures of the profession than experienced teachers (Gold & Roth, 1993). This agrees with another investigation in India, showing that junior college teachers suffered a significantly higher level of anxiety in some stressors in comparison to senior teachers (Kumar & Deo, 2011). In another research that was conducted by Ameen, Guffey, and Jackson (2010) among accounting professors in the United States, it was determined that age, rank, and years of experience contribute to teaching anxiety. Past studies claimed that teaching anxiety is more likely to occur at the beginning of the teaching career.

The anxiety of teachers may be rooted from various factors. Some worries and tensions may be associated to the dealings with misbehaved and disruptive learners, feedback of the evaluators, relationship with the co-workers, or academic preparation. In a study by Abel and Sewell (1999), it was identified that poor working conditions and staff relations were the two most significant sources of stress and burnout among rural and urban secondary school teachers. In another effort to examine the teacher stress, it was determined that 50 percent of the participants in a national survey on occupational stress in Australian universities were experiencing such high levels of stress that they were in danger of developing a "psychological illness". This number was compared to 19 percent of the general population of that country (National Tertiary Education Union, 2000). Moreover, Gardner and Leak (1994) believed that teaching anxiety includes apprehension concerning interactions with the audience which involve questions from students, immediate negative feedback, class disruptions, or end-of-term

student evaluations. Merç (2010) also pointed out that anxious teachers may tend to avoid certain teaching styles and activities and prefer others, which can consequently lead to poorer quality of instruction. In this respect, teaching anxiety is conceptualized as "anxiety experienced in relation to teaching activities that involve the preparation and execution of classroom activities."

Statement of the Problem

Over the years, teaching anxiety has become one of the unnoticed educational concerns. Some efforts through investigations and studies have been exerted but are only few. Specifically, limited studies across countries have explored the level and sources of the anxieties of beginning teachers. It should be noted, however, that teaching anxiety is a natural affective condition but it may play a big role in the attainment of successful teaching and learning processes. Several studies have investigated the relationship between stress causes and job performance (Gilboa, Shirom, Fried, & Cooper, 2008; Tubre & Collins, 2000). According to the study of Hanif, Tariq, and Nadeem (2011), the stress experienced by teachers was negatively related to their teaching behavior. The limited number of studies and the crucial role of the teacher's well-being in their performance in the service should be given attention in order to provide some concrete recommendations to some issues that are detrimental to both teaching and learning. These provided the rationale for this study and may greatly benefit the teachers, teacher trainers, administrators, and future researchers. Therefore, the primary purpose of this study is to determine the level and sources of teaching anxiety experienced by beginning teachers in Senior High School (SHS) as related to selected demographic variables.

Research Questions

Very few, if any studies have discussed the teaching anxieties of beginning teachers in Senior High School (SHS). And considering the need to identify the level and sources of teaching anxiety for them to be properly addressed, the following research questions were formulated:

1) What is the level of teaching anxiety experienced by beginning teachers in Senior High School (SHS) as a whole and in terms of factor when grouped according to each demographic variable (sex, age, and marital status)?
2) What work-related factor has the strongest impact on the beginning teachers' anxiety level?
3) Is there any significant difference on the teaching anxieties when beginning teachers are classified as to each demographical variable (sex, age, and marital status)?

Framework of the Study

Teaching anxiety is viewed "as a normal part of teacher development and therefore accepted as a natural element of the transition from novice to qualified teacher" (Harvey et al., 2000). In 1975, Fuller and Brown expounded the Concerns Theory of 1969 and identified three phases of concerns that teachers experience on their development: 1) concerns about themselves (confrontation and survival in the teaching environment such as ability to manage the class, appreciate by the students and parents, approved by the evaluators, etc.), 2) task concerns (tasks and everyday teachings, more involvement with the students, lack of didactic materials, time pressures, etc.), 3) concerns about their impact on students (checking on students' understanding of their teaching, considering their social and emotional needs, recognizing individualized teaching to those who struggle, etc.).

In some studies, Fuller's model was validated. One of which is the longitudinal research done by Pigge and Marso (1997), wherein they examined the concern levels of student teachers before the practice teaching period, following the practicum, in the third year post graduation, and in the fifth year post graduation. In another investigation by Conway and Clark (2003), they explored student teachers' concerns during the 30-week formation education program and determined that they experienced some concerns in the beginning and some other concerns began to emerge later.

But some years after the elaboration of the Concerns Theory of 1969 by Fuller and Brown (1975), some researchers already adapted this theory and developed their own instrument that can measure the level of teaching anxiety. Hart (1987) associated concerns with four factors: evaluation concerns, pupil and professional concerns, class control-related concerns, administrative concerns, and teaching practice requirements concerns. This was then followed by Morton, Vesco, Williams, and Awender (1997) and other researchers who adapted this instrument with additional variables, and reported "moderate to extremely anxious" levels of teaching concerns.

| Demographic variables
- Sex
- Age
- Marital Status | Teaching Anxiety Level of Beginning Teachers |

Figure 1: Framework of the Study

METHODOLOGY

Participants

The participants of the study are the 30 faculty members of the University of San Agustin-Senior High School (USA-SHS), who were teaching for five years or less at the time of the administration of the instrument. The researcher believed that the respondents were the "best fit" in the target participants' profile during that time, primarily due to the number of years in the service and considering the limited number of the beginning teachers. Hence, this was done in accordance with the purposive non-probability sampling design.

Table 1: Distribution of participants in accordance with the demographical variables (N = 30)

Sex		Age				Marital Status	
M	F	20 to 23	24 to 27	27 to 30	31 and above	Single	Married
12	18	6	17	1	6	28	2

Instrument and Data Analysis

The research instrument consists two sections. The first section is the beginning teacher's demographical information: sex, age, and marital status. The second section is the adapted Student Teacher Anxiety Scale (STAS) by Hart (1987). Though the anxiety scale was originally intended to be administered to the student teachers or those graduating education students who are doing practicum, the researcher saw it as an applicable questionnaire to identify the level of teaching anxiety of beginning teachers because of the similar teaching context and relatable factors.

The original instrument used by Hart (1987) was modified in two ways. First, some terms were changed to make them aligned to the Philippine context. Second, a five-point Likert-type scale rather than a seven-point scale was used to make the answering and the scoring easier for the participants and the researcher, respectively. Respondents were asked to encircle the number which best describes how they perceive each statement under each teaching anxiety factor. The measurement levels of anxiety are strongly agree (5), agree (4), somewhat agree (3), disagree (2), and strongly disagree (0).

To analyze the data gathered, first, the results were filtered by cross-tabulating the subgroups through mean, t-test, and ANOVA. Then, the tabulated results were examined for variation and were given qualitative descriptions. Lastly, specific and overall results were described and drawn conclusions.

RESULTS

Table 2: Levels of teaching anxiety of the beginning teachers in terms of factor

Item	Mean	Qualitative Description
Entire group	3.20	Moderately anxious
Evaluation	3.28	Moderately anxious
Class control	2.95	Moderately anxious
Professional preparation	3.26	Moderately anxious
School staff	3.15	Moderately anxious
Unsuccessful lesson	3.37	Moderately anxious

Table 2 shows that generally, beginning teachers are moderately anxious on evaluation, class control, professional preparation, school staff, and unsuccessful lesson factors (M=3.20).

Table 3: Levels of teaching anxiety of the beginning teachers in terms of evaluation when grouped according to sex, age, and marital status

Item	Mean	SD	Qualitative Description
Entire group	3.28	1.00587	Moderately anxious
Sex			
Male	2.71	0.83144	Moderately anxious
Female	3.67	0.94324	Very anxious
Age			
20-23	2.92	1.06849	Moderately anxious
24-26	3.40	0.95631	Moderately anxious
27-30	1.75	0.0	Not anxious
31 or above	3.58	1.00830	Very anxious
Status			
Single	3.22	1.00999	Moderately anxious
Married	4.13	0.53033	Very anxious

As Table 3 indicates, beginning teachers were moderately anxious on evaluation (Mean=3.28). When demographical variables were considered, male beginning teachers were moderately anxious (Mean=2.71) while female beginning teachers were very anxious (M=3.67). On the other hand, both beginning teachers who are 20-23 years old and 24-26 years old were moderately anxious (M=2.92) (M=3.40). Those who were 27-30 years old were not anxious (M=1.75) while 31 years old and above were very anxious (M=3.58). Lastly, beginning teachers who were single are identified as moderately anxious (M=3.22) while those who were married were very anxious (M=4.13).

Table 4: Levels of teaching anxiety of the beginning teachers in terms of class control when grouped according to sex, age, and marital status

Item	Mean	SD	Qualitative Description
Entire group	2.95	0.96123	Moderately anxious
Sex			
Male	2.67	0.77850	Moderately anxious
Female	3.13	1.04488	Moderately anxious
Age			
20-23	2.50	0.75631	Slightly anxious
24-26	3.06	0.98175	Moderately anxious
27-30	1.40	0.0	Not anxious
31 or above	3.33	0.87331	Moderately anxious

Status			
Single	2.85	0.90041	Moderately anxious
Married	4.30	0.98995	Extremely anxious

Table 4 shows that beginning teachers were moderately anxious on class control (Mean=2.95). When classified as to the demographical variables, both male and female beginning teachers were moderately anxious (Mean=2.67) (Mean=3.13). Meanwhile, beginning teachers who were 20-23 years old were slightly anxious (M=2.50), 24 to 26 years old were moderately anxious (M=3.06), 27-30 years old were not anxious (M=1.40), and 31 years old and above were moderately anxious (M=3.33). And, beginning teachers who were single were moderately anxious (M=2.85) while those who were married were very anxious (M=4.30).

Table 5: Levels of teaching anxiety of the beginning teachers in terms of professional preparation when grouped according to sex, age, and marital status

Item	Mean	SD	Qualitative Description
Entire group	3.26	0.84552	Moderately anxious
Sex			
Male	2.93	0.92769	Moderately anxious
Female	3.48	0.73289	Very anxious
Age			
20-23	3.07	0.64083	Moderately anxious
23-26	3.32	0.94884	Moderately anxious
27-30	2.20	0.0	Slightly anxious
31 or above	3.47	0.72296	Very anxious
Status			
Single	3.17	0.79947	Moderately anxious
Married	4.50	0.42426	Extremely anxious

Table 5 indicates that in terms of professional preparation, beginning teachers were moderately anxious (Mean=3.26). When grouped according to the demographical variables, male beginning teachers were moderately anxious (Mean=2.93) while female beginning teachers were very anxious (Mean=3.48). On the other hand, both beginning teachers who were 20-23 years old and 24- 26 years old were moderately anxious (M=3.07) (M=3.32) while those who were 27-30 years old were slightly anxious (M=2.20). And, those who were 31 and above were very anxious (M=3.47). Then, beginning teachers who were single were moderately anxious (M=3.17) while those who are married were determined as extremely anxious (M=4.50).

Table 6: Levels of teaching anxiety of the beginning teachers in terms of school staff when grouped according to sex, age, and status

Item	Mean	SD	Qualitative Description
Entire group	3.15	0.86930	Moderately anxious
Sex			
Male	2.83	0.82168	Moderately anxious
Female	3.36	0.85833	Moderately anxious
Age			
20-23	3.23	0.82381	Moderately anxious
24-26	3.05	0.87110	Moderately anxious
27-30	2.60	0.0	Slightly anxious
31 or above	3.40	1.05071	Moderately anxious
Status			
Single			

| Married | 3.05 | 0.80485 | Moderately anxious |
| | 4.50 | 0.70711 | Extremely anxious |

As Table 6 shows, beginning teachers were moderately anxious on school staff relationship (Mean=3.15). When demographical variables were considered, both male and female beginning teachers were moderately anxious (Mean=2.83) (M=3.36). Beginning teachers who were 20-23 years old, 24-26 years old, and 31 years old and above were all moderately anxious (M=3.23) (M=3.05) (M=3.40). However, those who were 27-30 years old were slightly anxious (M=2.60). And, beginning teachers who were single were identified as moderately anxious (M=3.05) while those who were married were extremely anxious (M=4.50).

Table 7: Levels of teaching anxiety of the beginning teachers in terms of unsuccessful lesson when grouped according to sex, age, and status

Item	Mean	SD	Qualitative Description
Entire group	3.37	0.83391	Moderately anxious
Sex			
Male	2.98	0.76969	Moderately anxious
Female	3.62	0.79377	Very anxious
Age			
20-23	3.37	0.67429	Moderately anxious
24-26	3.31	0.89196	Moderately anxious
27-30	2.80	0.0	Moderately anxious
31 or above	3.63	10.93310	Very anxious
Status			
Single	3.31	0.83520	Moderately anxious
Married	4.10	0.42426	Very anxious

Table 7 shows that beginning teachers were moderately anxious on unsuccessful lesson (Mean=3.37). When classified as to the demographical variables, male beginning teachers were moderately anxious (Mean=2.98) while female beginning teachers were very anxious (Mean=3.62). Beginning teachers who were 20-23 years old, 24 to 26 years old, and 27-30 years old were moderately anxious (M=3.37) (M=3.31) (M=2.80) while those who were 31 years old and above were very anxious (M=3.63). Finally, beginning teachers who were single were moderately anxious (M=3.31) while those who were married were very anxious (M=4.10).

To find out whether there was any significant difference on the teaching anxiety levels when classified to sex, the t-test was used. See Table 8 for the results.

Table 8: Significant difference on the teaching anxiety levels when classified to sex

Item	t	df	Sig	Interpretation	Decision
Evaluation	-2.854	28	0.008	Significant	Reject H_o
Class control	-1.319	28	0.198	Not significant	Do not reject H_o
Professional preparation	-1.793	29	0.084	Not significant	Do not reject H_o
School staff	-1.660	29	0.108	Not significant	Do not reject H_o
Unsuccessful lesson	-2.186	29	0.037	Significant	Reject H_o

p= 0.05

The results of the t-test analysis show that there was no significant difference on class control (t= -1.319, p>.05), professional preparation (t= -1.793, p>.05) and school staff relationship (t=-1.660, p>.05) anxieties when beginning teachers are classified as to their sex. A significant difference was found, however, on evaluation (t= -2.854, p<.05) and unsuccessful lesson anxieties (t=-2.186, p<.05).

To identify if there was any significant difference on the teaching anxiety levels when classified to age, the one-way ANOVA was used. See Table 9 for the results.

Table 9: Significant difference on the teaching anxiety levels when classified to age

Item	F	df	Sig	Interpretation	Decision
Evaluation	1.335	29	0.284	Not significant	Do not reject H_o
Class control	1.844	29	0.164	Not significant	Do not reject H_o
Professional preparation	0.755	29	0.530	Not significant	Do not reject H_o
School staff	0.354	29	0.787	Not significant	Do not reject H_o
Unsuccessful lesson	0.363	29	0.780	Not significant	Do not reject H_o

p= 0.05

The results show that there was no significant difference identified on evaluation (F= 1.335, p>.05), class control (F=1.844, p>0.164), professional preparation (F= 0.755, p>.05), school staff relationship (F=0.354, p>.05), and unsuccessful lesson (F= 0.363, p>.05) anxieties when beginning teachers were classified as to their age.

To determine if there was any significant difference on the teaching anxiety levels when classified to marital status, the t-test was used. See "Table 10" for the results.

Table 10: Significant difference on the teaching anxiety levels when classified to marital status

Item	t	df	Sig	Interpretation	Decision
Evaluation	-1.236	28	0.227	Not significant	Do not reject H_o
Class control	-2.192	28	0.037	Significant	Reject H_o
Professional preparation	-2.300	29	0.029	Significant	Reject H_o
School staff	-2.472	29	0.020	Significant	Reject H_o
Unsuccessful lesson	-1.303	29	0.203	Not significant	Do not reject H_o

p= 0.05

The results indicate that there was no significant difference on evaluation (t= -1.236, p>.05) and unsuccessful lesson (t=-1.303, p<.05) anxieties when beginning teachers were classified as to their marital status but a significant difference was found on class control (t= -2.192, p>.05), professional preparation (t= -2.300, p<.05) and school staff relationship (t=-2.472, p<.05) anxieties.

DISCUSSIONS

The following discussions were made based on the aforementioned results and are supported by the results of other related studies:

First, the descriptive analysis of the quantitative data reveals that the beginning teachers were identified to be moderately anxious both as a whole and in terms of factor when grouped according to each demographical variable (sex, age, and marital status). This finding is supported by the survey conducted by the National Education Association (1967) which reported that about 78 percent of the teachers experienced teaching anxiety at a moderate or considerable level. Likewise, in the studies conducted by Hart (1987), Ngidi and Sibaya (2003), and Merc (2015) on the teaching anxiety of pre-service teachers, who can be also considered beginning teachers according to Fuller (1969), results revealed that pre-service teachers experienced a moderate level of anxiety. In the study of Klassen and Chiu (2010), it is claimed that beginning teachers have challenging time teaching the lesson while those who are in the intermediate career stages bring their own challenges that can influence satisfaction. This may be due

to the fact that beginning teachers have not yet acquired the expertise required to cope with the job (Travers & Cooper, 2003).

Second, the analysis shows that unsuccessful lesson which has the highest mean among other factors (M=3.37), has the strongest impact on the beginning teacher's anxiety. This was confirmed by Ngidi and Sibaya (2003) who identified that teachers have greater anxiety on the disruption of the lesson. The students' accomplishment of the learning objectives as the main goal of classroom teaching is very crucial and this is measured through assessments and the observable changes in the student's behavior and performance. Hence, it seems normal for teachers to have feelings of uneasiness and stress because of the fear on not attaining them.

Third, no significant difference was found on class control, professional preparation, and school staff relationship anxieties when beginning teachers were classified as to their sex. A significant difference was seen however, on evaluation and unsuccessful lesson anxieties. The aforementioned difference can be regarded context specific since some findings reject the association of some demographic features and anxiety. Putter (2003), besides proposing teaching as a stressful job, claimed that there is no meaningful difference in the amount of stress in relation to gender, age and teaching experience. But, in some studies, it was discovered that female beginning teachers were more likely to experience anxieties than male beginning teachers. This agrees to the notion that male and female teachers perceive threatening situations differently due to their biological, psychological, physiological and emotional differences. This also coincides Veronica (2011) when she attributed the differences found in the level of anxiety between male and female teachers to their emotional abilities. In fact, Greenglass and Burke (2003) claimed that the elevated job stress of females might stem from gender differences in working and nonworking domains such as higher total workload and higher role conflict between work and family. On the other hand, no significant difference was identified on the teaching anxieties when beginning teachers were classified as to their age. This is justified by Pritchard (2010) who claimed that anxieties can affect anyone, at any age, of any background and can have a number of different triggers. In other words, experiencing anxieties is normal and can be encountered at any course of life. Likewise, no significant difference was identified on evaluation and unsuccessful lesson anxieties when beginning teachers were classified as to their marital status but a significant difference was found on class control, professional preparation and school staff relationship anxieties. This is supported by Varda and Akhtar (1989) who claimed that married teachers are more stressed to some specific situations such as academic preparation and classroom management than unmarried ones. Vokić and Bogdaniæ (2008) revealed that marital status is one of the influential factors playing a role in the amount of stress perceived. In simple claim, married teachers may suffer a higher level of occupational stress as a result of the greater role conflict between work and family since they face huge responsibility and take the burden of keeping their academic preparation and family time balanced. Furthermore, the anxiety in managing the class may be traced back at home, where personal stress and tension may already arise and these could be the triggering factor to other factors in teaching anxiety.

CONCLUSIONS AND RECOMMENDATIONS

Teachers, especially those who are beginners in the service, may experience anxiety and it is normal. Since it takes time to personally grow and be professionally confident, experience or maturity in the service is very crucial; it plays a significant role in the successful teaching and learning.

The teacher participants' anxiety level is moderate in general, but it is worth noting that specifically, married teachers have high level of anxiety. These conclusions however, may not uniform over time and may fluctuate over the course of their teaching career as it is greatly influenced by the presence of other factors such as the current working conditions and personal dealings in life.

The work-related factor which seems to have the strongest impact on the teachers' anxiety is unsuccessful lesson. It is known that one of the fears of any teacher is being a failure in the profession.

But there is more beyond than just facilitating the students in learning the concepts; that is, making a change in their lives.

Though the results of this study imply that the teaching anxiety level experienced by beginning teachers is not alarming, it is still best if the remaining anxieties would be managed or eliminated. A department or a school can organize counselling sessions or talks for the faculty members, with the help of the guidance counsellors or invited experts to reduce teacher anxieties and tensions and for them to gain more confidence and enthusiasm instead. Moreover, seminars, trainings, and workshops on curriculum development and delivery, trends on teaching methodologies, techniques on questioning and answering, and effective student discipline can be also conducted to help the teachers enhance the quality of their instruction so they can enjoy a goal-oriented but stress-free teaching. Another recommendation is for the teachers to take initiatives for the pursuance of personal and professional growth such as by examining their current passion for teaching or reflecting and learning from bad teaching experiences, participating actively in talks, seminars, or workshops and pursuing higher studies. These may help teachers especially the beginners boost their confidence in the practice and reduce the feeling of uneasiness due to limited knowledge and skills in the profession. Finally, since only few studies were conducted on the teaching anxieties of beginning teachers in the past, it is best recommended to conduct more researches and develop scales and questionnaires that would measure the teaching anxiety level and identify the sources considering the other work-related factors such as language competence, physical classroom conditions, job security, and salary; and non-work-related factors such as motivation, personality, and values. Self-report surveys are also suggested to be included.

REFERENCES

Abel, M. & Sewell, J. (1999). Stress and burnout in rural and urban secondary school teachers. *The Journal of Educational Research*, 92, 287-293.

Ameen, E. C., Guffey, D. M., & Jackson, C. (2013). Evidence of teaching anxiety among accounting educators. Journal of Education for Business, 78:1, 16-22.

Barlow, D.H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic* (2nd ed.). New York: Guilford Press

Conway, P. F., & Clark, C. M. (2003). The journey inward and outward: A re-examination of Fuller's concerns-based model of teacher development. *Teaching and Teacher Education,* 19(5), 465–482.

Fuller, F. F. (1969). Concerns of teachers: a developmental conceptualization. *American Educational Research Journal*, 6(2), 207-226.

Fuller, F.F. and Brown, O. H. (1975). Becoming a Teacher, in K. Ryan (Ed.) *Teacher Education: Seventy-Fourth Yearbook of the National Society for the Study of Education*. Chicago: University of Chicago Press.

Gardner, L. E. & Leak, G. K. (1994). Characteristics and correlates of teaching anxiety among college psychology teachers. *Teaching of Psychology*, 21(1), 28-32.

Gilboa, S., Shirom, A., Fried, Y., & Cooper, C. (2008). A meta-analysis of work demand stressors and job performance: Examining main and moderating effects. *Personnel Psychology*, 61, 227–271.

Gold, Y., & Roth, R. A. (1993). *Teachers managing stress and preventing burn-out: the professional health solution*. London: Falmer Press.

Greenglass E. R., & Burke. R. (2003). Teacher stress. *Occupational Stress in the Service Professions*, 213-236.

Hanif, R., Tariq, S., & Nadeem, M. (2011). Personal and job related predictors of teacher stress and job performance among school teachers. *Pakistan Journal of Commerce and Social Sciences*, 5, 319–329.

Hart, N. (1987). Student teacher anxieties: four measured factors and their relationships to pupil disruption in class. *Educational Research*, (29), 12-18.

Harvey, R. M., Slee, P., Lawson, M., Silins, H., Banfield, G., Russell, A. (2000). Under stress: The concerns and coping strategies of teacher education students. *European Journal of Teacher Education*, 23, 19-35.

Klassen, R. M., & Chiu, M. M. (2011). The occupational commitment and intention to quit of practicing and pre-service teachers: Influence of self-efficacy, job stress, and teaching context. *Contemporary Educational Psychology*, 36, 114–129.

Kumar, D. & Deo, J. M. (2011). Stress and work life of college teachers. *Journal of the Indian Academy of Applied Psychology*.

Merc, A. (2010). *Foreign language student teacher anxiety*. [Doctoral dissertation].

Morton, L. L., Vesco, R., Williams, N. H., & Awender, M. A. (1997). Student teacher anxieties related to class management, pedagogy, evaluation, and staff relations. *British Journal of Educational Psychology*, 67, 69-89.

National Education Association. (1967). *The American public school teacher: 1965-66*.

National Tertiary Education Union. (2000). *Unhealthy places of learning: Working in Australian universities*. Melbourne.

Ngidi, D. P. & Sibaya, P. T. (2003). Student teacher anxieties related to practice teaching. *South African Journal of Education*.

Pasek, H. L. (2006). A proposed ground theory about the sources and effects of teaching anxiety among two-year college faculty. [Doctoral dissertation], Montana State University.

Thomas, Pigge, F., & Marso, R. (1997). A seven-year longitudinal multi-factor assessment of teaching concerns development through preparation and early years of teaching. *Teaching and Teacher Education*, 13(2), 225-235.

Pritchard, E. L. (2018, July 14). *7 common triggers of anxiety in adulthood and what you can do to ease them*. Country Living. https://www.countryliving.com/uk/wellbeing/a22098872/common-triggers-anxiety-adulthood-symptoms/

Putter, (2003). Stress factors among teachers in schools of industry.

Varda, P. & Akhtar, S. (1989). A study of extra organizational stress. *National Seminar on Anxiety, Stress and Depression in Modern Life*. Patiala.

Veronica, D. (2011. Stress and job satisfaction among university teachers. *International Conference of Scientific Paper AFASES*, Brasov, 26-28.

Vokiæ, N. P., & Bogdaniæ, A. (2008). Individual differences and occupational stress perceived: A Croatian survey. *Zagreb International Review of Economics and Business*, 11(1), 61-79.

Travers, C. J., & Cooper, C. L. (1996). *Teachers under pressure: Stress in the teaching profession. London*, England: Rutledge.

Text Familiarity and Reading Proficiency of Senior High School Students

Methozela P. Iligan[1] and Ma. Judy B. Legaspi[2]

[1]*University of Negros Occidental-Recoletos (iliganmeth1300@gmail.com)*
[2]*University of Negros Occidental-Recoletos (mariajudy2012@yahoo.com)*

ABSTRACT

In the Philippine context, senior high school students are prepared for further studies at the college level, which requires reading academic and specialized text. To meet this requirement, students must apply language skills such as text familiarity and reading proficiency. This study focused on describing the text familiarity and reading proficiency levels of Grade 12 students when they were taken as a whole and grouped according to sex, school of origin, parent's educational attainment, and specialization. Also, the study sought to determine whether text familiarity and reading proficiency are dependent upon each other. Furthermore, the study focused only on specialized vocabulary knowledge as a basis of text familiarity and reading proficiency on reading materials that exhibit general content. This study employed the descriptive-comparative and correlational research design. The instrument used in the study was a researcher-made questionnaire that included 30 items on text familiarity and 40 items on reading proficiency. The respondents were 207 Grade 12 Science, Technology, Engineering, and Mathematics (STEM) students. The results revealed that the level of text familiarity of Grade 12 students is high, and their level of text familiarity is average. Also, there were significant differences in the level of text familiarity and reading proficiency of the students when grouped according to sex and specialization. The study's findings also showed a significant relationship between the level of text familiarity and reading proficiency of Grade 12 students.

Keywords: Text familiarity, Reading proficiency, Senior high school

INTRODUCTION

One of the senior high school curriculum goals in the Philippines is to ensure that a K-12 graduate will be ready to go into further education (Official Gazette, n.d.). The addition of this facet to the Philippines' educational system allows students to become prepared for college and employment. Most parents and students believe that the high school curriculum is carefully designed to prepare students for tertiary education success (Conley, 2005).

Tertiary education in the Philippines requires extensive reading of academic texts in the students' second language and text familiarity can aid to fulfilling this necessity. Text familiarity is defined as the background knowledge utilized by English as a Second Language (ESL) learners to facilitate reading comprehension (Salmani-Nodoushan, 2002). It plays a vital role in the learners' ability to perform well in academic language learning settings since reading is a cognitive construct, wherein comprehension is not merely created by information and is dependent on prior knowledge.

To be successful in college, students are expected to be academically literate, which means that they should utilize their language skills to understand texts that cover a variety of content areas (Kasper et al., 2000). Since a college education aims to prepare students for specialized careers, learners are exposed to content that is relevant to their chosen field.

To ensure high levels of proficient reading abilities, learners are expected to create a "cognitive map" from their prior knowledge to guide them in constructing meaning. Students experience comprehension problems either because they lack the background that native speakers fluently use to make meaning out of text or because they apply inappropriate schemata and misunderstand the text (Kasper et al., 2000). From this, it can be implied that failure to create a cognitive map could hinder learners from comprehending academic texts and result in poor application of specialized content.

Numerous studies have been conducted on how text familiarity impacts reading proficiency; however, most of these studies focus on the cultural-content aspect of text familiarity. Texts which contain culturally familiar content schema are easier to process (Bensoussan, 1998; Pulido, 2004, Salmani-Nodoushan, 2002). However, less emphasis has been placed on the common problem faced by the students, which is the comprehension of texts that contain new or unfamiliar words (Anderson and Lynch, 2000).

This study aimed to determine whether senior high school students' reading proficiency is affected by vocabulary knowledge as a basis of text familiarity. The results of the study were utilized for the preparation of instructional materials on text familiarity and reading proficiency which include a set of strategies that will be injected in the Aligned Classroom Instructional Design (ACID) plan of Grade 12 Science, Technology, Engineering, and Mathematics (STEM) specialized subjects.

Framework of the Study

This study theorizes that the level of the text familiarity of students is related to the level of their reading proficiency. This means that when a student is familiar with the text, there is tremendous potential for better proficiency in reading.

The schema theory supports the concept of text familiarity as forwarded by the study, where readers are expected to combine their previous experiences with the text they are reading. Schema theory formalizes the importance of previous knowledge in language understanding, and any text, whether spoken or written, does not contain meaning in and of itself (Gilakjani & Ahmadi, 2011). The schema theory is used in this study to assess senior high school students' knowledge of specialized vocabulary that they have learned in lectures and through the terms in academic texts delivered to them in their specialized subject classes.

Because the participants' educational institution requires academic texts appropriate for their grade level and area of specialization, Krashen's Comprehensible Input Hypothesis further supports the concept of text familiarity in this study. Krashen's theory states that when learners are presented with comprehensible input within their current proficiency level, language structures are effectively acquired. (Brinton, 2003). Even though students do not understand all the words in the text at first, continued exposure to specialized academic texts can help them naturally acquire the language of the text.

Text familiarity requires adequate vocabulary knowledge. Vocabulary knowledge pertains to the students' ability to identify contextualized and decontextualized vocabulary. Identifying contextualized vocabulary involves inferring the words used in a specific context and is dependent on the context that the participant is exposed to. It also implies more complex cognitive processes by the learner actively seeking meaning instead of mere memorization of a list of words (Kadimba, n.d.). On the other hand, the ability to identify decontextualized vocabulary refers to definition-based vocabulary. It means that the word is removed from its message context to be focused on as a language item (Nation, 2001, p. 100). Some of the most common testing tasks are multiple choices, and as cited in Hyland (2003), they can be used to test contextualized words and decontextualized words.

O'Malley and Chamot's (1990) learning model, the Cognitive Academic Language Learning Approach (CALLA), relies heavily on a cognitive principle called scaffolding which means the provision of extensive instructional supports when concepts and skills are being first introduced and the gradual removal of supports when students begin to develop greater proficiency skills, or knowledge (Chamot and O'Malley, 1994). The learning model uses materials drawn from major content areas (e.g., science, history) to develop academic language skills and to provide direct instruction in learning strategies. This allows for the acquisition of both language and content knowledge. This idea strengthens the theory described in this study that reading proficiency obtained in basic education language learning and text

familiarity through the academic strands that the participants are enrolled in will potentially determine their readiness for academic texts in college.
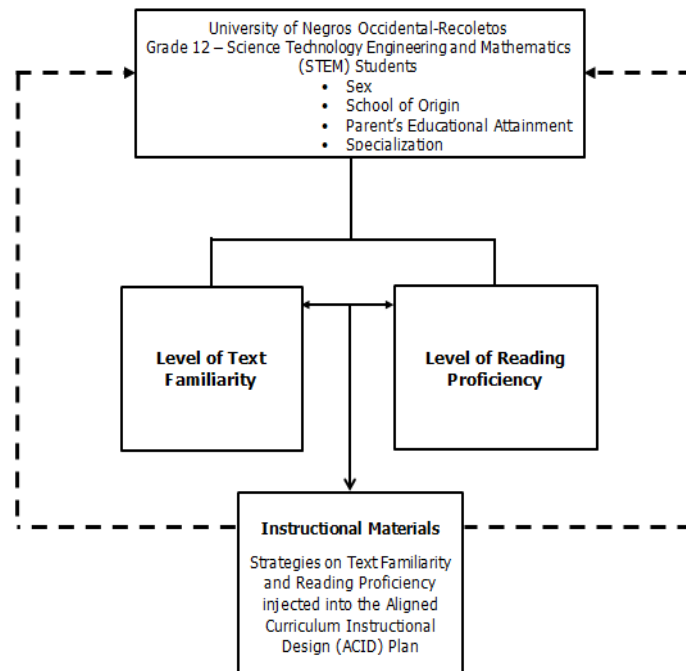
Figure 1. Conceptual Model

METHODOLOGY

The respondents in the research were the Grade 12 Science, Technology, Engineering, and Mathematics (STEM) students that were divided into two fields of specialization, namely Engineering and Information Technology (EIT) and Medical and Allied Health (MAH). The total population was 443. A sample size of 207 was determined through Slovin's formula. Stratified random sampling was used to determine the actual number of respondents. There were 125 participants from STEM-EIT and 82 participants from STEM-MAH.

The study employed Descriptive-Comparative and Correlational research design. A researcher-made instrument that included text familiarity and reading proficiency sections was used in the study. The test for text familiarity included 30 items that asked students to correctly identify the specialized terminologies being described in each statement. Because of differing specialization, a different set of text familiarity test content was used for STEM-EIT and STEM-MAH. Terms used in the text familiarity questionnaire for STEM-EIT were based on the academic texts used in their Technical Drafting subject, and terms used for the text familiarity questionnaire for STEM-MAH were based on the academic texts used in their Health and Human Needs subject. On the other hand, the test for reading proficiency included 40 items that were modified from the International English Language Testing System (IELTS) Sample Test for General Reading. The test contained three reading passages of increasing difficulty on topics of general interest. Texts are taken from notices, advertisements, leaflets, newspapers, instruction manuals, books, and magazines. Based on the original IELTS test, a variety of question types are usually used, including multiple-choice, short-answer questions, sentence completion, notes/chart/table completion, labeling a diagram, classification, matching lists/phrases, choosing suitable paragraph headings from a list, identification of writers' views/attitudes – yes, no, not given, or true, false, not given. However, to suit the test-taking skills of the respondents, multiple choice method of answering the questions was done instead of the short answer method. The students' level of reading proficiency was determined through their scores on the mentioned test.

To ensure the validity of the tests, the instruments were validated through the criteria developed for evaluating questionnaires set forth by Carter V. Good and Douglas B. Scates. The questionnaire was validated by five (5) experts who were all English Professors with master's degrees. The overall validity score was 4.28, which is interpreted as very good, making the instrument valid. To establish the reliability of the tests, Kuder and Richardson Formula 20 (KR20) was used to check the internal consistency of measurements with dichotomous choices. This is deemed appropriate for the tests because of its items that provide only right or wrong answers. Both STEM-EIT and STEM-MAH questionnaires on text familiarity and reading proficiency gained a reliability of 0.84, which is interpreted as highly reliable.

Descriptive analysis was used to determine the level of text familiarity and reading proficiency of Grade 12 students with Mean as the statistical tool. Comparative analysis was used to determine the significant difference in text familiarity and reading proficiency of Grade 12 students when grouped according to sex, school of origin, parent's educational attainment, and specialization with the T-test as the statistical tool. Furthermore, correlational analysis was used to determine the significant relationship between text familiarity and level of reading proficiency with Pearson Product Moment Correlation Coefficient for the statistical treatment.

RESULTS AND DISCUSSION

Level of Text Familiarity

Table 1. Level of Text Familiarity of Respondents

Variable	n	Mean	SD	Interpretation
Sex				
Male	83	17.70	5.98	Average
Female	124	19.79	4.75	High
School of Origin				
Private	110	18.48	5.85	High
Government	97	19.48	4.73	High
Parents' Educational Attainment				
College Graduate	142	18.68	5.37	High
Non-college Graduate	65	19.54	5.35	High
Specialization				
EIT	125	17.73	5.65	Average
MAH	82	20.82	4.31	High
As a Whole	207	18.95	5.37	High

As a whole, Grade 12 STEM students were found to have a high level of text familiarity. This means that the students exhibited very good text familiarity in terms of specialized vocabulary knowledge. When grouped according to sex, males showed an average level of text familiarity which means that their knowledge of specialized vocabulary is sufficient. However, females demonstrated a high level of text familiarity, which means they have acquired a greater knowledge of specialized vocabulary. These interpretations support the results of a study on sex differences in terms of specialized vocabulary knowledge. Females' total strategy usage percentages are higher than males, and this can be attributed to either differing vocabulary learning behaviors or different patterns of vocabulary strategy usage for

both sexes (Catalan, 2003). The level of text familiarity when respondents are grouped according to school of origin are both high. In this study, the mean scores of students who studied in government schools were slightly higher than that of students from private schools, and this shows a contradiction to a study on determining students' achievements in English, wherein the predicted performance of children in private schools is expected to be higher than predicted performance in government schools (Al-Natour & Hijazi, 2012). This could imply that school culture may not be a direct factor in the text familiarity level of students. Furthermore, students' level of text familiarity was high when they were grouped according to parent's educational attainment. This indicates that their parent's highest educational attainment may or may not be associated with students' level of text familiarity and depends on other probable factors. In terms of specialization, the level of text familiarity of STEM-MAH students is higher than that of STEM-EIT students. This could be attributed to the specialized text exposure of the students. To further enhance their text familiarity, certain factors still need to be considered. In a study by Wanpen, Sonkoontod, and Nonkukhetkhong (2013), which studied the technical vocabulary proficiencies of Engineering students, the findings revealed that students with an educational background in the vocational stream had higher technical vocabulary proficiencies than students whose educational backgrounds were in the general education stream.

Level of Reading Proficiency

Table 2. Reading Proficiency of Respondents

Variable	n	Mean	SD	Interpretation
Sex				
Male	83	17.42	8.20	Average
Female	124	20.10	7.25	Average
School of Origin				
Private	110	18.97	8.25	Average
Government	97	19.09	7.16	Average
Parents' Educational Attainment				
College Graduate	142	19.11	7.59	Average
Non-college Graduate	65	18.85	8.11	Average
Specialization				
EIT	125	17.18	7.21	Average
MAH	82	21.84	7.71	Average
As a Whole	207	19.03	7.74	Average

The findings in the level of reading proficiency of Grade 12 students indicate that there are still improvements to be made. Overall, their level of reading proficiency is average and may be acceptable, but the academic demands in college may need higher proficiency in language skills, especially in reading. When grouped according to sex, female respondents had a higher level of reading proficiency compared to males. This validates the results of a study by Khodadady and Dastgahian (2012) on participants' gender and field study in relation to their performance on an English language proficiency test where female test takers scored significantly higher than their male counterparts. When grouped according to school of origin, respondents from government schools scored slightly higher than those from private schools. This could mean that the reading background in government schools may sufficiently match that of private schools. This result also negates the comparative study by Perie, Vanneman, and Goldstein (2005) on the NAEP reading performance of Grade 12 students attending public and private schools where the reading performance of private schools were found to be higher than those of students from public schools. When grouped according to parent's educational attainment,

students with non-college graduate parents scored higher than those of respondents with college graduate parents which may indicate that parent's educational attainment may or may not affect the reading proficiency of students. There is little association between parents' occupation and attitudes to school. As cited in a study by Khoo and Ainley (2005), studies often find no association, although some find a small positive association.

Difference in the Level of Text Familiarity according to Variables

Table 3. Difference in the level of Text Familiarity According to Variables

Variable	n	M	t	df	P	Interpretation
Sex						
Male	83	17.70 (5.98)	2.794	205	0.006	Significant
Female	124	19.79 (4.75)				
School of Origin						
Private	110	18.48 (5.85)	1.344	205	0.180	Not Significant
Government	97	19.48 (4.73)				
Parent's Educational Attainment						
College Graduate	142	18.68 (5.37)	1.065	205	0.288	Not Significant
Non-college Graduate	65	19.54 (5.35)				
Specialization						
EIT	125	17.73 (5.65)	4.213	205	0.000	Significant
MAH	82	20.82 (4.31)				

The difference in the level of text familiarity when grouped according to sex is significant, which means that sex plays a role in the students' ability to familiarize specialized vocabulary. This can be attributed to their cognitive processes and personal learning strategies. This supports the findings by Catalan (2003) on vocabulary strategies used by both sexes. Females use more vocabulary strategies as compared to males. Vocabulary learning behaviors are different for males and females. This learning behavior can lead to females obtaining high scores on text familiarity in terms of specialized vocabulary knowledge. Because there is a significant difference in the level of text familiarity of STEM-EIT and STEM-MAH students, specialization is also a factor to be considered in text familiarity. This can be traced to the text exposure of the students, as STEM-MAH students' specialized subjects tend to focus more on science-based texts, which include more technical terms, while STEM-EIT students' specialized subjects dwell more on calculations and applied concepts.

Difference in the Level of Reading Proficiency according to Variables

Table 4. Difference in the Level of Reading Proficiency According to Variables

Variable	n	M	t	df	P	Interpretation
Sex						
Male	83	17.42 (8.20)	2.475	205	0.014	Significant
Female	124	20.10				

Table 4. Difference in the Level of Reading Proficiency According to Variables

Variable	n	M	t	df	P	Interpretation
		(7.25)				
School of Origin						
Private	110	18.97				
		(8.25)	0.111	205	0.912	Not Significant
Government	97	19.09				
		(7.16)				
Parent's Educational Attainment						
College Graduate	142	19.11				
		(7.59)	0.229	205	0.819	Not Significant
Non-college Graduate	65	18.85				
		(8.11)				
Specialization						
EIT	125	17.18				
		(7.21)	4.421	205	0.000	Significant
MAH	82	21.84				
		(7.71)				

The significant difference in reading proficiency in terms of sex means that sex should be considered in the development of text familiarity skills as females approach reading differently than males. This finding supports the study by Khodadady and Dastgahian (2012) on participants' gender and field study in relation to their performance on an English language proficiency test wherein the results state that female test takers' English proficiency is significantly higher than males. In terms of specialization, the significant difference is that reading approaches for STEM-EIT texts should match the way STEM-MAH texts are presented to the students.

Relationship between Text Familiarity and Reading Proficiency

Table 5. Relationship between Text Familiarity and Reading Proficiency

Variable			R	df	p	Interpretation
Text Familiarity	x	Reading Proficiency	0.675	205	0.000	Significant

This can be interpreted that text familiarity is associated with reading proficiency. The skill in familiarizing specialized vocabulary, which indicates text familiarity, significantly contributes to obtaining meaning from texts with general content. This affirms that vocabulary knowledge has a significant association with overall comprehension and is the key to reading proficiency (Fisher & Frey, 2014).

CONCLUSIONS

Findings of the study reveal that a high level of text familiarity connotes that the students have already achieved a certain level of specialized vocabulary knowledge that could potentially aid them in their exposure to discipline-aligned texts in college. A higher mean for text familiarity of the females compared to males can be attributed to biological factors. Students' background may have a direct influence on the students' ability to take in specialized vocabulary. Moreover, students who are more exposed to texts containing specialized vocabulary perform better in text familiarity tests.

On the other hand, an average level of reading proficiency suggests that students have already achieved acceptable reading proficiency, but they may still need enhancement to match the standards required

for academic reading in college. It also implies that there is a need to devise ways of improvement while considering all the factors that could influence their skills in reading.

A significant difference in the text familiarity with sex as a variable suggests that learning styles in terms of sex may play a role in the acquisition of specialized vocabulary and may indicate the need for strategies that will address the biological factors that influence students' perception of the learning of specialized vocabulary. Also, the difference in the levels of text familiarity in terms of specialization can be attributed to the extent of exposure that students have towards specialized vocabulary found in texts.

Also, a significant difference in the reading proficiency with sex as variable means that both sexes approach reading differently. Moreover, the difference in the level of reading proficiency in terms of specialization can be attributed to the differences in how teaching approaches are applied when discipline-related terminologies.

Finally, a significant relationship between text familiarity and reading proficiency shows that both language skills are strongly associated with one another. This means that text familiarity could potentially aid the students in acquiring reading proficiency, while reading proficiency is maximized through students' knowledge of specialized vocabulary.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the researcher recommends that teachers devise strategies anchored on the enhancement of vocabulary knowledge in specialized contexts and that the learning inclination of the learners is considered in their approaches.

Students should practice specialized vocabulary learning skills in class and take part in extensive reading to fully understand specialized academic content. They should use the familiarization of the text as a springboard for enhancing their reading proficiency.

It is recommended that the school heads and teachers work hand in hand to formulate a program that will address the needs of the learners in text familiarity and reading proficiency. The program should lean towards the intended outcomes of the current curriculum. It is also advised to update resources of learner content to ensure that learners acquire specialized vocabulary and valuable reading material while they are still in senior high school so that they may be ready for extensive reading of relevant academic texts in college.

Moreover, it is suggested that curriculum developers and instructional material designers compile an updated database of resources in enhancing text familiarity and reading proficiency that institutions can use in curriculum planning and implementation.

Lastly, future researchers should study more about task-based test-taking and whether they impact the accurate identification of learners' level of text familiarity and reading proficiency.

REFERENCES

Al-Natour, A., & Hijazi, D. (2012). Students Achievements in English at Jordanian Private and Public Schools and Parents Attitudes Towards Teaching Their Children at Private Ones: A Comparative Study. *Contemporary Issues in Education Research*, *5*(3), 205-214.

Anderson, A & Lynch, T. 2000. *Listening*. Oxford: Oxford University Press.

Bensoussan, M. (1998). Schema effects in EFL reading comprehension. *Journal of Research in Reading,* 213-227.

Brinton, D., Snow, M., & Wesche, M. (1989). Content-based second language instruction. New York: Newbury House.

Brinton, D. M. (2003). Snow&Wesche. *Content-Based Language Instruction [il. New York: Newbury House*.

Cabardo, J. R. (2015). Reading Proficiency Level of Students: Basis for Reading Intervention Program.

Catalan, R. M. J. (2003). Sex differences in L2 vocabulary learning strategies. *International Journal of Applied Linguistics*, *13*(1), 54-77.

Conley, D. T. (2005, October). Align High School with College for Greater Student Success. *The Education Digest*, 4.

Fisher, D., & Frey, N. (2014). Content area vocabulary learning. *The Reading Teacher*, *67*(8), 594-599.

Gilakjani, A. P., & Ahmadi, S. M. (2011). The Relationship between L2 Reading Comprehension and Schema Theory: A Matter of Text Familiarity. *International Journal of Information and Education Technology*, *1*(2), 142.

Hyland, K. (2003). *Second language writing*. Ernst Klett Sprachen.

Khodadady, E. (2012). Gender and field of study and performance on an English language proficiency test. *Theory and Practice in Language Studies*, *2*.

Khoo, S. T., & Ainley, J. (2005). Attitudes, intentions and participation. *LSAY Research Reports*, 45.

Murphy, J. M., & Stoller, F. L. (2001). Sustained-content language teaching: An emerging definition. *Tesol Journal*, *10*(2-3), 3-5.

Pulido, D. (2004). The effects of cultural familiarity on incidental vocabulary acquisition through reading. *The Reading Matrix*, *4* (2), 20–53.

Pulido, D. (2004). The relationship between text comprehension and second language incidental vocabulary acquisition: A matter of topic familiarity. *Language Learning, 54*(3), 469-523.

Salmani-Nodoushan, M. A. (2003). Text familiarity, reading tasks, and ESP test performance: A study on Iranian LEP and non-LEP university students. *The reading matrix*, *3*(1), 1-14.

Wanpen, S., Sonkoontod, K., & Nonkukhetkhong, K. (2013). Technical vocabulary proficiencies and vocabulary learning strategies of engineering students. *Procedia-Social and Behavioral Sciences*, *88*, 312-320.

Effect of Audio-Visual Instruction on Front Crawl Swimming Performance of First-Year BSMT Students

Joecil T. Solidarios

John B.Lacson Colleges Foundation-Bacolod, Philippines (joecil.solidarios@jblfmu.edu.ph)

ABSTRACT

Drowning is among the top ten leading causes of death worldwide. (Dandona et al., 2019). According to International Life Saving (2019), knowing how to swim and water safety proves to be of utmost importance to avoid the real danger of drowning. For this purpose, audio-visual instruction was designed and utilized by the experimental group in learning swimming. This study uses the pretest-posttest nonequivalent groups design to determine the audio-visual instruction's effectiveness on the swimming performance of the first-year students of a maritime college in the Philippines. The main instrument used in this study underwent face and content validation by experts teaching swimming and lifesaving using the criteria of Good and Scates and pilot-tested using Cronbach's alpha. Mean and Standard Deviation were used to determine the entry swimming skills and the mean gain between the two groups. Wilcoxon test was used to determine the difference between two paired groups. Mann-Whitney U test was used to determine the difference between the two independent groups' post-test results. It was concluded that using the audio-visual instruction material is very helpful for improving the students' skills and techniques in front-crawl swimming performance. It is recommended that a copy of the formulated audio-visual material should be shared with other swimming instructors. Further study for a more encompassing and dynamic assessment of water competence and drowning education that addresses the dynamic and complex nature of drowning in a self-directed approach is recommended as an alternative approach in the New Normal.

Keywords: Audio-visual, Instruction, Swimming improvement, Physical education

INTRODUCTION

Drowning is among the top 10 leading causes of death for children and young adults worldwide, with drowning death rates three times higher in low and middle-income countries. Even with the significant burden, drowning deaths remain a neglected public health problem in most developing countries (Dandona et al., 2019; Peden et al., 2019; Dasinger et al., 2020).

According to International Life Saving (2019), despite the number of swimming and lifesaving training and rescue and disaster operations available in many countries, about 1.2 million people worldwide drown every year. This is more than two persons per minute, with more than 50 percent being children. Hence, knowing how to swim and water safety proves to be of utmost importance to reduce the burden and real danger of drowning (Peden et al., 2017, Royal Life Saving, 2019; ILS, 2019).

However, learning to swim is challenging. Many children and adolescents cannot swim for various reasons (Pharr et al., 2018). Nevertheless, fear of drowning is a very common factor (Misimi et al., 2020). In this context, the need for educational institutions to properly educate young people in water competencies for survival needs to be emphasized. Swimming education of school-aged children and adolescents is based on their swimming skills, but the protective skills, self-confidence, self-rescue, and lifesaving competencies are crucial in preventing drowning (Rejman et al., 2020).

Front crawl swimming is one of the areas of concentration since this stroke is considered the easiest, efficient frontal swimming and one of the survival swimming strokes that can be used for a safe, healthy, and enjoyable interaction in the aquatic environment (ILS, 2019).

Being a maritime school, the John B. Lacson Colleges Foundation-Bacolod continues with its quest for excellence and commitment to providing a high standard of instruction and training to students to help them cope with the rapid changes, complexity, progress, and safety in today's educational system and demands in the maritime industry. Hence, it is important to increase awareness to change and develop learning media that can channel messages to students to create the learning process (Pane et al., 2018), particularly in Physical Education, where all subjects are offered in the curriculum are geared towards aquatics. Thus, swimming is a pre-requisite skill that students must learn and master for safety around the aquatic environment (RLS, 2019; ILS, 2019;) and in the practice of their profession in the near future.

Based on this premise, the researchers have become interested in coming up with instructional material that can augment the teaching-learning process in Physical Education. The researcher has observed the students' difficulty acquiring and mastering the basic skills and techniques essential for deep-water swimming survival. These observations have motivated the researcher to investigate and determine the effectiveness of front crawl swimming audio-visual instruction.

FRAMEWORK

This study is anchored on the field theory of Garner's Multiple Intelligence on Bodily-Kinesthetic, which states that the core element of intelligence is to control the various movements of the body and allow the individuals to use their complete body in solving problems, expressing ideas and feelings, and to control objects skillfully (Kelly, 2020).

Various experts in the field have suggested some performance measures that can be considered in assessing students' swimming skills. Swimmers with high bodily-kinesthetic intelligence have specific swimming driving actions, synchronization, and coordination in the water, which generates an internal change in the individual's motricity of muscles, balance, flexibility, dexterity, muscular strength, speed, and sensitivity in the performances (Ay et al., 2018; (Plăstoi, 2017). Students are guided on using various parts of their body and even the whole body towards desired physical actions (Ay et al., 2018). These highly differentiated and skilled ways in the performance of the front crawl swimming develop a high level of fitness, increase the efficiency in the deep-water swimming or total water competencies essential to resolve public health problems and survive in the aquatic environment (Rejman et al., 2020). Reyman et al. (2020) added that water competencies involve the individual's cognitive, affective, and psychomotor experiences with water environments, which enables them to effectively apply the necessary skills under varying conditions, including challenges caused by internal factors (e.g., emotions and fatigue) and external factors (e.g., specific swimming conditions like temperature, clothing, waves, currents, wind, etc.) to reduce the risk of drowning. Furthermore, Ortiz Olivar (2020) opined that attaining knowledge and behavioral experiences in a set of skills promote rational behavior in and around the water; hence, it is not sufficient to learn them. In the study of Stallman et al. (2017), using the front crawl offers speed when rapid movement is needed to get to safety quickly over a short distance or avoid hazards.

One teaching tool that may be utilized in developing students' swimming performance is audio-visual instructional materials. These materials are designed to provide essential information that is easy to understand. They may help the students learn independently, improving the fundamental movement patterns and techniques more quickly and without much presumption on their part. Audio-visual instructional materials can support students' learning and increase efficiency (Pane et al., 2018). Practicing these skills and techniques on the pool deck and in other land-based spaces during physical education class or at home may assist students' retention and skill development (Flynn et al., 2017). This conceptual thinking was supported by the study of Gabrilo et al. (2017), which found evidence that learning the gliding elements of the swimming technique (start, gliding, turning) and learning the front crawl swimming technique elements (leg kick, arm stroke, breathing, body position) is suitable for swimming improvement of novice swimmers. Likewise, these elements were supported by the study of Papadimitriou and Loupos (2021), who reasoned that front crawl swimming technique elements are valid and reliable for the young swimmers' techniques evaluation with high strength of association.

Guided by the theories and concepts discussed above, this experimental study aimed to investigate the effect of audio-visual instruction on the front crawl swimming performance of first-year BSMT students in an Experimental Group compared to that of students in the Control Group for whom no audio-visual instructional materials were used.

The front crawl swimming performance of the participants before and after the separate interventions was determined using a performance rubric in the following areas: breathing (position of the head and mouth when breathing), gliding, and body position (position of the body when performing the front crawl stroke), kicking (position and speed of the movement of the legs in coordination with the knees, hip, and toes), and arm stroke (hand entry and movement of arms in coordination with the elbow and shoulder). Figure 1 shows the schematic diagram of the conceptual framework.
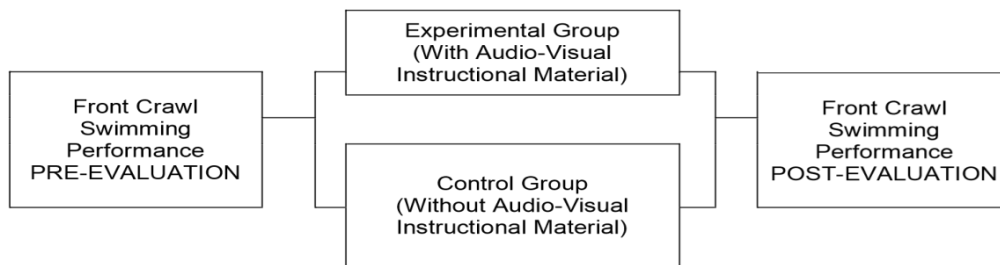
Figure 1. Schematic Diagram of the Conceptual Framework

STATEMENT OF THE PROBLEM

The study aimed to investigate the effect of audio-visual instruction on the front crawl swimming performance of the BSMT first-year students of John B. Lacson Colleges Foundation-Bacolod for the school year 2019-2020. The findings of this study can serve as bases for the utilization of audio-visual instruction in teaching front crawl swimming.

Specifically, it answered the following inquiries:

1. What is the entry swimming skills of the research participants in terms of
   a. Breathing;
   b. Gliding and body position;
   c. Kicking;
   d. Arm stroke?
2. What is the front crawl swimming performance of the control group (without audio-visual instruction) and the experimental group (with audio-visual instruction) before and after the interventions?
3. What is the mean gain between the control group and the experimental group?
4. Is there a significant difference in the following?
   a. Front crawl swimming performance of the control group before and after the intervention;
   b. Front crawl swimming performance of the experimental group before and after the intervention;
   c. Post-test results of the two groups; and
   d. Mean gain of the two groups?
5. What instructional material can be designed and proposed based on the findings of this study?

METHODOLOGY

The primary concern of this design is to determine the relative effectiveness of the audio-visual instruction in improving the students' front crawl swimming performance. To achieve this, the pretest-posttest nonequivalent groups design was applied. The effects of treatment are estimated by comparing outcomes of a treatment group and a comparison group but without the benefit of random assignment (Cooper et al., 2012). However, classifying the groups of student participants according to their initial

swimming competence in terms of breathing, gliding and body position, kicking, and arm stroke. In the pretest-posttest nonequivalent groups design, the treatment or experimental group is given a pretest, receives treatment for six weeks using the audio-visual instruction, and then a post-test. But at the same time, the control group is given a pretest, does not receive the audio-visual instruction, and then is given a post-test.

The participants were 36 students enrolled in Physical Education 1 subject from Bachelor of Science in Marine Transportation (BSMT) section Clove Hitch of the John B. Lacson Colleges Foundation-Bacolod during the first semester of 2019-2020. The participants were made to perform initial front crawl swimming as the basis for classifying the groups. The experimental group was composed of eighteen students exposed to front crawl swimming audio-visual instruction. Another eighteen students comprised the control group who were not exposed to audio-visual instruction.

The main instrument used in the conduct of the study was a researcher-made performance rubric to determine the front crawl swimming performance of the participants. There are four areas to consider: breathing, gliding and body position, kicking, and arm stroke. Each of the items is answerable with any of these responses: 5=Advanced (The action is excellent); 4=Proficient (The action is very satisfactory); 3=Approaching Proficiency (The action is satisfactory); 2=Developing (The action is fair); and 1=Beginning (The action is poor). For the statistical interpretation of data in the front crawl swimming competence of the participants, the following scale and interpretation were used:

Scale	Statistical Interpretation	Mean Gain	Interpretation
4.21-5.00	The action is excellent.	3.25-4.00	Very High
3.41-4.20	The action is very satisfactory.	2.45-3.20	High
2.61-3.40	The action is satisfactory.	1.65-2.40	Average
1.81-2.60	The action is fair.	0.85-1.60	Low
1-1.80	The action is poor.	0-0.80	Very Low

To ascertain the acceptability of the instrument and instructional material, an initial draft was given to five swimming and life-saving experts in physical education and computer for content and face validation. Series of consultations with this panel of experts was made. Their comments and recommendations were considered in the finalization of the instrument and instructional material. The research-made performance rubric was validated using the criteria of Good and Scates and obtained a mean score of 4.69, interpreted as very good and is considered valid (Rovai et al., 2014).

To test the reliability of the performance rubric, Cronbach's alpha was employed. The instrument was pilot-tested to 36 Bachelor of Science in Marine Engineering students other than the participants of John B. Lacson Colleges Foundation-Bacolod. The reliability test obtained an alpha coefficient r = 0.739, interpreted as acceptable (George & Mallery, 2003) or having high reliability (Rovai et al., 2014).

After establishing the validity and reliability of the instruments, an initial swimming performance was administered to the BSMT 1 students section Clove Hitch to determine the least swimming performance in terms of breathing, gliding, body position, kicking, and arm stroke in the selection of the participants.

The pretest was conducted, and the participants in both groups performed the 25m front crawl swimming. Then, the actual experiment was conducted for six weeks. The experimental group was exposed to audio-visual instruction, and the control group was not exposed to the said instructional material. After the 6-week instruction period, a post-test was conducted. The individual performance was evaluated using the performance rubric. Results of the pretest and post-test were subjected to statistical treatment using Statistical Packages for Social Sciences software.

Mean and Standard Deviation were used to determine the entry swimming skills and the mean gain between the two groups. Using the *Shapiro-Wilk test* for normality, the result showed significance with a p-value of 0.000. Thus, the data appears not normally distributed. Therefore, *the Wilcoxon test was*

used to determine the significant difference between the two paired groups. The Mann-Whitney U test was used to determine the significant difference between two independent groups in the post-test with an alpha level of significance set at 0.05.

RESULTS AND DISCUSSION

Entry Swimming Skills

As shown in Table 1, the control group having a mean rating of 1.78 and standard deviation of 0.86 was identified as "poor" in breathing; mean rating of 1.86 and standard deviation of 0.80 in gliding and body position; mean rating of 1.97 and standard deviation of 1.03 in kicking; and mean rating of 1.83 and standard deviation of 1.04 in arm stroke were identified "poor" in action. Likewise, the experimental group having a mean rating of 1.67 and standard deviation of 0.92 showed "poor" in breathing; mean rating of 1.92 and standard deviation of 0.79 in gliding and body position; mean rating of 1.92 and standard deviation of 0.79 in kicking; and mean rating of 1.87 and SD of 0.86 in arm stroke showed "fair" in action.

Table 1. *Participants' Entry Swimming Skills*

Variable	Control Group			Experimental Group		
	Mean	Interpretation	SD	Mean	Interpretation	SD
Breathing	1.78	The action is poor.	0.86	1.67	The action is poor.	0.92
Gliding and Body Position	1.86	The action is fair.	0.80	1.92	The action is fair.	0.79
Kicking	1.97	The action is fair.	1.03	1.92	The action is fair.	0.79
Arm Stroke	1.83	The action is fair.	1.04	1.87	The action is fair.	0.86

The entry swimming skills of the two groups, when taken as a whole was "fair." This can be attributed to varying conditions: fear and traumatic drowning experiences (Misimi et al., 2020), health and fitness-related conditions (Pharr et al., 2018), aquatic readiness, and aquatic environment (Rejman et al., 2020). This aquatic readiness and the aquatic environment were supported by the cognitive and constructivist theories of learning and motivation that an individual must realistically evaluate his/her own skills.

These ideas find support from the study of Rejman et al. (2020) that water readiness for adolescent girls requires swimming skills adaptation in a nonstandard condition. In contrast, aquatic education for boys needs to focus on developing self-reflection and promoting the use of acquired skills in and around water. It would appear that all adolescents need more comprehensive aquatic education. The students' water readiness and environment should be considered in developing a comprehensive swimming training plan to develop the students' front crawl swimming skills and techniques.

Moreover, the study of Rocha (2018) showed that shallow water lessons generate greater aquatic competence, particularly in five basic aquatic skills: breath control with face immersion and eye opening; horizontal buoyancy; body position at ventral gliding; body position at dorsal gliding; leg kicking with breath control at ventral body position without any flutter device. The body position at longitudinal rotation in gliding was nearly learned in both conditions. Thus, the beginner's level aquatic skills should be learned in a shallow water swimming pool. In contrast, deep-water training should be carefully planned to stimulate body gliding and improve swimming performance.

Front Crawl Swimming Performance of the Control Group and the Experimental Group before and after the Intervention

As reflected in Table 2, the results of the study showed that the pre-performance result of the control group in front crawl swimming has a mean rating of 1.86 and standard deviation of 0.86, interpreted as "fair." Likewise, the pre-performance result of the experimental group in front crawl swimming has a mean rating of 1.85, and a standard deviation of 0.80 was identified as "fair." The students'" pre-performance of the front crawl swimming turned out to be in the developing stage where the coordination; and basic movement patterns and techniques were not properly executed.

Table 2. *Front crawl swimming performance of the CG and the EG before and after the intervention*

Group	n	Mean	SD	Interpretation
Before				
Control Group (Without Audio-Visual Instruction)	18	1.86	0.86	Fair
Experimental Group (With Audio-Visual Instruction)	18	1.85	0.80	Fair
After				
Control Group (Without Audio-Visual Instruction)	18	3.85	0.45	Very Satisfactory
Experimental Group (With Audio-Visual Instruction)	18	4.59	0.18	Excellent

Furthermore, the post-performance result of the control group in front crawl swimming has a mean rating of 3.85 and a standard deviation of 0.45 interpreted as "very satisfactory." However, the post-performance result of the experimental group in front crawl swimming has a mean rating of 4.59 and a standard deviation of 0.18 interpreted as "excellent."

The students' post-performance of the front crawl swimming turned out to have improved. This may be attributed to the fact that audio-visual instruction provides instructional model responsible for motivating and guiding the students to learn underlying concepts and techniques in learning swimming (Heri et al., 2020). Furthermore, it provide support until the students become self-regulated in learning simple to complex tasks and achieve task independence (Pane et al., 2018; Giannousi et al., 2017). Hence, the students develop new movement patterns with exact action presentation for the efficient front crawl swimming performance.

Mean Gain between the Control Group and Experimental Group

As indicated in Table 3, the mean gain of the control group registered "average," having an average rating of 1.99 and a standard deviation of 0.75. In contrast, the experimental group reflected" high" with an average rating of 2.74 and a standard deviation of 0.97.

Table 3. *Mean Gain between the Control Group and Experimental Group*

Group	n	Mean Gain	SD	Interpretation
Control Group (Without Audio-Visual Instruction)	18	1.99	0.75	Average
Experimental Group (With Audio-Visual Instruction)	18	2.74	0.97	High

This result implies that both groups improved their swimming performance after the intervention. The EG's mean gain was reported higher than the CG"s average mean gain. These results can be attributed

to conducting a six-week swimming training workout for the control and experimental groups, which provides a concrete basis for conceptual thinking of the basic patterns and techniques in the performance of exercises (Walker, 2016). The same source added that exercises must be selected based on their functionality and usefulness. He further explained that once the brain has formed a pattern, it will repeat it over and over in the same way. Changing the pattern once will require more performance with an estimation of 10 times with the initial number of repetitions in a new way to over-write the existing pattern. It has been estimated that it takes about 300 repetitions to ingrain a new movement pattern depending on its complexity. Hence, the students using the audio-visual instruction are guided on using various body parts towards desired physical actions.

Differences in the Front Crawl Swimming Performance of the Control Group and Experimental Group before and after the Intervention

The study further aimed to determine if significant differences exist between the PRE and POST front crawl swimming performance of the control and experimental groups. For this purpose, the Wilcoxon test was used with an alpha level of significance set at 0.05. Table 4 reveals that a significant difference existed between the two variables in the front crawl swimming performance of the control group with $(Z = 3.724, p<0.05)$.

Table 4. *Difference in the front crawl swimming performance of the CG before and after the intervention*

Intervention	n	Mean	SD	Z	P
Before	18	1.86	0.86	3.724	0.000*
After	18	3.85	0.45		

*p<0.05, significant

Likewise, Table 5 reveals a significant difference between the two variables in the front crawl swimming performance of the experimental group with $(Z = 3.42, p<0.05)$.

Table 5. *Difference in the front crawl swimming performance of the EG before and after the intervention*

Intervention	n	Mean	SD	Z	P
Before	18	1.85	0.80	3.42	0.000*
After	18	4.59	0.18		

*p<0.05, significant

These results imply that the instructional approaches and training workouts significantly improved the front crawl swimming performance of the two groups. However, closer scrutiny of the result showed that the experimental group performed significantly better after the intervention. The significant improvement in the front crawl swimming performance of the experimental group can be attributed to audio-visual instruction. This is supported by the study of Plăstoi (2017), pointing out the theoretical transmission of information through a visual-auditory transfer to obtain a bodily-kinesthetic expression . Furthermore, in the study of Ay et al. (2018), students' bodily-kinesthetic intelligence level and skills performance level in all Physical Education swimming courses showed a significant relationship. Hence, the information presented by the audio-visual instruction facilitates the learning of new movements and specific technical mechanisms with the positive long-term effect.

Difference between the Post-test Results of the Control Group and Experimental Group

The post-test front crawl swimming performance difference between the CG and the EG was determined utilizing the Mann-Whitney U test, set at 0.05 alpha level. Table 6 shows that a significant difference exists in the post-test performance of the CG and the EG in front crawl swimming with $(Z = 3.954, p<0.05)$.

Table 6. *Difference between the post-test results of the control group
and the experimental group*

Group	n	Mean	SD	Z	P
Control Group (Without Audio-Visual Instruction)	18	3.85	0.45		
Group (Audio-Visual Instruction)	18	4.59	0.18	3.954	0.000*

p<0.05, significant

Based on this finding, both training plans seem to be effective tools; however, the training using audio-visual instruction was found to be more effective in improving the front crawl swimming performance.

This idea finds support from the study of Pîrjol and Răsădean (2019) and Pane et al. (2018), which pointed out that a well-designed training plan develops a high level of physical fitness, improves specific motor skills, enhances basic skills and techniques in front crawl swimming.

Moreover, audio-visual instruction as one of the multimedia technologies improves the physical quality of teaching and effect (Metwaly, 2016). She added multimedia technology could expand students' thinking and improve their ability to observe, analyze, imitate, and dispose of problems. Physical teaching becomes easier because multimedia technology can slow, freeze and magnify pictures and videos, making it simple to explain complex tasks and new movement patterns with exact action presentation. In this context, this audio-visual learning media is very effective in learning freestyle swimming strokes. It provides essential and substantial messages to the students, creates a venue for an effective learning process, and is used as independent learning material (Pane et al., 2018).

Difference between the Mean Gain of the Control Group and the Experimental Group

The difference between the mean gains of the two groups was determined using the Mann-Whitney U test set at 0.05 alpha level. Table 7 shows a significant difference between the mean gain of the control group and experimental groups with (Z = 2.614, p<0.05).

Table 7. *Difference between the Mean of the CG and the EG*

Group	n	Mean	SD	Z	P
Control	18	1.99	0.75		
Experimental	18	2.74	0.97	2.614	0.001*

p<0.05, significant

Table 7 reveals that students in the experimental group have significantly improved their front crawl swimming performance. This result can be attributed to the use of audio-visual instructional material in front crawl swimming.

According to Pîrjol and Răsădean (2019), the quality of motor skills in a well-designed training plan will significantly improve swimming techniques and performance. Hence, the positive change or a better body positioning of the head, hands, forearms, and legs, and improve kicking, arm stroke, and breathing techniques have greatly improved the students' front crawl swimming performance.

CONCLUSION

Using the audio-visual instruction material is very helpful for improving the students' skills and techniques in front-crawl swimming performance.

RECOMMENDATIONS

It is recommended that a copy of the formulated audio-visual material should be shared with the swimming instructors for their students' utilization. Further study for a more encompassing and dynamic assessment of water competence and drowning education that addresses the dynamic and complex nature of drowning in a self-directed approach is recommended as an alternative approach in the New Normal.

REFERENCES

Dasinger, T. M., Brown, L. L., & Sawyers, A. J. (2020). Examining Minority Youth Swimmers' versus Non-Swimmers' Perceptions of Swimming Involvement. *International Journal of Aquatic Research and Education*, *12*(4), 6.

Gabrilo, G., Orlović, A., & Miličić, M. (2017). What Makes Greater Impact on the Swimming Results, Gliding Elements, or Swimming Elements? *Act a Kinosiologica 11*(2), 90-92.

George, S., Kumar, A. & Dandona, L. (2019). Risk profile for drowning death in children in the Indian State of Bihar: results from a population-based study. *Injury prevention, 25*(50, 364-371.

George, D., & Mallery, P. (2003). SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.). Boston: Allyn & Bacon.

Giannousi, M., Mountaki, F., & Kioumourtzoglou, E. (2017). The effects of verbal and visual feedback on performance and learning freestyle swimming in novice swimmers. *Kinesiology*, *49*(1).

Heri, Z., Retno, P., & Hasibuan, M. N. (2020, March). Audio Visual Learning Media Tutorial: Development for Basic Swimming Subject Sports Coaching Education at the Faculty of Sport Science, Medan State University. In *1st Unimed International Conference on Sport Science (UnICoSS 2019)* (pp. 138-140). Atlantis Press.

International Life Saving. (2019). *Drowning Facts and Figures.* https://www.list.org/drowning-factsand-figures/

Kelly, Melissa. (2020, August 27). Understanding the Meaning of Bodily-Kinesthetic Intelligence. Retrieved from https://www.thoughtco.com/bodily-kinesthetic-intelligence-8090

Metwaly, D. (2016). The effects of multimedia computer-assisted instruction on learning the basic swimming skills for physical education students. *Ovidius University Annals, Series Physical Education and Sport, Science, Movement and Health*, *16*(1), 49-53.

Misimi, F., Kajtna, T., Misimi, S., & Kapus, J. (2020). Development and validity of the fear of water assessment questionnaire. *Frontiers in psychology*, *11*, 969.

Mujika I., Crowley E. (2019) Strength Training for Swimmers. In: Schumann M., Rønnestad B. (eds) Concurrent Aerobic and Strength Training. Springer, Cham. https://doi.org/10.1007/978-3-319-75547-2_25

Ortiz Olivar, A. I. (2019). Creativity, Experience, and Reflection: One Magic Formula to Develop Preventive Water Competences. *International Journal of Aquatic Research and Education*, *12*(2), 1.

Pane, A. D. P., Akhmad, I., & Hasibuan, S. (2018, December). Development of Learning Media Tutorial on Audio-Visual. In *3rd Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2018)* (pp. 769-773). Atlantis Press.

Papadimitriou, K., & Loupos, D. (2021, September). The Effect of an Alternative Swimming Learning Program on Skills, Technique, Performance, and Salivary Cortisol Concentration at Primary School Ages Novice Swimmers. In *Healthcare* (Vol. 9, No. 9, p. 1234). Multidisciplinary Digital Publishing Institute.

Peden, A. E., Franklin, R. C., & Clemens, T. (2019). Exploring the burden of fatal drowning and data characteristics in three high-income countries: Australia, Canada, and New Zealand. *BMC Public Health*, *19*(1), 1-12.

Peden, A. E., Franklin, R. C., & Scarr, J. (2017). Measuring Australian children's water safety knowledge: the national water safety quiz. *International Journal of Aquatic Research and Education*, *10*(2), 4.

Pharr, J., Irwin, C., Layne, T., & Irwin, R. (2018). Predictors of swimming ability among children and adolescents in the United States. *Sports, 6*(1), 17. doi:http://dx.doi.org/10.3390/sports6010017

Pîrjol, D. I., & Răsădean, M. (2019). Study regarding the development of the front crawl and backstroke swimming techniques in children aged 7-10. *Timisoara Physical Education and Rehabilitation Journal*, *12*(22), 26-31.

Plăstoi, C. D. (2017). The theory of multiple intelligences and their impact on learning specific movements in swimming. *Bulletin of the Transilvania University of Brasov. Series IX, Sciences of Human Kinetics*, *10*(1).

Rejman, M., Kwaśna, A., Chrobot, M., Kjendlie, P. L., & Stalmann, R. K. (2020). Perceived versus real swimming skills of adolescents under standard and challenging conditions: Exploring water competencies as an approach to drowning prevention. *International journal of environmental research and public health*, *17*(11), 3826.

Rocha, H. A., Marinho, D. A., Garrido, N. D., De Sousa Morgado, L., & Costa, A. M. (2018). The acquisition of aquatic skills in preschool children: deep vs. shallow water swimming lessons. *Revista Motricidade*, *14*, 66-72.

Rovai, A. P., Baker, J. D., & Ponton, M. K. (2014). Social Sci. *Research Design and Statistics: A Practitioner's Guide to Research Methods and IBM SPSS Analysis. Chesapeake, VA: Watertree Press LLC*.

Royal Life Saving. (2019). *Swim and Survive*. https://www.royallifesaving.com.au/educate-participate/swimming/swim-and-survive

Stallman, R. K., Moran Dr, K., Quan, L., & Langendorfer, S. (2017). From swimming skill to water competence: Towards a more inclusive drowning prevention future. *International Journal of Aquatic Research and Education*, *10*(2), 3.

Walker, O. (2016). *Basic Movement Patterns*. https://www.scienceforsport.com/basic-movement-patters/

A Study on the Effect of the Operating Developmental Academic Advising Seminar for First-Year University Students

Jihoe Park[1] and Jang wan Ko[2]

[1]*Chungwoon University, Korea (jihoe27@chungwoon.ac.kr)*
[2]*Sungkyunkwan University, Korea (jakosu@skku.edu)*

ABSTRACT

The purpose of this study is to analyze the effects of the "Developmental Academic Advising Seminar" for first-year university students that were developed based on student engagement. For this, the following three stages were taken. First, this study reviewed previous literature on academic advising and designed a developmental academic advising seminar centered on student engagement. Second, the seminar was provided to first-year university students for two hours per week for the first five weeks at "A" University in the Seoul metropolitan area. Third, the differences before and after the seminar participation were analyzed through the response sample t-test after conducting pre- and post-test on learning motivation and educational effectiveness for participants. In addition, through interviews, the effect of seminar operation was investigated in terms of quality. The research results were as follows. First, developmental academic advising seminars showed a positive effect on increasing learning motivation, helping academic and career design, and improving satisfaction of faculty teaching methods and educational content. Second, academic advising focused on diverse student activities, helping with self-reflection and understanding of others. The results of this study suggest that teaching first-year university students should be conducted based on presentations and discussions focusing on student engagement, professional academic advising on self-reflection, and academic and career path designing, which are closely related to university life, rather than professor-centered lectures. However, this study has limitations in generalizing the research results due to the small number of samples. Nevertheless, this study is meaningful in that it was analyzed for a small group of freshmen to analyze the contents of individual students' learning motivation and changes in educational effectiveness.

Keywords: Developmental Academic Advising, First-Year University Student, Student Engagement, Learning Motivation, Education Effect

INTRODUCTION

Recently, with the advent of the 4th industrial revolution, the Korean universities are facing numerous issues such as a decrease in the college-age population, an increase in the dropout rate, and the forced external evaluations by the government. Thus, Korean universities have been developing various curriculums for the satisfaction of students to foster talented students. Discussion and practice are being expanded to solve these issues. In this regard, one of the choices taken by Korean universities is to strengthen education for freshmen, and they are expanding seminar courses to support freshmen to successfully adapt to university life.

The first-year student seminar has been found to be a positive factor in enhancing students' satisfaction with the university and strengthening sense of belonging in social and academic fields, and is also introduced as high impact program (Hendel, 2007; Kuh, 2009). Students' participation in learning is encouraged through freshman seminars, which include clear and organized class, student-faculty interaction, active learning, interaction with peers, academic challenge, high expectations, integration of learning and experience, inside and outside class experience, etc. (Chickering & Gamson, 1987; Pascarella et al, 2004; Pascarella et al., 2006). These activity-based seminars motivate and enable participation of freshmen by challenging activities (Padgett et al., 2013).

In the case of the United States, the educational value of freshman seminar is being discussed as a useful means to improve the academic achievement of first-year students in general, and many universities are opening seminars (Policy Center on the First-Year of College, 2002; Padgett & Keup, 2011). In Korea, the number of seminars for new students has been increasing since 2015. It is operated as an academic advising that helps students to strengthen their individual competency through university studies. It is recommended that the seminar for freshmen in Korean universities be completed in the first and second semesters after admission, and 1 to 2 credits are given. Although the P/F method is generally used for grades, there are universities that apply relative evaluation (Kim & Cha, 2018). In addition, seminars are operated either offline or online depending on the university's situation, and based on interactions with faculty, information on university life as well as department majors are introduced to students.

Although there are differences in how each university operates seminars, it has educational significance in that it promotes educational effects by interaction between students and faculty. However, despite the fact that the purpose of seminars is focused on academic advising that provides various information and counseling aimed at the cognitive and affective growth of students (Lowenstein, 1999), in some universities, internal problems are being raised because the professors conduct classes by simply delivering academic information, provide unclear curriculum, without counseling on college life and career information that students need. There is a lack of understanding of professors in charge of actual seminars regarding the individual characteristics and direction of development of students (Park, 2019).

As the first-year university experience determines the four year of university life, it is important for the university to improve the learning motivation of new students through seminars, induce continuous learning experiences, and increase various educational outcomes (Park, 2019). To this end, the university should help students experience meaningful university life and achieve educational outcomes during their freshman year. In addition, it is necessary to provide 'developmental academic advising' to support student growth so that university studies and career planning can be carried out effectively. Therefore, the purpose of this study is to design and operate a 'developmental academic advising seminar' centered on student engagement in order to support the growth and development of freshmen in college, and to verify its effectiveness. To this end, the literature on student growth, student engagement, and developmental academic advising was reviewed, and a developmental academic advising seminar centered on student activity was designed and operated, and its effectiveness was analyzed, and implications were derived.

LITERATURE REVIEW

Student Growth and University Education
The growth of university students needs to be considered from a psychosocial perspective. Related to student growth, Chickering and Reisser (1993) suggested the seven vectors(developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, developing integrity) as follows. First, developing competence means to enhance intellectual, physical, manual, and interpersonal competence; second, managing emotions means to develop awareness and acceptance of emotions (not eliminate emotions); third, moving through autonomy toward interdependence means improvement the function with self-sufficiency and self-direction; fourth, developing mature interpersonal relationships means to have tolerance and appreciation of differences and improve capacity for intimacy; fifth, establishing identity means the comfort with body and appearance, sense of self in a social, historical, and cultural context, Clarification of self-concept through roles and lifestyle, Self-acceptance and self-esteem, etc.; sixth, developing purpose means directions of vocational plans and aspirations, personal interests, interpersonal and family commitments; seventh; developing integrity means to enhance humanizing values, personalizing values. These vectors encompass personal and social dimensions and are organically connected to each other.

In addition, Chickering and Gamson (1987) emphasized seven principles of university education to support student growth as follows. First, the qualitative interaction between students and faculty can

improve student involvement and motivation in learning; second, the cooperative relationship between students controls the sense of competition and isolation and affects the development of knowledge; third, an active learning attitude in which students try to speak and apply what they have learned at class affects the development of knowledge; fourth, appropriate and immediate feedback from instructors affects learners' knowledge development; fifth, effective time management for students' self-learning has a positive effect on students' active participation and realization of self-directed ability; sixth, expectations and interest in students of universities and professors affect students' learning outcomes and satisfaction; seventh, the excellent and various education of universities affects the promotion of desirable learning experiences for students. The primary features of these emphasized interaction with others and students' self-directed learning efforts. In addition, it has showed that university experience affects students' learning motivation, continuous learning activity, and cognitive/affective growth.

Student Engagement and Learning Motivation

Student engagement is one of the factors shown empirically in learning process to improve student success at higher education institutions. Student engagement is conceptualized as active participation in learning, the amount of time invested, and the quality of effort (Astin, 1984; Fredricks & McCloskey, 2012; Kuh, 2009). This is discussed as a concept including the characteristics of emotional aspects beyond simple participation (Harper & Quaye, 2009). The types and characteristics of student engagement are diverse and sometimes divided into behavioral, cognitive, emotional, and proactive participation (Fredricks et al., 2004; Reeve, 2012). Student engagement is being introduced as a factor predicting growth of students in connection with meaningful educational activities (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993), and is utilized indicator of the outcomes of university education. Furthermore, students' self-directed learning activities affect knowledge development (Chickering & Gamson, 1987; Pascarella, 1985), and college students' learning and non-learning experiences affect students' cognitive and affective outcomes and education satisfaction (Ko et al., 2011).

In this regard, Pass (2013) suggested the methods for instructors to increase student engagement in learning. The methods are to respect the autonomy of the students, to give them the opportunity to choose assignments, to use extrinsic motivations, and to provide them with opportunities for challenging activities that they can achieve. In several studies, it has showed that the more actively they participate in the learning when students perceive the relationship with faculty positively (Kim & Kim, 2014; Gregory & Weinstein, 2004). Moreover, the faculty's embrace of students stimulates interest in learning and promotes class participation of students (Sakiz et al., 2011; Tschannen-Moran & Hoy, 2001). Therefore, it can be seen that student participation in class is related to the promotion of learning motivation.

Motivation is generally defined as an internal state that triggers, directs, and sustains behavior, and is closely related to learning. In this regard, Keller (1993) suggested attention, relevance, confidence, and satisfaction as four conditions to promote learning motivation. Attention is arousing and sustaining learners' interest, and a strategy for pursuing change is required to evoke perceptual and exploratory awakening. Relevance is to enable learners to recognize that the content covered in class can be linked to learners' interests, goals, and experiences, and it is necessary to instruct the learners to feel the necessity of learning and the value of educational content. Confidence requires a strategy that provides opportunities for participation and instills confidence so that learners can experience achievement through challenges. Satisfaction is to allow learners to feel satisfied with their experiences and achievements in relation to the class. The effectiveness of the ARCS model has been proven in various educational situations (Keller, 1983).

Therefore, various learning activities in universities should be designed in such a way that the instructor enhances the students' motivation and promotes continuous learning participation in the process of interaction between the instructor and the learner. It also suggests that it is necessary to examine the relationship with expected educational outcomes.

Development Academic Advising

Academic advising at a university is education that provides various learning information and counseling to support students' cognitive and affective growth. It is an integrated instructional process that focuses on potential and supports of student. Academic advising is divided into prescriptive advising and developmental advising. Prescriptive advising means providing students with information such as course selection, course registration, and graduation requirements (Gordon et al., 2000). Developmental advising means teaching in such a way that professors and students share responsibility, solve problems together, and develop students' potential (Crookston, 1972). Especially developmental advising effectively provides help to students to achieve their personal, professional, and educational goals, and supports their quest to improve their quality of life. It also focuses on developing attitudes and abilities for students to share concerns with the academic community and promote intellectual growth and personal maturity. It is closely related to students' self-reflection, career and life goal setting, meaningful interpersonal relationships, improving critical thinking, and decision-making (Creamer & Creamer, 1994; Crookston, 1972). Some research has shown that academic advising, as an effective resource on university campuses, affects student retention, especially during the first year of enrollment (Drake, 2011; Fowler & Boylan, 2010; Klepfer & Hull, 2012). In addition, students showed satisfaction when they experienced congruence in the advising type used and their preference. In particular, students who experienced developmental academic advising showed a higher satisfaction than those who received prescriptive advising (Hale, Graham, & Johnson, 2009). Therefore, developmental advising that helps students' achievement and growth is needed rather than prescriptive guidance that provides administrative information of the university.

METHODS

Research Design and Sample

This study was conducted to design and operate a "developmental academic advising seminar" centered on student engagement to support the growth and development of first-year students, and to verify the effectiveness. To achieve the purpose of this study, an academic advising seminar focused on student engagement was designed based on literature review. As motivation was important for student engagement in the seminar process, the academic advising seminar was designed based on Keller's ARCS model. The themes of developmental academic advising were set to self-reflection, learning design, and career exploration, and a teaching-learning strategy was applied to promote student attention, relevance, confidence, and satisfaction. Specifically, related cases were presented, and personality diagnoses were conducted and interpreted in the classroom so that students could concentrate on academic advising and have relevance. In addition, the learners set their own learning plans so that they could experience achievement with confidence in their learning activities and guided them to make steady implementation and reflection.

To examine the effectiveness of the seminar, we conducted pre- and post-tests on learning motivation and educational effectiveness on 13 students participating in the seminar. The students who participated in the research were 5 males and 8 females, and they were all first-year students who have not decided on a specific major since entering the department of social-science1. All of them were 20 years old and living in the metropolitan area. In addition, this study conducted interviews with students who participated in the seminar in order to supplement the qualitative factors that are difficult to find out in quantitative analysis. In this study, in order to obtain data for difference verification, a pretest was conducted before the first session of the developmental academic advising seminar. Afterwards, the researcher conducted a developmental academic advising seminar for 5 weeks, 2 hours per week, from September 6 to October 4, 2019. Specific research design information is as follows.

---

1 University A, introduced in this study, selects new students through an undergraduate system centered on humanities, social, and engineering, organizes a group of about 20 freshmen in each department, and conducts student management. In this study, a developmental academic advising seminar was applied to one of the freshman groups (total of 20) at University A.

Pre-survey	learning motivation (attention, relevance, confidence, satisfaction), educational effectiveness (academic, career) measurement

		Developmental Academic Advising Topic		
Seminar Progress		Self-Reflection (Week 1)	Academic Design (Week 2-3)	Career Exploration (Week 4-5)
	detailed topic	Understanding self and others through personality type diagnosis and interpretation	Short-term, mid-to-long term academic design during university life	Career design after graduating from university
	learning activities	- Exploring the self-portrait of personality - Designing learning plan for successfully adapt to college life	- Establishment of reading plan and practice - Learning plan and goal setting for each subject	- Create my wish list - Development of career-linked SWOT strategy - Career readiness test
	common	Create and submit a university life portfolio (weekly activity form provided) Report and certify the learner's self-learning plan practice in the online chat room Instructor feedback support on activities		

Post-survey & interview	learning motivation (attention, relevance, confidence, satisfaction), educational effectiveness (academic, career) measurement

Figure 1: Research Design

Variables

This study used a questionnaire tool to measure students' learning motivation and perception of educational effects on learning and career before and after activities in developmental academic advising seminars. Educational effectiveness was measured by examining whether a developmental academic advising seminar was helpful for students' academic and career development. Each item was measured on a Likert 5-point scale, and as a result of testing Cronbach's alpha of the learning motivation sub-variable, all of them showed good values of 0.7 or higher.

Table 1. Survey Items

		Item	Cronbach's alpha
educational effectiveness		Developmental advising seminars are helpful in academic design and university study.	-
		Seminars are helpful in career exploration and design.	-
learning motivation	attention	I can concentrate well in seminar.	.911
		I have intellectual curiosity in seminar.	
		I find the content of seminar interesting.	
		The various class materials provided in the seminar arouse my interest.	
	relevance	I think seminar are related to my university life.	.785
		I think the seminar content is related to my future career preparation.	
		I think the seminar content is practical knowledge.	
		I feel a sense of belonging or security in a seminar.	
		The content of the seminar feels familiar to me.	
	confidence	I have confidence in my seminar.	.831
		I have the prior knowledge required for a seminar.	
		I have a strategy for successfully accomplishing seminar.	
		I have a decent challenge in a seminar.	
		I expect to get good grades in seminar.	
		I believe that the results of seminar are determined by my efforts.	
	satisfaction	I am satisfied with the seminar.	.941
		I feel a sense of accomplishment in the seminar.	
		I get a lot of compliments and rewards from seminar.	
		I am proud of the seminar class results.	
		I think the seminar are being conducted fairly.	

Analysis

This study used survey data from 13 students who participated in developmental academic advising seminars for analysis. Using version 25 of SPSS, a paired sample t-test was conducted to find out the difference between learning motivation and educational effect before and after the seminar, and the statistical significance level was set to P-value 0.05. In addition, the interview content analysis was conducted to supplement the qualitative factors that are difficult to find out in quantitative research. In the interview at the time, the researcher asked two main questions. 1) What did you feel while participating in the seminar? 2) What is the need for university support for adaptation to university life and improvement of satisfaction?

Limitations

This study has limitations in generalizing the contents of the study because the seminar was conducted for only one group of 13 social studies students among the freshman group at University A and the effectiveness was analyzed. In addition, academic advising at universities usually lasts 15 weeks, but the duration of the seminar in this study is different because it was conducted experimentally for only 5 weeks. This suggests the possibility of flexible operation of the seminar.

RESULTS

Descriptive Analysis

The results of descriptive analysis of research variables based on data collected from 13 freshmen prior to the developmental academic advising seminar are as follows. The mean of the variables ranged from 2.620 to 3.165. And the skewness ranged from -.528 to .982 and the kurtosis range from -.316 to .799, satisfying the normal distribution assumption.

Table 2. Result of descriptive statistical analysis

	educational effectiveness		learning motivation			
	academic design and university study	career exploration and design	attention	relevance	confidence	satisfaction
M	2.770	2.620	2.673	2.754	3.154	3.077
SD	.832	.870	.813	.654	.622	.866
skewness	-.528	.032	-.019	.225	.982	.571
kurtosis	.519	-.316	.016	.074	.234	.799

Analysis of Developmental Academic Advising Seminar

A paired sample t-test was conducted to verify the difference in how students' learning motivation and educational effectiveness change before and after participating in the developmental academic advising seminar. As a result of the analysis, the areas showing statistically significant differences at the significance level of $p<.05$ shows in educational effectiveness on academic and career and the factors of attention, relevance, and satisfaction that constitute learning motivation. That is, through the developmental academic advising seminar, the effects on students' academic design and career exploration were statistically significantly improved, and the level of attention, relevance, and satisfaction, which constitute learning motivation, also increased.

Table 3. Differences pre and post participating in the developmental academic advising seminar

		test	M	SD	t	df	P-value
educational effectiveness	academic design and university study	Pre	2.77	0.83	-2.92	12	0.13
		Post	3.46	0.78			
	career exploration and design	Pre	2.62	0.87	-2.99	12	0.11
		Post	3.38	0.87			
learning motivation	attention	Pre	2.67	0.81	-3.15	12	0.01
		Post	3.29	0.76			
	relevance	Pre	2.75	0.65	-3.56	12	0.00
		Post	3.45	0.70			

confidence	Pre	3.15	0.62	-0.64	12	0.54
	Post	3.24	0.58			
satisfaction	Pre	3.08	0.87	-2.24	12	0.04
	Post	3.45	0.64			

Interview Analysis

This study conducted interviews with students who participated in the seminar in order to supplement the qualitative factors that are difficult to find out in quantitative research. As a result, students recognized that the academic advising seminar consisting of self-understanding, academic design, and career design was helpful in acquiring the content necessary for college life. It was found that the students became aware of the academic design knowledge related to university study and were interested in the course being conducted on a clear topic. Moreover, through the process of self-reflection and sharing with others, not only gain confidence, but also increase empathy and understanding of others, and it was confirmed that it was helpful in forming interpersonal relationships.

In addition, it was found that the students were satisfied with the class operation method centered on presentation and discussion, and they also got help in improving their study habits based on the sharing of the self-planning practice carried out through SNS outside of class. Such learning activities appear to have contributed to not only expanding the learning experience inside and outside the classroom, but also increasing the continuous attention and relevance of the content covered in the seminar. It was also found that they perceived positively that they were able to interact with the instructor at any time.

On the other hand, in relation to the developmental academic advising seminar, as a necessity for university support, it was proposed to increase interaction with peers, to provide continuous university academic information, and support for places where students can interact with members of the university. This can be linked to the improvement of the university's support environment and suggests the need to provide sufficient information at the prescriptive aspect. Such academic information is expected to be effective for students in acquiring the academic information if the academic advisor frequently provides academic information such as course selection, course registration, and graduation requirements in terms of providing information.

DISCUSSION AND CONCLUSION

It is reported that the effect of the seminar for new students centered on academic advising that supports students is related to the cognitive and affective growth of students, such as college life adaptation, learning skills, development of thinking skills, and career design. In particular, the substantial operation of the freshman seminar serves as a positive factor in improving students' college satisfaction and strengthening their sense of belonging, thereby enhancing educational effects (Hendel, 2007; Kuh, 2009). However, rather than directly affecting learning outcomes such as academic achievement, professional academic advising motivates students to learn and encourages participation in learning, and it appears that this learning participation is closely related to learning outcomes (Goodman et al., 2011; Padgett & Keup, 2011; Pascarella, 2013)

This study designed and operated a developmental academic advising seminar centered on student participation in consideration of the cognitive and affective growth directions of college students, and tried to examine the educational effect in the areas of learning motivation, academics, and careers. The results of the study show that the seminar for freshmen, conducted mainly with developmental academic advising, contributed to students' attention, relevance, and satisfaction, and enhanced educational effect in academic and career areas. The students who participated in the seminar felt comfortable in the process of interaction with professors and fellow learners. In addition, it was found that the activities of self-reflection, academic design, and career exploration helped students understand themselves and empathy for others, and formation of interpersonal relationships.

Several implications can be drawn from these results. First, the developmental academic advising seminar for first-year students is closely related to how much the instructor encourages students'

participation. Students who participated in the seminar performed various assignments, presentations, and discussions based on the instructional strategies and directions of learning activities suggested by the instructor. As a result, students gained not only satisfaction with the seminar, but also the effectiveness of education has increased. Therefore, it is necessary for the instructor to operate the academic advising seminar based on the design of a clear curriculum.

Second, as the interaction between students and faculty helps students to introspect and build meaningful interpersonal relationships, academic advising seminars need to be strengthened in the direction of facilitating social and academic interaction between students inside and outside the class. Third, institutional administrative information such as course selection, course registration, and scholarship information needs to be effectively provided to students as well as education that supports student growth and development. Information such as learning, career path, and counseling support should be provided in a timely manner through the developmental advising seminar.

In conclusion, developmental advising seminars are an education in which professors promote active participation in and out of classes by motivating students to learn, and promote growth in academic and career areas. In this regard, the university's educational environment needs to lay the foundation for new students' university life adaptation and academic and professional growth through the design and operation of a professional academic advising system. In addition, the relationship between students and professors should be established in a way that promotes students' cognitive and affective growth. Academic advisors need to have the ability as a coordinator to provide and help students with various information about the university needed to design and implement practical goals for their college life and career. In addition, faculties need to create a comfortable and non-coercive classroom environment so that mature interpersonal relationships that recognize others can be developed through mutual interactions among learners. Ultimately, it is necessary for universities to provide systemized developmental academic advising by motivating them so that students can continue to actively participate in learning and to achieve educational outcomes in academic and career fields.

REFERENCES

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. Journal of College Student Personnel, 25(3), 297–308.

Astin, A. W. (1993). What Matters in College? Four Critical Years Revisited. San Francisco: Jossey-Bass.

Chickering, A. W., & Gamson, Z. (1987). Seven principles of good practice in undergraduate education. AAHE Bulletin, 39(7), 3–7.

Chickering, A. W., & Reisser, L. (1993). Education and Identity (2nded). San Francisco: Jossey-Bass.

Creamer, D. G., & Creamer, E. G. (1994). Practicing Developmental Advising: Theoretical Contexts and Functional Applications. NACADA Journal, 14(2), 17-24.

Crookston, B. B. (1972). A developmental view of academic advising as teaching. Journal of College Student Personnel, 13, 12-17.

Drake, J. K. (2011). The role of academic advising in student retention and persistence. About Campus, 16(3), 8–12.

Fowler, P. R., & Boylan, H. R. (2010). Increasing student success and retention: A multidimen-sional approach. Journal of Developmental Education, 34(2), 2–10.

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), Handbook of research on student engagement (pp.763–782). Boston, MA: Springer US.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. Review of Educational Research, 74(1), 59-109.

Goodman, K. M., Baxter Magolda, M., Seifert, T. A., & King, P. M. (2011). Good practices for student learning: Mixed-method evidence from the Wabash National Study. About Campus, 16(1), 2-9.

Gorden, V. N, Habley, W. R., & Associates. (2000). Academic Advising: A Comprehensive Handbook. San Francisco: Jossey-Bass.

Gregory, A., & Weinstein, R. S. (2004). Connection and regulation at home and in school: Predicting growth in achievement for adolescents. Journal of Adolescent Research, 19, 405-427.

Hale, M. D., Graham, D. L., & Johnson, D. M. (2009). Are students more satisfied with academic advising when there is congruence between current and preferred advising styles? College Student Journal, 43, 313–324.

Hendel, D. D. (2007). Efficacy of participating in a first-year seminar on student satisfactionand retention. Journal of College Student Retention, 8(4), 413-424.

Keller, J. M. (1983). Motivational design of instruction. In C. M. Reigeluth(Ed.), Instructional design theories and models: An overview of their current status. Hillsdale, NJ: Lawrence Erlbaum Associates.

Keller, J. M. (2010). Motivational design for learning and performance: The ARCS model approach. Springer Science & Business Media.

Kim, E. (2005). Achievement and Future Directions of Specialized Academic Advising System to Korean Education. Korean Journal of Educational Research, 43(3), 1-28.

Kim, E., & Cha, B. (2018). Analysis of Student Engagement according to Participation of Freshman Seminar. Korean Journal of General Education, 12(4), 177-198.

Kim, J., & Kim, N. (2014). Effects of Teacher Perceived Student-Teacher Relationship and Changes in Student Perceived Student-Teacher Relationships on Academic Achievement Mediated by School Happiness and Classroom Engagement. Korean Journal of Youth Studies, 21(12), 285-315.

Klepfer, K., & Hull, J. (2012). High school rigor and good advice: Setting up students to succeed. Retrieved from The Center for Public Education web site: http://www.centerforpubliceducation.org/Main-Menu/Staffingstudents/Highschool-rigor-and-good-advice-Setting-up-students-to-succeed

Ko, J., Kim, H., & Kim, M. (2011). The Impact of Students' College Experiences on Students' Cognitive and Non-cognitive Outcomes, and Instructional Satisfaction. The Journal of Educational Administration, 29(4), 169-194.

Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. New Directions for Institutional Research, 141, 5-20.

Lowenstein, M. (1999). An alternative to the developmental theory of advising. An Academic Advising Journal, 22, Retrieved from https://journals.psu.edu/mentor/article/view/61758/61402

Padgett, R. D., & Keup, J. R. (2011). 2009 National Survey of First-Year Seminars: Ongoing efforts to support students in transition (Research Reports on College Transitions No. 2). Columbia, SC: University of South Carolina.

Padgett, R. D., Keup, J. R., & Pascarella, E. T. (2013). The impact of first-year seminars on college students' life-long learning orientations. Journal of Student Affairs Research and Practice, 50(2), 133–151.

Park, J. (2019). A study on designing an academic advising system for first-year university students. Seoul: Sungkonghoe University.

Pascarella, E. T. (1985). College environmental influences on learning and cognitive development: A critical review and synthesis. In J. C. Smart (Ed.), Higher education: Handbook of theory and research (Vol. 1, pp.1-61). New York: Agathon Press.

Pascarella, E. T., & Terenzini, P. T. (2005) How College Affects Students: A Third Decade of Research (Vol. 2). San Francisco: Jossey-Bass.

Pascarella, E. T., Cruce, T., Umbach, P. D., Wolniak, G. C., Kuh, G. D., Carini, R. M., Hayek, J. C., Gonyea, R. M., & Zhao, C. (2006). Institutional selectivity and good practices in undergraduate education: How strong is the link?. The Journal of Higher Education, 77(2), 251–285.

Pascarella, E. T., Wolniak, G. C., Cruce, T. M., & Blaich, C. F. (2004). Do liberal arts colleges really foster good practices in undergraduate education?. Journal of College Student Development, 45(1), 57–74.

Pass, M. W. (2013). Quality of Student Effort: Improving Through Achievement Mastery and Psychological Needs. Atlantic Marketing Journal, 2(3), 43-59.

Policy Center on the First Year of College (2002). Second National Survey of First Year Academic 2002. Retrieved from http://www.sc.edu/fye/resources/assessment/essays/Swing-8.28.02.html

Reeve, J. (2012). A self-determination Theory perspective on student engagement. Handbook of Research on Student Engagement. Springer Science.

Sakiz, G., Pape, S. J., & Hoy, A. W. (2011). Does perceived teacher affective support matter for middle school students in mathematics classrooms? Journal of School Psychology, 50(2), 235-255.

Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition (2nd ed.). Chicago: University of Chicago Press.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: capturing an elusive construct. Teaching and Teacher Education, 17, 783-805.

A Pedagogical Approach: Does It Matter on the Learners' Lives?

Miguela B. Napiere[1]; Judith Chavez[2]

[1]mnapi@lccdo.edu.ph (Lourdes College); [2]judith.chavez@lccdo.edu.ph (Lourdes College)

ABSTRACT

The search for innovative pedagogy has always been an unending quest among educators in higher education institutions. Aimed at the learners' integral development, the Religious of the Virgin Mary (RVM) Pedagogy is used to guide the instructional processes in RVM schools. This pedagogy uses constructivism and the 4-pronged approach covering the integration of *Ignacia*n core and related values, contemporary social realities, other disciplines, and Biblical texts reflection. This study elicited the effects of the Pedagogy on the learners in a higher education institution in the Southern Philippines. Using a convergent parallel mixed-method research design, the study was participated in by 81 upperclassmen in the institution's basic and higher education departments. Findings reveal that the pedagogy has an effect on the students' values formation, deep understanding of concepts and life's realities, active engagement and collaboration, and participation in social transformation. Furthermore, the effect of the pedagogy in enabling the students to gain a deep understanding of the concepts as well as their values formation significantly influences their participation in social transformation. Moreover, from the participants' qualitative responses on the effect of the pedagogical approach in their lives, three themes emerged, namely: the development of critical thinking and discernment; ethical behavior, and social advocacy. This study hopes to provide inputs to future curriculum enhancement in the said institution, and the other RVM schools throughout the country.

Keywords: Pedagogical Approach, Social Transformation, Values Formation

INTRODUCTION

Innovative pedagogical approaches can create a rippling effect in the lives of the students. A teacher's pedagogy is crucial in addressing student's learning needs (Klotz, 2006; Stender, 2010; Buendia, Gitlin, & Doumbia, 2003) as well as in creating meaning to the student's context; thus, the performance and conduct of the teachers are considered of prime significance in assimilating the meaning and significance of pedagogy in up-grading the overall system of education (Entz,2006). Livingston (2012) averred that pedagogy influences a student's learning ability to align with the school's goal by educating the students and assisting them to excel. Students can excel when pedagogy is effectively implemented and facilitated. Kemp, Blake, Shaw, and Preston (2009) postulated that when students absorb and apply knowledge, instructors disseminated pedagogy successfully resulting in meaningful learning.

The emphasis on a transformative education has also been accentuated in the religious schools (RVM) schools in the Philippines. Specifically, Lourdes College, as one of the higher education institutions under study and a member of the RVM schools in Northern Mindanao finds it imperative to evaluate its mission in educating the youth according to its vision of "empowering and nurturing learners to be humble and globally competent leaders committed social renewal for the common good" (Lourdes College Administrative Manual, 2021). There is a dearth of study delving into the effects of a pedagogical approach that measures its outcomes on the lives of the learners. What are the effects of the school's pedagogical approaches on the students' lives? Has the approach led the students according to the pristine of the said higher education institution? These are the pivotal questions that inspired the researchers to come up with this empirical investigation. This study hopes to contribute to the scanty researches that focused on the effects of the pedagogy on the lives of the learners among students in the identified school.

FRAMEWORK

This study accentuates that the pedagogical approaches are essential in the transformation of students. One of the prominent theories that has propelled many educators working for social transformation is the pedagogy for the oppressed by Paulo Freire (2020) which emphasizes praxis: "reflection and action upon the world in order to transform it." Through praxis, the learners come to perceive the "reality of the oppression not as a closed world from which there is no exit, but as a limiting situation which they can transform". Abstract critical thinking is not enough - it must be accompanied by action to change the world. The critical importance of pedagogy on students' learning is highlighted in the empirical investigation of Chavez and Napiere (2019) on the effects of the pedagogy among the learners. The study underscores the factors of Participation in Social Transformation, Values Formation, Active Engagement and Collaboration, and Deep Understanding of the Concept and its Interrelatedness with Life's Realities as emerging themes of the effects of the pedagogy using exploratory factor analysis. It is, thus, inferred from the study that the pedagogy has far-reaching effects on the students' practices of the core values.

Moreover, the mastery of the knowledge of pedagogy illustrates how the teacher transforms the subject in an accessible form of communication with students. To facilitate learning, teachers must have a deep understanding of the subject coupled with their flexibility. As such, students are enabled to create their semantic map, to move from one idea to another, or to link a topic with another (Shulman, 1987; Harr, 2015). The effectiveness in pedagogy not only produces outcome results concerning input but also represents a common core of values and objectives to which all those involved can contribute. In effect, when the instructors are putting into practice the pedagogical methods effectively, they will render an important contribution in promoting student learning and in bringing about improvements in the overall system of education (Nicu, 2017).

The instructional pedagogy investigated in this study involves an integral process towards the intended Transformative Ignacian Marian Education (TIME) which is anchored on the constructs of constructivism (Piaget, 1970); Understanding by Design (Wiggins and McTighe, 2011); differentiated instruction (Tomlinson 2000) and the 4-pronged approach which covers the integration of a) Ignacian core and related values, b) contemporary social realities, c) concepts across subject boundaries / other disciplines and d) Biblical texts reflection about the concepts taught" (Guillano, 2014).

Constructivists postulate human learning as constructed by learners, built upon prior previous knowledge and experience. The theory of constructivism necessitates teachers to elicit prior knowledge for students to create meaning and to transform conceptions through active engagement with the world (McLeod, 2019). Both teachers and learners recreate knowledge together through authentic dialogues, which Freire (2000) argues, should be founded on love, humility, faith, hope, and critical thinking. Additionally, Tomlinson's (1999) differentiated instruction posits that teachers give students varied options for taking in information and understand the differences and similarities among students and use this information to plan instruction. The concept of understanding by design by Wiggins and Mc Tighe as cited by Bowen (2017) requires thinking a great deal, first, on the specific learning goals sought, and the evidence of such learnings, before thinking about what teachers' learning tasks in the classroom.

This study, first and foremost, purports that the identified pedagogical approach has perceived effects on the student's values formation, deep understanding of the concepts and life's realities, active engagement and collaboration as well as on their participation in social transformation. The said pedagogical approach shapes their values formation enabling them to become morally upright and God-loving people; hence, this study theorizes that learning is not just "knowledge-imbibing" (Academic), but also "values enhancing" (Religious Education) and "knowledge-sharing" (Community Extension Services). If students engage in community service where their acquired knowledge is practiced, more effective learning results and integral formation of person is achieved as concretized through the persons' commitment to uplift their fellow human beings (Donato, 2006). Such assertion is based on

John Dewey's postulation which posits the concept of active students engagement as a crucial element in effective education and viewed the community as an essential element of educational experiences both for enhancing student education and for developing future societies (Waterman, 1997).

Further, Ents (2017) posits that pedagogy does not only facilitate the acquisition of education in terms of academic concepts but also helps the students in emerging into moral and ethical human beings and productive citizens of the country. The pedagogy which necessitates the inclusion of biblical texts in the instructional process is supported by the postulation of Bowman & Small (2010) that the religious affiliation of the institution plays a key role in the spiritual development of the individual, which may be manifested through classroom learning and out-of-class events. This implies that student activities provided by the institution may be the conduit for this faith development and the enhancement of values which Oyserman (2015) described as "internalized cognitive structure that guides decision making by establishing basic principles of right and wrong, a sense of priorities, meaning, and patterns."

Second, the study is premised on a deep understanding of concepts as one of the effects of the pedagogy denoting that the approach has allowed them to acquire new knowledge that could be applied in their lives. The integration of social realities in instruction is upheld by Hahn (2010) averring that "when students perceive that several sides of issues are presented and discussed, and when they feel comfortable expressing their views, they are more likely to develop attitudes that foster later civic participation."

Third, this study presupposes that participation in social transformation is another effect of the pedagogy on their lives. These effects were concretized in terms of developing their sense of respect towards others' beliefs, inspiring them to become good stewards of God's creation and becoming good or responsible members of society. As further posited by Tabora (2014), the mission of Catholic education is to touch the minds, hearts, persons, societies, cultures, and human society with the transforming message of the Gospel thereby forming citizens and leaders for the common good. Education shall aim at preparing students to become citizens who participate in society, who are open to new ideas, and who are capable of voicing their opinion through a variety of mediums (Tannebaum & Hughes,2015). As such, the discussion in the classroom can assist educators in achieving the aims of developing students into rational, autonomous, and open-minded citizens capable of entering into a pluralist society (Barton,2012).

Fourth, this study argues that active engagement and collaboration is another cascading effect of the pedagogy in their lives. In this study, active engagement and collaboration consist of their abilities to get actively involved in class, generate ideas through group sharing, and develop the value of teamwork. This active engagement and collaboration variable are guided by Alexander Astin's theory of involvement (1984) which emphasizes inputs such as background and demographics, environments described as experiences, and, outcomes covering beliefs, which are changed when a student is involved in co-curricular activities. The theory further recounts that the more a student is involved, the more physical and psychological energy is expended, the greater the reward for the student.

The foregoing construct is likewise related to the postulation of Prince (2004) and Fitzgerald (2011) who recognized the adoption of instructional practices that engage students in the learning process; and Dooley (2008) who asserted that through collaboration, students see the importance of taking responsibility for their learning. This research further asserts that students' deep understanding of concepts in the lesson and values formation influence their participation in social transformation. t Parks (2000) espoused that faith development is a process of meaning-making, which connects to an individual desire for action that may result in social change. Further, Feenstra (2011) argues that service-learning activities may lead to a more defined sense of vocation, which is a key focal point in higher education. Such finding is supported by Hahn (2010) who asserted that when students are exposed to social realities, they more likely develop the ability to judge what is right, passionately pursue it and act accordingly.

The contribution made by the RVM Pedagogy to students' values confirms what Astin, Astin, & Lindholm (2011) found that students' undergraduate experiences are significantly enhanced when qualities such as caring and equanimity are developed throughout their academic career; and facilitating an environment of transparency and consent encourages the development of values (Smith, Vicuña, & Emmanuel, 2015). Such findings are also aligned with the thrust of UNESCO (2002) on the development of values which has been a major concern of most education systems in different countries of the world's

The ultimate goal of transformative Ignacian -Marian education which is the gist of the pedagogy is to transform students so that they can transform others. This is possible with the effective implementation of a pedagogical approach facilitated by a trained educator in a nourishing environment where learners critically reflect on their assumptions and beliefs and make meaning of their life experiences. Transformative education is one in which the student is incrementally invited to engage in life, to reflect upon it, and to be of service in the world.

METHODS

Design. This study uses the convergent parallel mixed method design (Creswell and Clark, 2017). The objective of the study was attained using both quantitative and qualitative methods; thus, achieving a comprehensive interpretation of the data. Both data were collected at one time, using Google Forms.

Participants. A total of eighty-one (81) learners from an RVM administered educational institution in a city in Mindanao, Philippines participated in the study. These are the upperclassmen from the Junior High School and college departments. The instrument was floated out to all the upperclassmen but only 81 gave their consent and participated in the study given the limitations of the Covid 19 pandemic.

Instrument. The quantitative data were elicited using an instrument developed by Chavez and Napiere (2017), the items of which loaded into three factors, namely Values Formation, Deep Understanding of Concepts and Interrelatedness to Life's Realities, and Participation in Social Transformation. The items in each factor got Cronbach's alphas of .951 to .977 which indicates a high level of consistency.

Data Gathering Procedure and Ethical Consideration. Informed consent was sought and the participants were assured that the information generated from the study would be kept in utmost confidentiality. Data were gathered through the google form.

Statistical Treatment. Descriptive statistics and multiple regression were used to organize the variables and to determine if Values Formation and Deep Understanding predict the participants' Participation in Social Transformation. From the qualitative responses, themes were generated.

RESULTS AND DISCUSSION

To find out the extent to which the pedagogy has affected the learners, the study generated the data which are presented in the subsequent tables. Table 1 shows the mean distribution of the learners' perceived effects of the pedagogy. Findings reveal that the learners perceived the pedagogy as having a generally high effect on them as indicated by the overall mean of 4.44. using the scale of 1 to 5 with 5 as the highest. A similar result can be gleaned with all the dimensions of the pedagogy.

Table 1. Mean Distribution of the Learners' Perceived Effects of the Pedagogy

Dimensions	M	Interpretation	SD
Values Formation	4.50	High	0.41
Deep Understanding of the Concepts	4.41	High	0.41
Participation in Social Transformation	4.47	High	0.38
Active Engagement and Collaboration	4.37	High	0.48
Overall Mean	**4.44**	**High**	**0.36**

Concerning the specific indicators on values formation, the learners rated highly their ability to put God and His will first and act accordingly (M=4.6); to do more for God's greater glory through biblical text reflections (M=4.58), and to be upright / God-loving person (M=4.58). These results indicate that the students have discerned the will of God in their lessons and have related the concepts discussed in the classroom as something that developed their values. It affirms what has been cited earlier that the pedagogy enables the students to develop their faith enhance their values which Oyserman (2015) described as "internalized cognitive structure that guides decision making by establishing basic principles of right and wrong, a sense of priorities, meaning, and patterns." The effect of the pedagogy on the students' values formation likewise find consonance with the postulation of Entz (2017) averring that pedagogy does not only facilitate the acquisition of education in terms of academic concepts but also helps the students in emerging into moral and ethical human beings and productive citizens of the country.

In their qualitative responses, participants shared that they have grown in compassion, respect, humility, and other values. A learner also admitted that the pedagogy has a positive effect on her because it nourishes her faith, excellence, and humble service in anything she does (Part # 40, BSED). As regards the dimension of *Deep Understanding of the concepts and Interrelatedness to life's realities*, the learners rated the effect of the pedagogy as high in its ability to enable them to understand by incorporating social realities in the lesson (M=4.48); to acquire new knowledge that they can apply in their lives (M=4.48), and to discover new things/ see the bigger picture (M=4.43). Their deep understanding of the concepts and interrelatedness of life's realities as an outcome of the pedagogy is corroborated with their disclosures averring that the *RVM Pedagogy enable them to think of the best actions or techniques to be done in various situations (Part # 4, BSED); and it also made them reflect on life's realities and widen their perspectives on what can be done… (Part # 24, BS Psych)*

Furthermore, the effects of the pedagogy on their *Participation in Social Transformation*, learners admitted that the pedagogy develops their sense of respect towards other people's beliefs (M=4.58); inspires them to become good stewards of God's creation (M= 4.56), and trains them to be service-oriented toward the less fortunate in the community (M=4.49). This finding finds consonance with the participant's disclosures averring that: *The RVM pedagogy motivates me to do good not just in school but also in our society. (Part # 4, BSED); Although I am not perfect, I am a person who is willing to help more each day, and RVM Pedagogy taught me that (Part # 79, BSTM); and The RVM Pedagogy taught me to be compassionate and be aware of the social realities that exist in our society. It molded me to have … empathy for the less fortunate in understanding their circumstances and ways that I can be of better help (Part # 24, BS Psych)*

Concerning *Active Engagement and Collaboration,* the items that were rated highly were on the pedagogy as providing them with opportunities to generate ideas through group sharing (e.g. in break out rooms); encouraging them to do their part in doing their projects or assignments (M=4.43); such finding corroborated to their qualitative response citing that

Through RVM Pedagogy I am able to think of the best actions or techniques to be done in various situations (Part # 4, BSED); and enabling them to learn from diverse opinions in group sharing (M=4.41). The other items related to small group discussions were rated low since not all students can have access to break-out rooms and other group activities considering that they are only using mobile phones.

Corroborating with these data is the qualitative data from the participants in response to the question "What is the effect of the Pedagogy on your life as a person and as a student?" From their responses, three themes emerged, namely: 1) Critical thinking and discernment; 2) Ethical Behavior, and 3) Social Advocacy.

Theme 1: Critical thinking and discernment

Through the pedagogy, the learners shared that they were able to develop the skills to reflect and think critically, enhancing their skills in discernment. Some of their responses include:

> *Through RVM Pedagogy I am able to think the best actions or techniques to be done in various situations (Part # 4, BSED)*

> *It made me reflect on realities and widen my perspective on what I can do to change them… (Part # 24, BS Psych)*

> *It helps me to think critically and also develop my character and moral values (Part # 56, BCAED)*

> *It has strengthened me especially in dealing with all the challenges this pandemic has brought to us all (Part # 60, BLIS)*

Theme 2: Ethical behavior

The participants further shared that the pedagogy has shaped their ethical behavior in translating what they perceive as good into the concrete realities of their lives.

> *The RVM pedagogy teaches me to be humble at all times, that God must be the center of our life and any life situation (Part # 33, BS Tourism Management)*

> *I couldn't bring myself to do wrong even though no person is watching because God is watching. And we can never hide from God because he sees us sees our hearts. Overall, I grow up with a strong faith in God, resilient and strong because that's what I learn in RVM (Part # 73, BSSW).*

> *The RVM pedagogy motivates me to do good not just in school but also in our society. (Part # 4, BSED)*

> *Although I am not perfect, I am a person who is willing to help more each day, and RVM Pedagogy taught me that (Part # 79, BSTM)*

Theme 3: Social advocacy

One of the 4 pronged approaches in the pedagogy is the incorporation of social realities in the lesson. This must affect the participants since they have become more concerned about others in the community. Their sharing included the following:

> *It helped me view that service-oriented programs should not be seen as variables but real people in unfortunate real-life circumstances, and what we do can have an impact on their lives…(Part. 25, BS Psych)*

> *The RVM Pedagogy taught me to be compassionate and be aware of the social realities that exist in our society. It molded me to have … empathy for the less fortunate in understanding their circumstances and ways that I can be of better help (Part # 24, BS Psych)*

> *I became responsible as a member of the society, I learn how to respect different cultures and traditions from diverse people (Part #50, BA English)*

Intending to find out if the effects of the pedagogy on their values formation and deep understanding of the concepts in their lessons predict their participation in social transformation, regression analysis was done, and results are shown in Table 2. Findings reveal that the whole model is significant (F=130.91, p=.000), with 83 percent of the variability in the effect of the pedagogy on their participation in social transformation as being accounted for by the combination of the effect of the pedagogy on their values formation, deep understanding of concepts and active engagement and collaboration.

Table 2. Regression Analysis of the Predictors of Participation in Social Transformation

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.327	.216		1.511	.135
Values Formation	.062	.008	.597	8.28**	.000
Deep Understanding of the Concepts & Interrelatedness to Life's Realities	.286	.085	.307	3.35**	.001
Active Engagement and Collaboration	.080	.096	.078	.828	.410

Model Summary
R = .914   R2 =.836   Adjusted R2 = .830   F = 130.91**   p = .000
**significant at 0.01 level

Looking closely at the specific dimensions, it is worth noting that only values formation and deep understanding of the concepts significantly predict their participation in social transformation, and not on active engagement and collaboration. The result clearly shows that the first two dimensions may be antecedents of the students' participation in social transformation, implying that the higher the values formation and the deep understanding of the concepts by the students, the greater is their participation in social transformation.

Since the pedagogical approach in the study exposes students to the societal realities as well as the biblical text increasing their consciousness to put God first, it is more likely to happen that they get inspired to become good stewards of God's creation and to get trained to be service-oriented toward the less fortunate in the community. Parks (2000) espoused that faith development is a process of meaning-making, which connects to an individual desire for action that may result in social change. Feenstra (2011) likewise posits that service-learning activities may lead to a more defined sense of vocation, which is a key focal point in higher education.

Nevertheless, the finding that active engagement and collaboration did not significantly contribute to their participation in social transformation may be attributed to the nature of the gadgets that they used during the synchronous discussions. Some who used mobile phones could not participate in break-out rooms, jam board, or other engaging activities. Furthermore, intermittent or weak internet connectivity also hindered most of them from engaging actively in class. This is an area of study which may need further verification by future studies.

CONCLUSION AND RECOMMENDATION

Evidently, the pedagogical approach empirically investigated has left an imprint in the lives of the learners. The ultimate goal of educational institutions most specifically the RVM schools throughout the Philippines which is to transform learners for them to transform others is confirmed in this study. The values of molding the students to become God-fearing, morally upright, service-oriented, critical thinkers, and discerning individuals may be attained by the school's pedagogical approach.

When instruction is not isolated from the realities of life, when the concepts are deepened given what is happening in society, and when there is a conscious effort to build character, these will develop in the learners their authentic concern for others in the community. This affirms what Hall (2006)

postulated that values are the sources of personal and social transformation. The distinctive mark of the pedagogy specifically on the use of the four-pronged integration has been found to bear fruit in the lives of the learners.

It, therefore, behooves the schools to continuously revisit their pedagogical approaches to ensure the desired effects on the learners. This study also acknowledges the limitation of its population and points to the need of expanding the population study across all programs of the institutions to increase the generalizability of the finding.

REFERENCES:

Arthur, J. (2010). Of good character: Exploration of virtues in values in 3-25 year olds. Exeter, UK: Imprint Academic.

Astin, A. W., Astin, H. S., & Lindholm, J. A. (2011). Assessing students' spiritual and religious qualities. Journal of College Student Development, 52(1), 39-61. http://dx.doi.org/10.1353/csd.2011.0009

Barton, K. C. (2012). Expanding preservice teachers images of self, students, and democracy. In D. Campbell, M. Levinson, F. Hess (eds.), Making civics count: Citizenship education for a new generation (pp. 161-182). Cambridge, MA: Harvard Education Press.

Buendia, E., Gitlin, A., & Doumbia, F. (2003). Working the pedagogical borderline: An African critical pedagogue teaching within an ESL context. Curriculum Inquiry 33(3), 292-320.

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.

Chavez, J. C., & Napiere, M. B. (2018). Developing a Scale to Measure Implementation of a Pedagogy. ASEAN Journal of Education, 4(2), 15-21. Retrieved June, 2019 from https://www.tcithaijo.org/index.php/AJE/article/view/180460

Donato, S. (2006) Community involvement, academic service learning integration, and social commitment of tertiary students of [Master of Education in Educational Management, Colegio de San Jose] https://files.eric.ed.gov/fulltext/ED497547.pdf

Entz, S. (2006). Why Pedagogy Matters: The Importance of Teaching in a Standards-based Environment. Forum on Public Policy. Retrieved September 25, 2020 from files.eric.ed.gov

Feenstra, J. S. (2011). Vocational exploration through service: The effect of service-learning on student understanding of God's calling. *Journal of Education and Christian Belief*, *15*(1), 65-74.

Guillano, R. (2014) The RVM Pedagogy. Lourdes College Administrative Manual, 2016 edition

Hahn, C. L. (2010). Teaching civic engagement in five countries. In W. C. Parker (Ed.), Social studies today: Research and practice. New York: Routledge, pp. 197-202.

Hall, B. P. (2006). *Values shift: A guide to personal and organizational transformation*. Wipf and Stock Publishers.

Harr, N., Eichler, A., & Renkl, A. (2014). Integrating pedagogical content knowledge and pedagogical/psychological knowledge in mathematics. *Frontiers in Psychology*, *5*, 924.

Hashimoto, Y. (2007) Becoming activated: Transformative learning and education for social change through an undergraduate course [Doctor of Philosophy Department of Curriculum, Teaching and Learning Ontario Institute for Studies in Education, University of Toronto]

Kemp, A. T., Blake, B., Shaw, C. C., & Preston, J. (2009). A conversation about content versus pedagogy. Curriculum and Teaching Dialogue, 11(1, 2), 103- 119.

Klotz, M. B. (2006). Culturally competent schools: Guidelines for secondary school principals. Student Counseling 1(1), 11-14.

Livingston, K. (2012). Teachers engaging in peer-mentoring to improve pupil learning. *Create learning for all*, 13-30.

Lourdes College Administrative Manual (2021)

Malinoski, N. (2019). Authentic engagement and education: Identifying the key factors in high school seniors [Graduate Thesis Dissertation Drexel University]

McLeod, S. A. (2019). Constructivism as a theory for teaching and learning. Simply Psychology.

Napiere, M. B., & Chavez, J. C. (2019). RVM pedagogy: Does it really matter on students' practice of school's core values?. *Journal of Institutional Research South East Asia*, *17*(2).

Nicu, A. (2017). The Importance of Mastering Pedagogy Knowledge in Initial Teacher Training. *Eur. Proc. Soc. Behav. Sci*, *23*, 772-780.

Oyserman, D. (2015). Psychology of values. In J. D. Wright (Ed.), International Encyclopedia of the Social & Behavioral Sciences, Amsterdam, Netherlands: Elsevier. https://doi.org/10.1016/B978-0-08-097086-8.24030-0, pp. 25.

Parks, S. D. (2000). Big questions, worthy dreams: Mentoring young adults in their search for meaning, purpose, and faith. San Francisco: Jossey-Bass.

Piaget, J. (^1970^). Structuralism. New York**:** Basic Books.

Ricke, A. (2018). Finding the right fit: Helping students apply theory to service-learning contexts. Journal of Experiential Education, 41(1), 8-22.

Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard educational review*, *57*(1), 1-23.

Smith, B. W., Vicuna, B., & Emmanuel, G. (2015). The role of positive psychology in fostering spiritual development and a sense of calling in college. *Positive psychology on the college campus*, 261-278.

Stender, R. H.. KŪ I KE AO: Hawaiian cultural identity and student progress at Kamehameha elementary school. Ed.D. dissertation, University of Southern California, United States — California. Retrieved January 16, 2011, from Dissertations & Theses.

Tabora, J. (2014, October 21) Transformative Education in the Catholic Educational Association of the Philippines (CEAP) *Fr. Joel E. Tabora, S.J. Blog* https://taborasj.wordpress.com/2014/10/21/transformation-education-in-the-catholic-educational-association-of-the-philippines-ceap/

Tannebaum, R. P., & Cridland-Hughes, S. A. (2015). Preservice Social Studies Teachers' Conceptions of and Experiences with Discussion as a Pedagogical Approach: A Case Study. International Journal for the Scholarship of Teaching and Learning, 9(2), 10

Tomlinson, C. A. (2000). Differentiation of Instruction in the Elementary Grades. ERIC Digest.

UNESCO. (2002). Learning to be: A holistic and integrated approach to human and development values. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education

Wiggins, G. P., & McTighe, J. (2011). *The understanding by design guide to creating high-quality units*. ASCD.

Home and School Environment, Academic Achievement and Performance in Maritime Schools Assessment Program: Bases for Instructional Enhancement

Marie Bella Navarro-Estores[1] and Rolando A. Alimen[2]

[1]*John B. Lacson Foundation Maritime University-Molo (mariebella.estores@jblfmu.edu.ph)*
[2]*John B. Lacson Foundation Maritime University-Molo (rolando.alimen@jblfmu.edu.ph)*

ABSTRACT

This study ascertained the performance of students in the Maritime Schools Assessment Program (MSAP) in relation to Home Environment, School Environment, or the Academic Performance in subjects covered by MSAP. The respondents of the study were the 254 third year students among selected maritime institutions and had taken the examination for MSAP. The data were obtained using a duly validated researcher-made checklist questionnaire. Descriptive and inferential statistics were used to analyze the data. The performance in MSAP of the entire maritime students was categorized as "low pass". In terms of age, the younger BSMarE (Bachelor of Science in Marine Engineering) respondents had a "low pass" performance in the MSAP. The MSAP performance of BSMT (Bachelor of Science in Marine Transportation) cadets was consistently "low pass" in all the variables stated above. This performance of respondents was significantly related to academic achievement. Likewise, school environment was significantly related to academic achievement. However, Home Environment and MSAP Performance were not significantly related as well as School Environment and MSAP Performance. The predictors of BSMarE respondents' performance in the MSAP were academic achievement in English, and Safety and Environment Protection. The English, Ship Management and Maneuvering, and Mathematics. predictors were MSAP performance of BSMT respondents. Review classes and tutoring program were conducted and institutionalized.

Keywords: Home Environment, School Environment, Academic Performance, Maritime Schools Assessment Program (MSAP)

INTRODUCTION

The Philippines, an archipelagic country in Southeast Asia, is the number one supplier of seafarers in the world. This is one of the reasons why Maritime institutions in cooperation with the Commission on Higher Education (CHED) and the Maritime Industry Authority (MARINA) have created several programs to improve their educational systems and to provide national and international shipping companies with competent and world class seafarers. One of these programs is the Maritime Schools Assessment Program (MSAP).

The Maritime Schools Assessment Program (MSAP) is given yearly to the second year Bachelor of Science in Marine Engineering (BSMarE) and Bachelor of Science in Marine Transportation (BSMT) students of all the MSAP participating schools in the Philippines. This assessment was used to evaluate the performance of the maritime students of the JBLFMU-Molo as the only maritime school in the South East Asia towards global excellence and competitiveness.

Aside from academic programs, home environment is also considered a powerful influence on the child's academic performance. It is viewed as consequential for child developmental outcomes such as cognitive ability, school readiness, academic achievement and emotional adjustment. The academic performance of a child cannot be separated from the home environment in which he grows up (Funtuzzo et al., as cited by Linus, 2015). His performance in school is usually attributed to his family background. Thus, this study was conceived.

Statement of the Problem

The main purpose of this study was to ascertain and identified variables that can predict the performance of students in the Maritime Schools Assessment Program (MSAP). Specifically, this study sought answers to the following questions:

1. What is the home environment of the maritime students when taken as a whole and according to their demographic variables (age, class program enrolled in, type of high school graduated from, family size, socio-economic status, educational attainment of parents, and home educational resources)?

2. Are there significant differences in the home environment of the BSMarE and BSMT students when grouped according to demographic variables?

3. What is the school environment of BSMarE and BSMT students when taken as an entire group and when classified according to demographic variables

4. Are there significant differences in the school environment of BSMarE and BSMT l when classified according to demographic variables?

5. What is the academic achievement of BSMarE and BSMT students in the subjects covered in the MSAP when taken as an entire group and classified according to demographic variables?

6. Are there significant differences on the academic achievement of BSMarE and BSMT students in the subjects covered in the MSAP when classified according to demographic variables?

7. What is the performance of BSMarE and BSMT students in the Maritime Schools Assessment Program when taken as an entire group of BSMarE and BSMT, and when classified according to demographic variables?

8. Are there significant differences in the performance of BSMarE and BSMT students in the Maritime Schools Assessment Program when classified according to demographic variables?

9. Are there significant relationships among home and school environment, academic achievement, and performance in the Maritime Schools Assessment Program (MSAP) of BSMarE and BSMT students?

10. 10.Which of the variables can significantly predict the MSAP performance of maritime schools in the Philippines - the home environment? school environment? or academic performance?

Theoretical Framework

This study was anchored on the Achievement Goal Theory. This theory is particularly important in education. If students are given appropriate, effective and well-guided learning activities to support their goals, change can take place on the way they are motivated and can be directed positively (Covington, 2000 cited in McGrew, 2008). This theory recognizes a person's set of beliefs, and reflects the reasons why he/she approach and engages in academic and learning tasks.

Conceptual Framework

This section presents the relationships of different variables of the study.

Home Environment Variables
Control
• Protectiveness
• Social Isolation
• Permissiveness
• Rejection

Demographic Variables

• Age
• Socio-Economic Status
• Family Size
• Educational Attainment of Parents
• Type of Class Program Enrolled
• Type of High School Graduated From
• Home Educational Resources

School Environment Variables

• Creative Stimulation
• Cognitive Encouragement
• Permissiveness
• Rejection
• Control

MARITIME SCHOOLS ASSESSMENT PROGRAM (MSAP) PERFORMANCE

Academic Achievement
• English
• Mathematics
• Technical/
• Professional deck subjects
• Technical/
• Professional
• Engine subjects
• Grade Point Average

Fig.1. Schematic Diagram Showing the Framework of the Study

METHODOLOGY

The descriptive-correlation research design was utilized in order to determine the significant relationships among the variables as predictors of the maritime schools in the Maritime Schools Assessment Program (MSAP). The respondents of this study were the 254 cadets taken by Stratified Sampling method out of 693 third year students from the five maritime institutions in the Philippines.

Research Instrument
The respondents' home and school environment were determined using a researcher-made checklist/questionnaire duly validated by experts in English, psychology, qualitative-research, instrumentation, and statistics. This questionnaire was based on the Home and School Environment

Inventory of Sakura Mishra (1989) and the reliability was high. The instrument was pilot-tested to the students with the same characteristics with the participants.

Procedure

The researcher constructed a questionnaire for Home and School Environment Inventory based on Dr. Sakura Mishra's guide. Validated questionnaire was pilot-tested to 40 BSMarE students of John B. Lacson Foundation Maritime University-Molo to determine its reliability.

Academic Achievement of the respondents was obtained based on their grades in the subjects covered by MSAP. The grades were requested from the registrar of each maritime institution they belong to. The performance of the respondents in the Maritime Schools Assessment Program was determined during 2016. The data gathered were subjected to Statistical Package for Social Sciences (SPSS) Version 20 treatment for Descriptive and Inferential Statistics.

RESULTS AND DISCUSSION

The home environment of BSMarE students as an entire group is protectiveness (M = 3.48, Rank = 1), followed by permissiveness (M = 3.41, Rank = 2), social isolation (M = 3.19, rank = 3), control (M = 2.44, Rank = 4), rejection (M= 2.16, Rank = 5) and the dominant is protectiveness (M = 3.46). The home environment of BSMT students as an entire group is protectiveness (M = 3.50, Rank = 1), followed by permissiveness (M = 3.46, Rank = 2), social isolation (M = 3.20, Rank = 3), control (M = 2.44, Rank = 4), rejection (M = 2.10, Rank = 5), and dominant in all categories is protectiveness (M = 3.52). The t-test results of the BSMarE respondents show no significant difference with significant values are greater than 0.05.

The ANOVA results reveal that no significant differences exist on different dimensions of the home environment of BSMT respondents when grouped in different categories.

School environment of BSMarE students as an entire group is Control (M = 4.09, Rank = 1). This is followed by Cognitive Encouragement (M = 3.88, Rank = 2), Creative Stimulation (M = 3.84, Rank = 3.5) and Permissiveness (M = 3.84, Rank = 3.5) and the last is Rejection (M = 2.89, Rank = 5).

It shows that the BSMarE has superior achievement in English (M= 87.22, SD = 2.77) and in Safety and Environment Protection (M = 89.59, SD = 2.86). They are very good in Math (M = 86.24, SD = 4.28); Science (M= 85.53, SD = 3.62); Operation of Main and Auxiliary Machinery (M =85.22, SD = 3.02); Electrical, Electronic and Control Engineering (M = 85.95, SD = 3.34); Maintenance and Repair (M = 84.71, SD = 3.12), and Engine Room Watch keeping (M = 84.70, SD = 4.070). Their over-all academic performance as shown in their Grade Point Average (GPA) of 86.17 described as Very Good.

The academic achievement of BSMarE students in subjects covered by MSAP is both Very Good when taken as an entire group and when classified according to variables. While the BSMT respondents have a very superior achievement in Cargo Handling & Stowage (M= 91.17, SD = 3.15).

For the categories of variables, only the Polaris class has a very superior academic achievement of 90.75 rounded off to 91. Results reveal high significant differences on the academic achievement of BSMarE students on subjects covered by MSAP when classified according to age, class program enrolled in, type of high school graduated from and family size.

Findings reveal that according to age, there is significant difference in the students' performance in English, Math, and Operation of Main and Auxiliary Machiner . This means that the younger and older BSMarE students differed in their academic achievements in the subjects English, Mathematics and Operation of Main and Auxiliary Machineries, the higher

achievements are in favor of the younger ones. The rest of the subjects have no significant differences.

The findings in the type of high school they graduated from reveal a significant difference in the performance of BSMarE students in Science [t (137) = 2.095, p = 0.038, p ,< 0.05], and there is also a significant difference in Electrical, Electronic and Control Engineering [t(137) = 2.639, p = 0.009, p< 0.01]. In terms of family size, no significant difference was noted.

The one-way ANOVA on the Academic Performance of BSMarE students in the subjects covered by MSAP reveals that no significant differences exist on the academic performance of the respondents on the subjects covered by MSAP.

Results reveal that high significant difference exist on Terrestrial and Celestial Navigation [t (113) = 2.517, p = .013, p < 0.05]; Navigational Watchkeeping [t (113) = 3.174, p = 0.002, p < 0.01]; and in Cargo Handling and Stowage of [t (113) = 3.788, p =.000, p < 0.01 when they were classified according to age.

Similar results were gleaned from the type of class program enrolled in with that of the BSMarE wherein all subjects are highly significant.

Findings on the type of high school graduated from showed that significant difference exist on Terrestrial and Celestial Navigation [t(113) = 2.689, p = .008, p < = 0.01]; Cargo Handling and Stowage [t(113) = 1.998, p = .048, p < 0.05]; and in Ship Maneuvering and Handling [t(113) = 2.203, p = 0.030, p < 0.05]. The family size shows no significant difference on the academic achievement of students in the subjects covered by MSAP. Their academic performance is comparable in terms of family size, and their academic achievement is not affected by their family size.

No significant differences were noted on the academic performance of BSMT students on subjects covered by MSAP in terms of socio-economic status and home educational resources.

Data show the MSAP performance of the entire BSMarE students, based on their average means are: low in Mathematics (M = 12.76); average in English (M =27.74), Science (M = 16.74), Operation of Main and Auxiliary Machinery (M = 9.14), Maintenance and Repair (M =8.98), and in Safety and Environment Protection (M = 11.47); high in Electrical, Electronic and Control Engineering (M = 11.7), and Engine Room Watchkeeping (M =11.51). The over-all MSAP performance of BSMarE respondents is described as "Low Passed "(MSAP % Rating= 51.23).

MSAP percentage rating of BSMarE respondents in all categories of variables is "Low Passed" while the MSAP percentage rating of BSMT respondents in all categories of variables is "Low Passed."
No significant difference was noted in the type of high school graduated from and family size.

There exist significant differences in the MSAP performance of students when classified according to class program enrolled is very apparent that the MSAP performance of BSMarE students under the Polaris class or Special Program differs significantly from those enrolled in the regular program. Students in the Polaris Class Program have excellent academic performance so it is expected that they perform better in the MSAP than those in the regular class program.

For BSMT respondents, data show that under the type of class program enrolled in, significant differences exist in English ([t(113) = 2.260, p = 0.026, p < 0 .05)], and in terms of family size, a significant difference also exist I English [t(113) = 2.094, p = 0.038, p < 0.05]. All other mean scores

in the MSAP subjects are comparable with all the significant values greater than 0.05 except in English, but as expect ed the Polaris Class performed better than the Regular Class. Results also show that regardless of their ages, type of high school graduated from and family size, there is no difference in their MSAP performance. Data for MSAP performance revealed no significant differences exist among BSMT students when grouped according to socio-economic status, educational attainment of parents, and home educational resources. It is apparent that MSAP performances in terms of these variables are comparable. All significant values are greater than 0.05.

Correlation among Home Environment, School Environment, Academic Achievement and MSAP Performance of BSMarE Respondents

A significant relationship exists between MSAP and GPA. Performance of BSMarE students in MSAP is highly correlated with their academic performance in terms of GPA, as well as the School Environment and GPA.

However, there is no correlation between MSAP performance and Home Environment, MSAP performance and School Environment, as well as Home Environment and School Environment.

Furthermore, school environment is significantly related to the academic performance (GPA) of BSMarE students.

Table1. Relationships among Home Environment, School Environment, Academic Achievement and Maritime School Assessment Program for BSMarE Students

Variables	r	Sig. (2tailed)	Remarks
MSAP-GPA	.605	.000**	Significant
MSAP - Home Environment	.060	.486	Not Significant
MSAP - School Environment	.018	.837	Not Significant
Home Environment - School Environment	.150	.079	Not Significant
Home Environment - GPA	.128	.134	Not Significant
School Environment - GPA	.171	.044*	Significant

$* p < .05$, Significant $** p < .01$, Significant

Correlation among Home Environment, School Environment, Academic Achievement and MSAP Performance of BSMT Respondents

Similar relationship was noted among BSMT students' performance in MSAP which is highly correlated with their academic performance (GPA). Likewise, school environment is significantly related to the academic performance (GPA) of BSMT students. Results also show that school environment is correlated with GPA.

However, there is no correlation between MSAP performance and Home Environment, MSAP performance and School Environment, as well as Home Environment and School Environment. Furthermore, school environment is significantly related to the academic performance (GPA) of BSMarE students.

Predictors of the MSAP Performance of BSMarE Respondents

A multiple linear regression was used to predict the Maritime School Assessment Program (MSAP). A significant regression equation was found to be the grade point average (F $(1,137)$ = 78.939, $p < .000$), with an R^2 of .366.

The result of R^2, 36.6 percent of the variance in MSAP scores can be explained by the grade point average (GPA) of the BSMarE students.

Another predictor identified is English (F (2,136) = 45.38), p< .000), with an R^2 of .400. This means that English and GPA contributed 40 percent of the variance in MSAP score. With this, it can be noted that 3 percent was added with the inclusion of English in the model as predictor.

Table 2. Predictors of MSAP Performance for BSMT Students

Model	Variables	df^2	R	R^2	Adjusted R^2	F	Sig.	Sig. F Change
1	English	113	.466	.218	.211	31.412	.000	.000
2	Ship Management & Maneuvering	112	.511	.261	.248	19.812	.000	.011
3	Math	111	.601	.361	.344	20.896	.000	.000

CONCLUSIONS

In view of the foregoing findings, the following conclusions were drawn:

The home environment dimension of both the BSMarE and BSMT respondents is "Protectiveness." The home environment of BSMarE, when classified into five dimensions, is consistently "Protectiveness" in all the categories of demographic variables except in the type of high school graduated wherein those from the private schools fall under the "control" dimension while for those from public schools is "protectiveness." The home environment of BSMT is protectiveness when classified according to high school graduated from, home educational resources, educational attainment of parents. The same home environment dimension was revealed for the younger ones, enrolled in Polaris class, from a small family size, and with low and average socio-economic status. Those enrolled in the regular class program from a big family size and with high socio-economic status fell under the dimension "permissiveness" of home environment (Alos, Caranto, & David, 2015; Barlis & Fajardo, 2015; Bolarinwa, 2015; & Chillem, 2015).

The five dimensions of home environment were comparable among BSMarE and BSMT respondents when classified according to age, class program enrolled in, type of high school graduated from, family size, socio-economic status, educational attainment of parents and home educational resources except in rejection and permissiveness dimension. Significant differences were noted in the rejection dimension as well as in protectiveness dimension of the home environment.

The school environment dimension that is consistent to the entire BSMarE and BSMT respondents was "Control." The control dimension is consistent in all the categories of demographic variables of BSMarE students in terms of school environment.

The five dimensions of the school environment of BSMarE respondents were comparable when classified according to age, family size and socio-economic status.

The rejection dimension was significantly different when the BSMarE respondents were classified according to class program while the control dimension was significantly different according to the type of high school they graduated from.
In the school environment, creative stimulation dimension was significantly different among BSMarE respondents when classified according to educational attainment of their parents while the cognitive encouragement dimension was significantly different when classified according to their home educational resources.

Creative stimulation dimension of school environment was significantly different among BSMT respondents when classified according to educational attainment of parents. Cognitive dimension of school environment was significantly different among BSMT respondents when classified according to home educational resources.

The academic achievement of BSMarE respondents in the subjects covered by MSAP was "very good" when taken as an entire group. Academic achievement of BSMT respondents in the subjects covered by MSAP was "superior" when taken as an entire group.

The academic achievement of BSMT respondents, in the subjects covered by MSAP, was "superior" when classified according to age, type of high school graduated from, family size, socio-economic status and home educational resources. The students who belong to the Polaris class had a "very superior" academic achievement (Alos, Caranto, & David, 2015; Barlis & Fajardo, 2015; Bolarinwa, 2015; & Chillem, 2015).

Maritime Schools Assessment program (MSAP) of the entire BSMarE and BSMT respondents was categorized as "low pass." The MSAP performance of BSMarE cadets was "low passed" when classified according to class program enrolled, type of high school graduated from, family size, socio-economic status, parents' educational attainment and home educational resources. In terms of age, the younger ones had a "low pass" performance while the older ones "failed" in the MSAP.

The MSAP performance of BSMT respondents was consistently "low pass" in all the categories of demographic variables such as age, class program enrolled in, type of high school graduated from, family size, socio-economic status, educational attainment of their parents and home educational resources.

MSAP performance of BSMarE and BSMT respondents and their academic achievement was significantly related. The same was true for their school environment and academic achievement.

Home environment and MSAP performance were not significantly related as well as school environment and MSAP performance. Home environment and academic achievement were not significantly related too.

The predictors of the performance of BSMarE respondents in the Maritime Schools Assessment Program (MSAP) were their academic achievement (GPA), and the subjects English and Safety and Environment Protection (Demigillo, 2016; Duruji, 2016; Suhail, et al. 2012; Sing, 2018, & Orola, 2017)..

For BSMT respondents, the predictors of their MSAP performance were the subjects English, Ship Management and Maneuvering, and Mathematics.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are presented: Teachers that teaching subjects with MSAP must continuously update themselves with new approaches, methods, strategies, and techniques towards the evaluation of students' performance. More real-life tasks shall be implemented using English language in learning Mathematics and Sciences subjects. Parents must continuously support the studies of their children by providing a home-study environment that is inspiring and conducive for development of the cognitive domain. Research enthusiasts and experts are encouraged to conduct a similar study on a wider scale to validate the results of this study and determine other factors that related to academic performance of the students on the maritime institution

REFERENCES

Alos, S., Caranto, L., and David, J.J. (2015). Factors Affecting the Academic Performance of the Student Nurses of BSU. International Journal of Nursing Science. Retrieved on December 18, 2017 from article.sapub.org/

Barista, U. (2013) Philippine MSAP 2013 Summary. Retrieved on January 7, 2014 at www.marine-cafe.com/how- good-are-filipino-maritime-schools/

Barlis,J.M. &Fajardo III, J.D.(2015). "Predictors of Performance of the Maritime Academy of Asia and the Pacific (MAAP) in the OIC Navigational Watch Licensure Examination." Journal of Shipping and Ocean Engineering. Retrieved on December 6, 2017 fromwww.davidpublisher.org.

Bolarinwa,O.A. (2015). "Principles and Methods of Validity and Reliability Testing of Questionnaires Used in Social and Health Science Researches." Niger Postgrad Med,2015.

Chillem, J. (2015). Adverse Home Environment and Its Influence on Academic Achievement. Theses and Dissertations.392. Rowan University. Retrieved on March 29, 2019 from https://rdw.rowan.ed/etd/392.

De Veas, Y. (2013). Maritime Schools Assessment Program (MSAP)Background. Retrieved on November 3, 2013 from www.yodisphere.edu/bwjames/tut/learning

Demigillo, J. (2016). Computer Anxiety, Self-Efficacy and Applications Usage of State Universities and Colleges Educators. Unpublished Dissertation, Iloilo State College of Fisheries, Iloilo, Philippines.

Duruji, M.M., Azuh, D., & Oviasogie, F. (2014). Learning Environment and Academic Performance of Secondary School Students in External Examinations: A Study of Selected Schools in Ota. International Conference on Education and New Learning Technologies EDULEARN4 Proceedings, Barcelona, Spain.

Dzever, L.T. (2015). The Impact of Home Environment Factors on Academic Performance of Senior Secondary School Students in Garki Area, Abuja, Nigeria. Bulgarian Journal of Science and Education Policy, 2015.Retrieved on December 7, 2017 from jjsep.org/getfile.pdh? id=186.

JMCC. (2014). High Performing Maritime Schools in the MSAP. Retrieved on July 14, 2014 from http://www.balitangmarino.com/news.

Kakkar, N. (2016). A Study of Academic Achievement in Relation to Home Environment of Secondary School Students. Scholarly Research Journal for Humanity, Science & English Language. Bhiwani, India. Retrieved on December 16, 2017 from oaji.net.

London R., &Ingram, D. (2018). Social Isolation in Middle School. School Community Journal, 2018, Vol.28. No.1. Retrieved on June 21, 2019 from http://www.adi.org/journal/2018ss/LondonIngramSpring2018.pdf

Mimrot, B. (2016). A Study of Academic Achievement Relation to Home Environment of Secondary School Students. The International Journal of Indian Psychology. Retrieved on February 16, 2018 from www.ijip.in.

MSAP Review. (2014). Maritime Schools Assessment Program (MSAP)2014 Results. Retrieved on November 5, 2017 from http:/msapreview.blogspot.com/

MSAP Secretariat. (2016). Results of the MSAP 2016 Examination. Retrieved on April 28, 2016 from msap.secretariat @yahoo.com

Orola, J. (2017). MSAP Examination 2017 With Top 80 Deck Cadets and Top 60 Engine Cadets. Retrieved on December 28, 2017 from http://www.vma.edu.ph/

Singh, S.R. et al. (2018). Factors Affecting Academic Performance of Students. Paripex Indian

Suhail, Ahmed et.al. (2017). The Effect of Learning Style, Home Environment and School Environment on Academic Achievement of Ninth Standard Students of English Medium Schools of Raipur City. Journal of Education Studies, 2017.Retrieved on January 2, 2018 from https://www.academia.com.

Transformational Journey of Students-At-Risk-Of-Dropping-Out (SARDOS) in The Printed Modular Distance Learning in The Context of Covid 19 Pandemic

Venrey Senm S. Ecang-venreysenm.ecang@deped.gov.ph
Marisa B. Petalla, Ph.D.

University of Negros Occidental- Recoletos, Bacolod City, Philippines

ABSTRACT

Inevitable challenges to education were brought by COVID 19 pandemic. Philippine Public Senior High Schools provided printed self-learning modules (PSLMs) to schools as part of the printed modular distance learning (PMDL) modality. These PSLMs were delivered to and collected from the students including Students-At-Risk-Of-Dropping-Out (SARDOs). Currently, there has been no Husserlian phenomenological studies about SARDOs lived experiences in the PMDL hearing their silent voices. This study used Husserlian Descriptive Phenomenology. Eight participants were chosen using criterion sampling, a purposeful sampling technique. They were Grade 12 identified SARDOs based from the FICS Analysis of the school. The data were collected through unstructured in-depth interview. Iterative process was followed until saturation point was reached. The gathered data were analyzed utilizing Moustakas Modified Stevick-Colaizzi-Keen method. The study revealed that SARDOs were hurdling difficulties in the beginning of PMDL including health and psychological issues and Digital Divide. These difficulties led to rising of PMDL adapting to newness that includes tapping of social resources for collaborative learning and imploring spirituality. Climax of PMDL modality was reached through achieving of expected and unexpected outcomes including gaps in the learning acquisition and independent learning. Realizing new perspectives was the resolution of PMDL modality for SARDOs and that includes the power of grit, perseverance and tenacity and Critical hopefulness. The findings provided data for the recommendations intended to the administrators, teachers, and future researchers.

Keywords: Students-At-Risk-Of-Dropping-Out, printed learning modules modality, Husserlian Descriptive Phenomenology, Modified Stevick-Colaizzi-Keen method, Philippine Public Senior High Schools

INTRODUCTION

The COVID-19 pandemic has created one of the largest disruptions of education systems in history affecting nearly 1.6 billion learners in over 190 countries and all continents. The closure of schools has severely impacted education norms globally (UNESCO, 2020).

In the Asian and ASEAN countries, the advent and drastic change brought by the COVID-19 pandemic brought inevitable challenges to the global academic community (Huang et al., 2020). In the Philippines. DepEd provided links in which the LRMDS coordinators in each school can access and download the modules for massive printing in each school. These modules are to be delivered to and collected from the students weekly or monthly. Because of the standard implementation of printed modular distance learning delivery of education, students were given the prescribed number of modules to be accomplished at home to present equal access to learning (DepEd, 2020). According to UNICEF, 2020, roughly 28 million Filipino students have been impacted by school closures meant to minimize the spread of COVID-19.

The DepEd Regional Offices through the Division of Negros Occidental in the Province of Negros through the District Supervisors monitors the status and situations of the working students SARDO's. Currently, there have been no phenomenological studies about the lived experiences of working SARDOs in the printed modular distance education of Public Schools.

The researcher, as a Public-School teacher and with an advisory class, there is this drive for exploration about the experience of working SARDO students and their experiences in this time of pandemic and how they perceive and relate to this pressing situation, especially in their striving to achieve education while working at the same time. This research inquiry grew out of context being faced by the working SARDO's in the onslaught of the COVID-19 pandemic.

The purpose of this phenomenological study will be to explore and hear the lived experiences of working SARDO Public Senior High School Students in their quest for learning amidst the ravages and opportunities to educational systems that were brought by the onslaught of the covid19 pandemic. This study intends to investigate the lived experiences of Students-At-Risk-Of-Dropping-Out in the printed modular distance modality in the context of COVID 19 pandemic. Further, the findings provided the baseline data for the recommendations intended to the administrators, teachers, and future researchers.

METHODOLOGY

This qualitative study employed a Husserlian descriptive phenomenological research design based on Edmund Husserl utilizing the modified Stevick-Colaizzi-Keen method, popularized by Moustakas (1994), The participants of this research inquiry were Grade 12 students in printed self-learning modules distance modality of a public senior high school in a municipality in Negros Occidental. They were determined using a purposive sampling method with the inclusion criteria in order to identify the appropriate participants of the study. The inclusion criteria include identified SARDO based from the Family, Individual, Community and School (FICS) Analysis data of the school, ages 18-21, and working students with varied nature of work. The FICS Analysis of the school identified these 8 participants as SARDOs. The data were gathered through an unstructured in-depth interview adhering to all the minimum health and safety measures. The interview was conducted individually to substantiate the experiences of the participants. Participants were coded Participant A to Participant H to ensure confidentiality. There was only one overarching question to start the unstructured interview process, and from the answers of the participants, non-directional probing questions were served as a guide to ensure the consistency of the content and substance of the interview. The modified Stevick-Colaizzi-Keen method, popularized by Moustakas (1994), was used in the study for data analysis because it was relevant to the sample criteria following the phenomenological reduction. Phenomenological reduction included 1) bracketing 2) horizontalizing 3) organizing invariant qualities and themes and 4) constructing textual descriptions (Merriam and Tisdell, 2015; Moustakas, 1994). The textural description or description of the text were examined from varying significant perspectives that was called imaginative variation. The textural-structural description was generated from each participant through repetition of the above steps. The textural descriptions were integrated into a universal description of group experience (Yıldırım & Şimşek, 2011).

RESULTS

Hurdling of difficulties. The beginning of PMDL was noted with the hurdling of difficulties of the SARDOs. These difficulties of the SARDOs at the start of the PMDL modality includes health and psychological issues and digital divide.

Health and psychological issues. These issues include stress, anxiety, and depression were experienced by the SARDOs. The hardships of the PMDL modality were hurdled by the SARDOs, and to its extent, their health was at stake. One of the participants tackled PMDL impact on mental health:

> When modules started and I don't have any interactions with my classmates including my teachers and school, I am stressed at home especially if I can't grasp the lesson. It made me overthink if I will continue with these PMDL modality or I will stop getting new modules because it has a huge impact on my mental health. I don't have anyone to share my problems. I don't have anyone to help me on the spot. I need to wait for my classmates' and teachers' response in order to properly grasp the idea about the lessons for that week. (teary-eyed) (A)

> *I am experiencing anxiety, I am worried and nervous of what will be the outcome of my grades and the impact of it to my parents. (teary-eyed) (B)*

Digital divide. The digital divide includes technology glitches in the internet connection and gadgets was also the difficulty that needs to be hurdled by the SARDOs. As attested by one of the participants:

> *If there is no internet connection, I can't answer the printed module. (B)*
> *I go to computer shops to do surfing and searching. (D)*
> *I strived to have cellphone for my usage in this modality in order communicate to my teachers and classmates if there are things to answer, things to answer in the modules and also to be able to ask my teacher. (E)*
> *I need to allot for my expenses for load in order for me to surf the google to understand the content of PSLMs. (F)*

Adjusting to the newness. The rising of PMDL leads SARDOs to adjust to the newness of the new normal learning modality. These adjustments and adaptations of the SARDOS include tapping of social resources and imploring spirituality.

Tapping social resources for collaborative learning. This is evident in the experiences of students in the PMDL modality. These social resources of the students include asking for help from classmates, siblings, parents, and subject teachers.

> *Not all learning tasks in the module is… (short pause, thinking) individual. We have groups especially in Research and we teamed-up. Even though the activity is an individual activity, there will always be time that I will ask questions to my classmates that are more knowledgeable about the topic and were able to finish that set of printed self-learning module. (A)*
> *I ask my teachers (long pause, thinking) about lacking messages in the printed self-learning modules and how to answer it. (B)*
> *I am collaborating with my classmates through teamwork in the PSLM. (smiling) (C)*
> *I ask my older siblings if they're knowledgeable of the content of PSLM. (smiling) (D)*
> *I ask my teachers if they are online and (short pause, thinking) friends if they have knowledge about the modules. (H)*

Imploring spirituality. SARDOs also deal with PMDL difficulties through imploring spirituality. Imploring the guidance of the Almighty God through prayer. As attested by their narratives:

> *For myself, I always implore the guidance of the Almighty God through prayer to give me intelligence because in God nothing is impossible, to give me knowledge and wisdom to answer my modules, to protect me. I have always had the biggest trust to the Almighty God He is my strength, He is my knowledge and He is my hand. He is my life. (expressive facial expression with relax voice) (E)*

Achieving expected and unexpected outcomes. Gradually the climax of PMDL was reached, and it spans achieving expected and unexpected outcomes**.** Expected outcomes for the students were already aspired. However, amidst the preparations and quality assurance, there will always be inconsistencies that will result to unexpected outcomes.

Gap in the learning acquisition. This was experienced at the climax of the PMDL modality. The SARDOS experienced Unsubstantial and Insufficient content of the PSLMs. They were all certain about the perceived insufficiency of learning that they experienced, as stated by their narratives:

> *Difficulty in the lessons because the selected modules have insufficient idea. (short pause, thinking) Sometimes, I would chat my teachers about the modules' content, whether its right. Whether I need to comprehend this content of the modules because sometimes it seems there's no relevance in our class and I need clarification from my teachers. Sometimes, the modules are just thin in its content. (A)*
> *I can't integrate the lesson to my brain. There's none that explains and presents PSLM's content properly. (B)*

I don't have substantial learning in the printed modules because I can't comprehend some contents. (forceful voice) (D)

Independent learning*.* The PMDL modality directed SARDOs to the reality and must of independent learning. Such was the situation of the PMDL modality that redirected students to learn by themselves independently and to explore and discover learning on their own. All of the SARDOs narratives lead to the realization of independent learning.

The good side of PMDL is that I learned to answer a problem on my own and if there is problem, I know what to do. (B)

Printed modules helped me to become independent as long as it is within my mental limits. (relax voice) (D)

Realizing new perspectives. At last, the resolution of PMDL was reached, which leads to realizing new perspectives. This new modality led them to realize new perspectives in learning that will signal the dawn of a new persona that is holistically prepared to venture into the new arena of learning acquisition.

Power of grit, perseverance, and tenacity. SARDOs' power of grit, perseverance, and tenacity was commendable. They learned the value of perseverance in learning. They have the grit. They have the tenacity. The never say die attitude as stated in their narratives that states:

The first thing that comes into my mind is, am I going to drop-out? (short pause and thinking) The situation is very hard. The one thing that is ingrained in my self is that if I will not continue my studies, what will be my future? If I will decide to stop, then what will be the outcome of my life? I always have this conviction to myself that I need to study. I need to finish my SHS education. (teary-eyed, shivering voice) (E)

It was also in my mind, the thought of dropping-out but I won't. I will continue in order to graduate. (teary-eyed) I will persevere amidst the hardships. I will not drop-out. (Forceful voice) I will just persevere in this modality. (sighed) It takes the power of grit, perseverance and tenacity. (F)

Critical hopefulness for a brighter academic journey. At the end of the new normal journey of the SARDOS, they have this critical hopefulness for a brighter academic journey. At the end of the tunnel, there will always be the light that shines so bright that even the eyes will take difficulty staring at it, so the saying goes. These were their narratives:

I am worried but I always put in mind that I can, I can solve this, I can handle this module and I can learn from this modality. I am hopeful for better things to come. (E)

DISCUSSION

Hurdling of difficulties: **the beginning of PMDL.** The beginning of PMDL genuinely brought inevitable change to the foundation of the usual delivery of education. The research results revealed that among the reasons for dropping out, employment/looking for work has the highest proportion in 2013 (Kadil, 2017).

Health and psychological issues. Prior work has documented the role school services have in delivering mental health and other forms of health care for students (Ali et al., 2019). In a general review, Brooks et al. (2020) looked at the psychological effects of the COVID-19 pandemic on students. Psychological effects of the pandemic and quarantine measures are evident among all groups of people, including fear of disease and fear of the future, especially concerning educational attainment (Choi et al., 2020). For students, especially those with mental problems, the daily school routine is a psychological comfort and when schools were closed, mental health symptoms were expected to increase (Lee, 2020).

Digital divide. Educational leaders are beginning to identify critical barriers students are facing and one issue continues to be the digital divide (Anderson & Kumar, 2019). Across the world, seven million school-aged children live in homes without Internet connectivity (Walters, 2020). Filipino learners that number 1.8 million have no available gadgets such as laptops, desktops (Philippines: Gatchalian to TELCOS: Provide free connectivity to all learners to assist learning continuity, 2020). Most compelling of the digital divide perhaps, was that students reported not being able to complete coursework because of a lack of access to adequate digital resources (Lake, 2020). Since face to face instruction was halted and subsequently continues to be limited at the start of the current school year, this homework gap, created by unequal access to digital resources, may need to be re-conceptualized and more broadly understood as an overall student engagement gap that has serious, far-reaching implications for vulnerable students or Students-At-Risks-Of-dropping-Out (Lake, 2020).

Adjusting to the newness: the rising of PMDL. Newness in Distance learning has often been seen as possessing an innovative delivery approach in teaching and learning practices—the key to which lies in the delivery of instruction for working learners (Thah and Latif, 2020).

Tapping social resources for collaborative learning. Adolescents' social resources and the major spheres in students' lives led to social support that includes a sense of community with mentors, parents, friends (Pulkkinen et al., 2011). Adolescents' social resources and the major spheres in students' lives led to social support that includes a sense of community with mentors, parents, friends (Pettit et al., 2011). There is this study about the unidirectional contribution of low social resources to dropout (Zanbar & Itzhaky, 2013). A mentor network support from an older person who offers support, guidance and encouragement-mentor, was found to be linked with vulnerable students staying in school were correlated with youth support (Tartakovsky, 2010). Sense of community has been associated with Dropping out of school (Itzhaki et al., 2018). An emotional connection sense of belonging, the ability to influence and the belief that the needs of the individual will be addressed because that student is part of the community defined "sense of community" plays an important role in an adolescent's development (Brooks, 2019).

Imploring spirituality. Young people have stronger spiritual orientations owing to their developmental stage and the quest for meaning in life (Mystakidou et al., 2008). In agreement, Mystakidou et al. (2008) note, younger people have a strong spiritual influence given their struggle with answers to life's many questions. The concept of spirituality means one's belief in God and the search for meaning while having a sense of hope and connectedness with God considering age and spirituality (Mthembu, et. Al., 2016).

Achieving expected and unexpected outcomes: the climax of PMDL. The struggle was real for the SARDOs in the PMDL modality but gearing towards the end of the tunnel, the attainment of coveted outcomes will be enlightened once more (DepEd, 2020).

Gap in learning acquisition. One study was conducted in Education with the end goal to interpret the sentiments of all stakeholders concerning the modular approach in Education (Rasti-Behbahani, 2021). There have appeared concerns such as how education is achieved in the absence of professionals who will supervise learners while studying at home (Rasti-Behbahani, 2021). Another gap is the assurance of today's new normal set-up that could assure quality education to produce globally competitive individuals (International Conference on Applied and Practical Sciences ICAPS, 2021). From the initial module distribution and retrieval in the country, observations emerged were: incompletely answered modules or sometimes no answers in some parts of the modules, absence of professionals, busy schedules beecause of the inevitable set-up, the development of learners' knowledge can be considered half-baked or uncertainty for successful learning (International Conference on Applied and Practical Sciences ICAPS, 2021).

Independent learning. Learning independence is the main requirement in implementing Distance Learning (Sulisworo and Sutadi, 2017). Holmberg's theory of distance learning emphasizes the individual learner and the freedom that should be given to him (Arista & Kuswanto, 2018). Like Moore,

it is said that real learning is an individual activity that can only be obtained through the internalization process (Arista & Kuswanto, 2018). Like Moore, Holmberg argues that learner autonomy is an ideal condition and states that one of distance learning goals is to help learners achieve full autonomy (Arista & Kuswanto, 2018).

Realizing new perspectives: the resolution of PMDL. Maintaining the learners' engagement particularly young Secondary Senior High School learners including SARDOS is critical as the COVID 19 pandemic opens up an entirely new set of ravages to the learning system (Nadworny, 2020).

Power of grit, perseverance, and tenacity. Students are more likely to stick with challenging tasks and assignments when they believe that their growth is determined by their effort improving grit, perseverance and tenacity for SARDOs (Snipes et al., 2012). According to Duckworth (2013), a better predictor of grade point average than IQ and high school graduation is called Grit. Grit is the perseverance to accomplish long-term or higher-order goals in the face of challenges and setbacks, engaging the student's psychological resources, such as their academic mindsets, effortful control, and strategies and tactics (U.S. Department of Education, 2013). The best strategy to develop and strengthen grit (Edutopia, 2014) is to promote privileges for students to work and develop on long-term goals (Laursen, 2015). Students are more likely to stick with challenging tasks and assignments when they believe that their growth is determined by their effort Growth mindset is one of the strongest contributors to improving grit, perseverance and tenacity for SARDOS (Snipes et al., 2012). In the final analysis, though it may seem overwhelming to think about systems change, it will take grit, perseverance, and tenacity from students to become triumphant (Edutopia, 2014). However, in their experience, they have learned that in order to change, they need first to develop themselves and have the grit, perseverance and tenacity (Laursen, 2015).

Critical hopefulness for a brighter academic journey. Critical hopefulness cultivates and understands psychological empowerment processes (Preskill & Brookfield, 2009), so it is striking that it may be rare that people maintain a high level of hopefulness about their ability (Christens et al., 2013). Specifically, younger adults were more likely to be classified in the "critical and hopeful" cluster (Christens et al., 2013). Younger people may tend toward greater optimism despite growing inequality, people to achieve critical hopefulness in earlier phases (Godfrey & Cherng, 2016). SARDOs really have the realization of critical hopefulness for a brighter academic journey (Christens et al., 2018). This had been always extremely crucial and essential in the task at hand (Public Health Update, 2020).

CONCLUSION

The beginning of PMDL surely brought perceived struggle and hardships to SARDOS. Health and psychological issues lead students to be disinterested in learning. The digital divide increases learning inequality to less privileged and impoverished SARDOs.

However, as the PMDL started to rise, learners started to adjust to the newness of the pandemic-based modality. SARDOs tapped collaborative learnings through social resources that surely brought light to the point of view of dep ed about the crucial help that stakeholders and community can lend. Many of them also implored spirituality that nourishes not just their mental and psychological health but, most of all, the goal of education to hone God-fearing Filipino learners.

Not for long, SARDOS in the PMDL modality reached its climax of achieving expected and unexpected outcomes. There is a gap in the learning acquisition that made them realize varying inconsistencies of the modality that needs solutions. They learned to become independent learners, a certain need to fully benefit from any academic learning strategies.

At last, learners resolved the PMDL by realizing new perspectives. SARDOs realized the power of grit, perseverance, and tenacity, a requirement for a productive citizen of the Philippines. Realizing the cruciality of critical hopefulness for a brighter academic journey, empowering the century-old belief

that Filipinos are one of the most resilient and optimistic citizens of the world even in the acquisition of learning in a COVID19 ravage era of education.

The printed self-learning modules distance modality proved that there was transformative change that transpired to the SARDOs. SARDOs learning journey in the PMDL modality was definitely not smooth. They encountered many hardships that made them transform into a learner that metamorphosized into a student that aspired for the ultimate learning amidst the COVID19 pandemic. Amidst the hardships, they were triumphant and were able to hurdle PMDL modality from its beginning to its resolution, making the goals of the PMDL modality of DEPED a success even amidst its vulnerabilities.

To better realized a better academic experienced to SARDOS and to better achieved the expected outcomes of the printed self-learning modules, the following recommendations are given: Administrators must carefully manage the quality control assurance of the printed self-learning modules. They should ensure that the modules are sent to schools on time and that students, especially SARDOs, are given quality time and opportunity to be taught and assisted in the content of their PSLMs. Subject teachers to assist and communicate with the students, especially SARDOS, the content of PSLM and communicate with them every time they need assistance. The study was only limited to the lived experience of Grade 12 Working Senior High School students that were identified as SARDOs. Therefore, Future researchers can utilize quantitative research designs about SARDOS in the PMDL modality in the pandemic era of education in order to unravel different perspectives to their lived experiences in the PMDL modality in the contexts of COVID19 Pandemic or the future researchers can utilize the Heideggerian Phenomenological design to explore the lived experiences of SARDOs in the PMDL distance modality to substantiate a different lens for their future study.

REFERENCES

Anderson, M., & Kumar, M. (2019). Digital divide persists even as lower-income Americans make101 gains in tech adoption. Pew Research Center. https://www.pewresearch.org/fact102tank/2019/05/07/digital-divide-persists-even-as-lower-income-americans-make-gains-   in103 tech-adoption/.

Arista F.S., & Kuswanto, H. (2018). "Virtual physics laboratory application based on the android smartphone to improve learning independence and conceptual understanding," Int. J. Instr., vol. 11, no. 1, pp. 1–16.

Brooks, A. (2019). Experts Discuss the Importance of Positive Parental Involvement in Education. https://bit.ly/37wgrxe

Brooks, S. K., Webster, R. K., Smith, L. E., & Woodland L. (2020), 'The psychological impact   of quarantine and how to reduce it: rapid review of the evidence', *The Lancet*, 395:   912-920. https://doi.org/10. 1016/S0140-6736(20)30460-8.

Choi, K. R., Heilemann, M. V., Fauer, A., & Mead, M. (2020). A second pandemic: Mental health spillover from the novel coronavirus (COVID-19*). Journal of the American Psychiatric Nurses Association*, 26(4), 340–343

Christens, B. D., Byrd, K., Peterson, N. A., & Lardier,David T.,,Jr. (2018). Critical hopefulness among urban high school students. *Journal of Youth and Adolescence, 47*(8), 1649-1662. http://dx.doi.org/10.1007/s10964-018-0889-3

Christens, B. D., Collura, J. C., & Tahir, F. (2013). Critical hopefulness: A person-centered analysis of the intersection of cognitive and emotional empowerment. *American Journal of Community Psychology, 52*(1–2), 170–184.https://doi.org/10. 1007/s10464-013- 9586-2.

DepEd (2020). DepEd Order No. 12, series of 2020. Adopting the Basic Education Learning Continuity Plan for School-Year 2020-2021 in Light of the COVID-19 Public Health Emergency.

Duckworth, A. (2013, May 13). Angela Lee Duckworth: The key to success? Grit [Video file]. Retrieved from https:// www.youtube.com/watch?v=H14bBuluwB8

Edutopia. (2014, May 20). Teaching grit cultivates resilience and perseverance [Video file]. http:// www.edutopia.org/research-made-relevant-grit-video

Godfrey, E. B., & Cherng, H. Y. S. (2016). The kids are all right? Income inequality and civic engagement among our nation's youth. Journal of Youth and Adolescence, 45(11), 2218–2232. https://doi.org/10.1007/s10964-016-0557-4.

Huang, R. H., Liu, D. J., Tlili, A., Yang, J. F., Wang, H. H., et al. (2020). Handbook on FacilitatingFlexible Learning During Educational Disruption: The Chinese Experience in Maintaining Undisrupted Learning in COVID-19 Outbreak. Beijing: Smart Learning Institute of Beijing Normal University.

International Conference on Applied and Practical Sciences ICAPS (2021) Journal of Physics: Conference Series 1860 (2021) 012021 IOP Publishing doi:10.1088/1742-6596/1860/1/012021:

Itzhaki, Y., Itzhaky, H., & Yablon, Y. B. (2018). Adjustment of high school dropouts in closed religious communities. *Child & Youth Care Forum, 47*(1), 81-100. http://dx.doi.org/10.1007/s10566-017-9419-9

Kadil, R. (2017). School dropout study: Philippines and Turkey. Retrieved December3, 2019, fromhttps://www.researchgate.net/publication/333145578School_Dropout_Study_Philippines_and_Turkey.

Lake, R. (2020). What's Happening with Distance Learning? The Learning Professional, 41(4), 19-21.

Laursen, E. K. (2015). The power of grit, perseverance, and tenacity. *Reclaiming Children and Youth, 23*(4), 19-24. https://www.proquest.com/scholarly-journals/power-grit-perseverance-tenacity

Lee, J. (2020). Mental health effects of school closures during COVID-19. Lancet Child Adolesc. Health, 4, 421.

Merriam, S. B., & Tisdell, E. J. (2015). Qualitative research: A guide to design and implementation. New York: John Wiley & Sons.

Moustakas, C. (1994). Phenomenological research methods. Sage Publications.

Mthembu, T. G., Roman, N. V., & Wegner, L. (2016). A cross-sectional descriptive study of occupational therapy students' perceptions and attitudes towards spirituality and spiritual care in occupational therapy education. *Journal of Religion and Health, 55*(5), 1529-1545. http://dx.doi.org/10.1007/s10943-015-0125-3

Mystakidou, K., Tsilika, E., Parpa, E., Hatzipli, I., Smyrnioti, M., Galanos, A., et al. (2008). Demographic and clinical predictors of spirituality in advanced cancer patients: A randomized control study. Journal of Clinical Nursing, 17, 1779–1785.

Nadworny, E. (2020). 'There's A Huge Disparity': What Teaching Looks Like During Coronavirus. NPR. Retrieved from https://www.npr.org/2020/04/11/830856140/teaching-without-schools-grief-then-a-freefor-all.

Pettit, G. S., Erath, S. A., Lansford, J. E., Dodge, K. A., & Bates, J. E. (2011). Dimensions of social capital and life adjustment in the transition to early adulthood. *International Journal of Behavioral Development,* 35(6), 482–489. doi:10.1177/0165025411422995.

Philippines: Gatchalian to telcos: Provide free connectivity to all learners to assist learning continuity. (2020). *MENAReport,* https://bit.ly/3jIjIzi

Preskill, S., & Brookfield, S. D. (2009). Learning as a way of leading: Lessons from the struggle for social justice. San Francisco: Jossey-Bass.

Public Health Update, (2020). Opportunities And Challenges In Education Due To Covid-9, https://publichealthupdate.com/opportunities-andchallenges-in-education-due-to-covid-19

Pulkkinen, L., Lyyra, A. L., & Kokko, K. (2011). Is social capital a mediator between self-control and psychological and social functioning across 34 years? *International Journal of Behavioral Development,* 35(6), 475–481. doi:10.1177/0165025411422993.

Rasti-Behbahani A 2021 Why Digital Games Can Be Advantageous in Vocabulary Learning Theory Pract. Lang. Stud. 11 (111)

Snipes, J., Fancsali, C., & Stoker, G. (2012). Student academic mindset interventions: A review of the current landscape. San Francisco, CA: Stupski Foundation.

Sulisworo & N. Sutadi (2017). Science Learning Cycle Method to Enhance the Conceptual Understanding and the Learning Independence on Physics Learning. *Int. J. Eval. Res. Educ.,* vol. 6, no. 1, p. 64.

Tartakovsky, E. (2010). Children of perestroika: The changing socioeconomic conditions in Russia and Ukraine and their effect on the psychological well-being of high-school adolescents. *Social Psychiatry and Psychiatric Epidemiology*, 45(1), 25–37. doi:10.1007/s00127-009-0037-1.

Thah S.S., & Latif L.A. (2020) Learning Outcomes in Distance Learning: A Study of Learners' Experience. In: Li K.C., Tsang E.Y.M., Wong B.T.M. (eds) Innovating Education in Technology-Supported Environments. *Education Innovation Seri*es. Springer, Singapore. https://doi.org/10.1007/978-981-15-6591-5_2

UNESCO. (2020). Covid-19 educational disruption and response. https://en.unesco.org/covid19/educationresponse

UNICEF. (2020). Unequal access to remote schooling amid COVID-19 threatens to deepen the global learning crisis. Retrieved September 25, 2020, from Unicef.org: https://uni.cf/3xymLPd

US. Department of Education, (2013, February). Promoting grit, tenacity, and perseverance: Critical factors for success in the 21st century. https://bit.ly/3jGUpxt

Walters, A. (2020). Supporting youth and families during COVID-19. Brown University *Child and Adolescent Behavior Letter*, 36(6), 8.

Yıldırım, A., & Şimşek, H. (2011). Sosyal Bilimlerde Nitel Araştırma Yöntemleri (ß.baski). Ankara: Seçkin Yayıncılık.

Zanbar, L., & Itzhaky, H. (2013). Community activist's competence: The contributing factors. *Journal of Community Psychology*, 41(2), 249–263.

Teaching Practices in Secondary Schools' Online Learning During Pandemic Times

Giselle Ann Alcoran-Alvarez[1], Noel N. Pit[2], Margie D. Amida[3],
Arthur D. Rosalem[4], Kenneth Paul C. Duran[5], Shiela Mae V. Galon[6],
Erven K. Noay[7] and Maria Milagros C. Velez[8]

[1]*Negros Oriental State University, Philippines (giselleann.alvarez@norsu.edu.ph)*
[2]*St. Paul University Dumaguete, Philippines (noel.pit@lccdo.edu.ph)*
[3]*St. Paul University Dumaguete, Philippines (margie.amida@deped.gov.ph)*
[4]*St. Paul University Dumaguete, Philippines (ahrtchua@gmail.com)*
[5]*St. Paul University Dumaguete, Philippines (mistorduran@gmail.com)*
[6]*St. Paul University Dumaguete, Philippines (shielamae.vicen@deped.gov.ph)*
[7]*St. Paul University Dumaguete, Philippines (ervennoay@gmail.com)*
[8]*St. Paul University Dumaguete, Philippines (mariamilagros_velez@yahoo.com)*

ABSTRACT

The COVID 19 pandemic challenges the economy as well as education. Teachers have to be creative and innovative in their strategies as they migrate from face-to-face to online. Practices need to be adaptive to a situation where the students become anxious and stressful because of the sudden shift. This study investigated practices in teaching online classes. Descriptive and inferential statistics like univariate ANOVA, MANOVA, and LSD Post Hoc Test were used to analyze the responses from 159 respondents. Results showed that teachers used emotionally-related teaching practices such as mindfulness of the learners' feelings and responses, positive attitude towards the learners, availability of the teachers when students needed help, and provision of avenues for student consultation. These teaching practices significantly differ in terms of the school. Practices in the use of interactive tools, games, physical exercises at certain times during online learning, cracking jokes and using humor during online classes had also significantly vary for each school. Teaching practices during the pandemic times solely depend on the capability of the school, teachers' knowledge on technology, and maturity and experiences of teachers.

Keywords: Online Learning, Teaching Practices, Pandemic, Secondary Schools

INTRODUCTION

The COVID 19 pandemic challenges not only the economy but the education as well. Teachers have to be creative and innovative in their strategies as they migrate from face-to-face to the online classroom. Practices need to be adaptive to a situation where the students become anxious and stressful because of the sudden change in the classroom environment. In the US, the Department of Education through its Office of the Civil Rights is urging educators and leaders of the schools to dedicate their talents and resources to cater to the needs of the students who were affected by the effects of pandemic (USDE-OCR, 2021). Similar report said that the abrupt shift to learning was observed to affect the K-12 in terms of mental health challenges as well as their well-being, technological barriers, heightened risk for anxiety and stress, and loss of access to student organizations and peers that support and affirm them, teachers, and school staff. On a positive note, students and teachers from the 13 countries in Europe find it easier to adapt to the current change. However, looking at the effectiveness of online learning, similar study found out that it is much lower compared to face-to-face (Tartavulea, Albu, Dieaconescu, & Petre, 2020). However, Amiel and Vicent (2021) reported that European students felt the impact of the pandemic in their education, mental health, and socioeconomic status (Euronews, 2021). The report cited economic hardship, isolation, educational concerns, and uncertainty are contributory factors of mental health issues among young people. The Asia-Pacific region is not spared of the tremendous effect of the pandemic with closures of schools and digital divides. Teachers have to

adapt to new platforms and methods to ensure students' continuous learning (Okajima, 2020). A year after the pandemic, students were found to develop anxiety and stress. The perceived stress of the students was strongly related to their anxiety and depression which means that those who have higher levels of stress will have chances to develop depression and anxiety (Marcén-Román, et al., 2021). Stress among Filipino students can be indicated by being temperamental and unable to sleep during the night. However, in order for them to cope with stress, they resorted to prayer and the use of computer (Mazo, 2021). Anderson (2020) pointed out the necessity of positive and healthy dispositions during this time of crisis because it allows learning to happen. Learner-centered teaching methods and counseling using the online platform are effective ways in the academic achievement of the students (Toquero, 2020). Redinger, Cornia, and Albert (2020), emphasized the need to support the mental health of the trainees as they are also vulnerable to it. These trainees need to be provided with resources related to their well-being and an environment that provides safety, genuineness, and welcome. Teachers can help students cope with stress by being cool, establishing a regular routine, and discussing COVID-19 with them (CDC, 2020b). With these background, teachers have significant roles to play in this time of pandemic. And one of its role is to think of strategies that will help the students minimize stress and anxiety inside and outside the virtual classrooms. It is then imperative to understand the practices of teachers in this part of the Philippines and how it varies given their socio-demographics. Hence, this study.

Statement of the Problem

This study looked into the teaching practices in online learning among the secondary school teachers during pandemic times. Specifically, this study aimed to answer the following questions: 1) What is the demographic characteristics of the respondents? 2) What is the extent of teaching practices in online learning when grouped according to a) intellectually-related, b) physically-related, and c) emotionally-related practices? and 3) Do the teaching practices significantly differ according to each of the following a)school, b)age, c)teaching experience, and d)educational qualification?

Framework of the Study

This research is anchored on the Cognitive-Mediational Theory (Lazarus, 1991), Transactional Theory of Stress and Coping (Lazarus, 1966 & Lazarus and Folkman, 1991), and Theory of Stress and Stimulus (Holmes & Rahe, 1967). Cognitive-Mediational Theory (Lazarus, 1991) argued that emotions are the product of how persons appraise the stimuli which are of two major types: primary appraisal and secondary. The primary appraisal determines the meaning and significance of an event and describes how much is the threat or stressor. The secondary appraisal assesses the person's ability to cope with the results of an event. In this study, the online learning experiences of the students are considered as the stimuli. Resulting from their appraisal of these stimuli caused them anxiety and stress. Although the online learning can be meaningful and significant in the academic life of the students, however, there is also a corresponding threat or stressor as these stimuli are totally a different experience. The students are seemed to lack the ability to cope with demands of online learning. This is the reason why teachers should become innovative enough in their practices in the virtual classroom to address these emotions of the students and to help them to be comfortable with the new environment. On the other hand, Transactional Theory of Stress and Coping (Lazarus, 1966; Lazarus & Folkman, 1984) claimed that stress is a result of the transaction between two persons and their surroundings. Transaction, in this study, happened between the students and the teacher including the online classroom environment. This transaction can be stressful among the students as well as the teachers as nobody is prepared for this kind of situation especially with technology and accessibility of the online platforms (Jena, 2000). As demanded from the work of a teacher, it is just necessary to innovate teaching strategies and activities to ease up the feelings and emotions of the students for learning to take place in times of pandemic. Lastly, the Theory of Stress as Stimulus (Holmes and Rahe, 1967) assumed that changes can be stressful in itself; the degree of adjustments is similar to any events in life; and adjustment threshold is common which illness will result beyond this threshold. Students' lives are inherently stressful because of the many demands of the school and the other contributory factors of this stress. In times of pandemic, the

online learning experience is a change that occurs in students' lives which can be equally stressful for them. They needed to adjust to this kind of environment. And this adjustment is similar to the pains of other adjustments in life. Adjustments depend on the students' threshold to bear their experience of the situation. However, many of these students felt anxious and stressed as they try to adjust to this environment. Thus, it is necessary for the teachers to help them cope with the shift by employing activities and strategies to facilitate the students in transitioning to this new normal way of learning.

METHODOLOGY

This quantitative descriptive study determined the teaching practices in online classes during pandemic. A total of 159 teachers from the 7 secondary schools in Dumaguete City, Negros Oriental, Philippines responded to the survey. Data were collected using a 20-item, researcher-made survey questionnaire. Purposive snowball sampling was employed because of quarantine restrictions in the area. The following criteria were used to obtain the samples: 1) Teachers are handling online classes in the secondary schools in Dumaguete City; 2) They must be 20 years old or more during the time of their teaching; and 3) They must be recommended by their principal or school heads to join the survey. Since the survey was conducted using Google Forms because of the difficulty of mobility, the number of samples depend on those who responded to the online survey. The survey instrument was subjected to a dry-run to establish its reliability and validity. This instrument has an internal consistency of 0.862 Cronbach's Alpha value which is considered good (Aron, Coups & Aron, 2013). Permission from school heads was sought. Upon their approval, the survey was conducted from the July 1 to 15, 2021. Data were collated and analyzed using descriptive and inferential statistics. SPSS 27 was used to determine the frequency, percentage, mean (M), standard deviation (SD), MANOVA, univariate ANOVA and LSD post hoc test. Less than 3 standard deviation was interpreted as homogeneous levels of response while standard deviation greater than or equal to 3 was heterogeneous (Aiken & Susane, 2001). The scale and means were described as follows: 5 (4.20-5.00) All the Time/Daily (ATT); 4 (3.40-4.19) Most of The Time (MOOT) (Thrice a Week); 3 (2.60-3.39) Sometimes(SO) (Twice a Week); 2 (1.80-2.59) Seldom(SE) (Once a Week), and 1 (1.00-1.79) Not At All (Never Done At All).

RESULTS

Demographic Characteristics. Table 1 shows the demographics in terms of: specific school, age, teaching experience, and educational qualification. Results revealed that 25.16% belonged to School A and another 25.16% belonged to School C; 17.61% are in the age bracket of 40-44 years old; 20.75% have 1-3 years of teaching experience; and 76.1% are Bachelor's degree holder. Data show that majority of the respondents are teaching in the two schools. In terms of age, though the highest in the age groups is 40-44 years old, however, it can also be gleaned in the table that there were closer age groups with almost similar percentage such as the age group 35-39 and 50 to 54. It means that the respondents are closely related in terms of ages. The respondents are new teachers with an experience of 1 to 3 years.

Extent of Teaching Practices. Table 2 presents the teaching practices as: intellectually-related, physically-related, and emotionally-related practices. Results revealed an overall mean of *4.07 (SD=0.41)* interpreted as most of the time. The mean of each group of is as follow: intellectually-related group (*M=3.85, SD=0.51*), physically-related group (*M=3.94, SD=0.56*), and emotionally-related group (*M=4.29, SD 0.45*). The overall mean suggests that respondents are employing intellectually, physically, and emotionally-related practices most of the time. Moreover, emotionally-related group has the highest mean and physically-related group has the lowest mean. These emotionally-related practices are *mindful of the learner's feelings and responses*, *manifests a positive attitude, exhibits a happy disposition at all times, listens with a heart(sincerely), generous with praise; cautious with sarcasm, never ignore an opportunity to help, gentle in giving reminders/corrections.*

Table 1: Demographic Characteristics

Categories	Frequency N=159	%	Mean	SD
School				
A	40	25.16	4.05	0.41
B	12	7.55	3.87	0.37
C	40	25.16	4.10	0.39
D	35	22.01	4.19	0.44
E	14	8.81	4.07	0.34
F	11	6.92	4.04	0.47
G	7	4.40	3.86	0.48
Age				
(20-24) yrs.	9	5.66	4.14	0.49
(25-30) yrs.	21	13.21	4.01	0.46
(30-34) yrs.	21	13.21	3.93	0.33
(35-39) yrs.	25	15.72	4.07	0.36
(40-44) yrs.	28	17.61	4.04	0.41
(45-49) yrs.	17	10.69	4.25	0.40
(50-54) yrs.	23	14.47	4.08	0.45
(55-59) yrs.	15	9.43	4.15	0.43
Teaching Experience				
(1-3) yrs.	33	20.75	4.13	0.42
(4-6) yrs.	27	16.98	4.02	0.44
(7-9) yrs.	30	18.87	3.97	0.39
(10-12) yrs.	12	7.55	4.06	0.37
(13-15) yrs.	13	8.18	4.12	0.32
(16-18) yrs.	12	7.55	4.07	0.31
(19-above) yrs.	32	20.13	4.13	0.48
Educational Qualification				
Bachelor	121	76.1	4.08	0.41
Masteral	33	20.8	4.07	0.44
Doctorate	5	3.1	3.84	0.21

It emphasizes the importance of the learners' feelings during pandemic which reaffirms the school's role as an excellent place to assist students' emotional well-being especially positive and healthy dispositions (Anderson, 2020). It is therefore imperative for educators to assist students by involving guidance counselors the students are getting bored, anxious, and suffering from mood swings (Irawan, Dwisona, & Lestari, 2020). On the other hand, physically-related teaching practices such *available at all times* and *encourages learners to sleep eight hours a day* were used at all times. The presence of the teachers needs to be considered as it improves the online learning experience especially in opening avenues of communication between teachers and students (Blaine, 2019). This reiterates the need to support mental health like the need to provide resources for the well-being of the learners with an environment that provides safety, genuineness, and welcome (Redinger, Cornia, &Albert, 2020). Similarly, there were also practices to minimize intellectual stress that were done most of the times. These practices include: *provide student consultation* and *organizes schedule.* Creating a venue for the students to consult with the teacher enables to bridge communication gap between the teacher and student. Most of time, the teacher and student do not have opportunity to discuss individual concerns. The practice of keeping in touch or communicating is also necessary. Some schools have developed another way of addressing the difficulties of students in their academic endeavors using application for online consultation (Ayo et al., 2020).

Table 2: Teaching Practices to Minimize Stress

Practices	Mean	SD	Verbal Description
Intellectual			
organizes schedule	4.23	0.86	ATT
plays sweet music	3.50	1.07	MOTT
never overschedule activities for the day	3.36	1.08	SO
employs interactive learning tool e.g. games	3.69	0.94	MOTT
provides student consultation	4.37	0.67	ATT
limits giving of homeworks/assignments	3.97	0.89	MOTT
Mean and Standard Deviation	3.85	0.51	MOTT
Physical			
have quite moments/reflect	3.77	0.90	MOTT
teaches stress reduction techniques e.g. breathe in and breathe out	3.77	0.95	MOTT
encourage physical exercise at certain times	3.43	0.96	MOTT
available at all times	4.53	0.63	ATT
encourages learners to sleep eight hours a day	4.20	0.88	ATT
Mean and Standard Deviation	3.94	0.56	MOTT
Emotional			
manifests a positive attitude	4.61	0.53	ATT
creates a coping toolbox/release feeling is a group chat box	3.35	1.27	SO
gentle in giving reminders/corrections	4.37	0.72	ATT
listens with a heart(sincerely)	4.47	0.64	ATT
generous with praise; cautious with sarcasm	4.43	0.64	ATT
mindful of learner's feelings and responses	4.65	0.54	ATT
cracks jokes; uses humor	3.82	0.89	MOTT
never ignore an opportunity to help	4.42	0.65	ATT
exhibits a happy disposition at all times	4.48	0.61	ATT
Mean and Standard Deviation	4.29	0.45	ATT
Grand Mean and Standard Deviation	**4.07**	**0.41**	**MOTT**

Figure 1 presents the frequency of occurrence of each of the teaching practices in the following group emotionally-related (emotional), physically-related (physical), and intellectually-related (intellectual). In relation to Table 2 above, it can be further gleaned that the figure is mostly dominated by the sky blue bars that represent the statements that occurred *all of the time* as compared to the lavender, green, red, and navy blue bars. This is followed by the lavender bars that represent *most of the time*. It is in the emotionally-related statements that most of the longest sky blue bars can be observed. It reinforces the results in Table 2 that the teaching practices of the respondents are within the emotionally-related group.

Significant Difference in the Teaching Practices. One-way MANOVA results revealed a significant difference in the teaching practices based on school with $F(120, 828)=1.251$, $p<0.05$; Pillial's Trace = 0.921, partial $\eta^2= 0.153$). Since the null hypothesis is rejected using the Pillial's Trace, the univariate ANOVA was performed. Despite the Levene's tests showing non-homogeneity of variance in five dependent variables, the analysis proceeds with getting the ANOVAs because the standard deviation of all dependent variables are less than 3 and the sample sizes are unequal.

Figure 1. Frequency of Occurrence of Teaching Practices
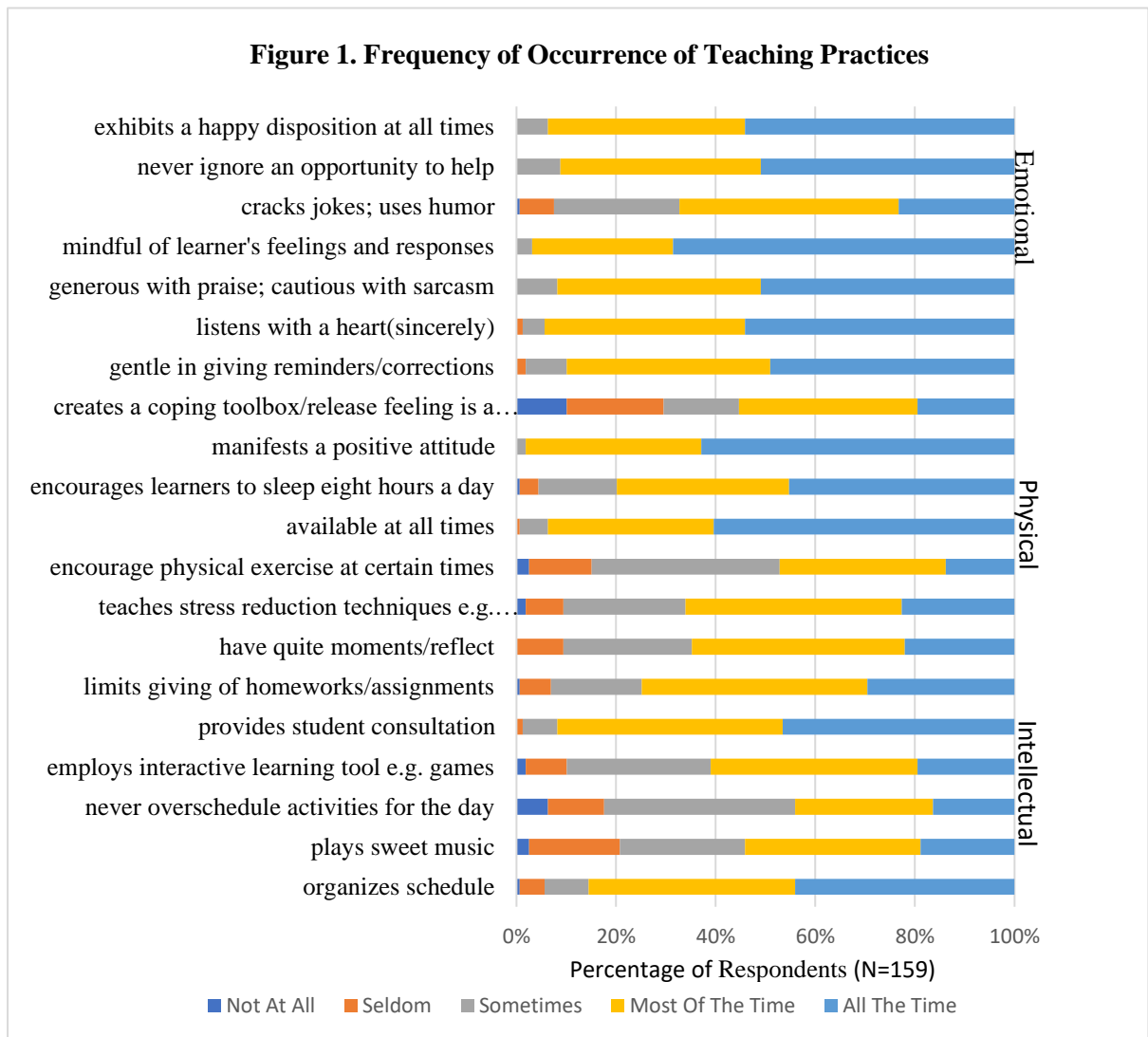
Table 3 presents the separate ANOVAs of the twenty dependent variables. Results showed the following F ratios for each group of dependent variables: intellectually-related group (6, 2.044), $p<0.05$; physically-related group (6, 2.194) $p<0.05$; and emotionally-related group (6, 1.904), $p<0.05$. The findings confirm that there is a significant difference according to school in terms of the following practices in each group such as the employing of interactive tool which includes games to minimize stress, encouraging physical exercises at certain times during online learning, and cracking jokes and using humor.

Subsequent multiple comparisons post hoc LSD tests are presented in Tables 4, 5, 6, 7, and 8. Table 4 presents multiple comparisons post hoc tests using the Fisher's LSD where I1-I6 are the intellectual, P1-P5 are the physical and E1-E9 are the emotional teaching practices. In Figure 1, these statements can be viewed from bottom to top of the chart. In the previous tables, it has been shown that there is a significant difference in the column labeled Mean difference (I-J) the mean difference values accompanied by asterisks indicate that teachers' level of playing of music during online classes differs significantly from each other at the 0.05 level of significance. The results disclose that the teachers at school D use of interactive tools like games is significantly higher than schools A, B and E. This implies the type of leadership exhibited heightened with the provisions of computers with free monthly internet connectivity by private donors.

Table 3. Multivariate ANOVA of the Dependent Variables as a Function of School

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	η^2
I1	6.568	6	1.095	1.515	0.177	0.056
I2	8.282	6	1.38	1.21	0.304	0.046
I3	11.401	6	1.9	1.665	0.133	0.062
I4	12.267	6	2.044	2.428	0.029*	0.087
I5	2.495	6	0.416	0.921	0.481	0.035
I6	6.206	6	1.034	1.325	0.249	0.05
P1	2.755	6	0.459	0.558	0.763	0.022
P2	4.356	6	0.726	0.803	0.569	0.031
P3	13.163	6	2.194	2.491	0.025*	0.09
P4	2.494	6	0.416	1.035	0.405	0.039
P5	1.62	6	0.27	0.336	0.917	0.013
E1	1.967	6	0.328	1.191	0.314	0.045
E2	8.702	6	1.45	0.89	0.504	0.034
E3	1.223	6	0.204	0.388	0.886	0.015
E4	1.809	6	0.302	0.718	0.635	0.028
E5	2.805	6	0.468	1.144	0.340	0.043
E6	0.93	6	0.155	0.523	0.790	0.02
E7	11.424	6	1.904	2.547	0.022*	0.091
E8	4.908	6	0.818	2.01	0.068	0.074
E9	3.808	6	0.635	1.727	0.118	0.064

significant at p<0.05 level

Moreover, the principal of School D continuously seeks strong linkages. Furthermore, as a performing school, School D garnered several awards in the division city and regional levels. The focus for good performance has in turn cascaded to students and stakeholders thereby motivating students to hone on their technology skills. Furthermore, results showed that school B has significantly lower mean in the use of interactive tool compared to School G with mean difference= -0.8929, p=0.043. The constant change of school administrator, and the transfer of teachers of School B to the city proper affected the delivery of student services. The leadership style of principals has been very significant in motivating their respective teachers. As it is, the leadership style of academic leaders which allows teachers to participate in planning and decision-making have significant impacts that made teachers motivated and satisfied as they took part of in planning and development (Cansoy, 2019). Quality education comes with democratic leadership, open communication of stakeholders and well-planned curriculum. A supported teachers' performance-oriented learning can also become effective and efficient in making students' progress and achievement (Zhang, Wong, & Wang, 2021).

The results in Table 5 discloses that the teachers in school G (remotest and farthest) level of student encouragement to exercise at certain times is significantly lower from schools A, C and D. The culture of letting children indulge in physical exercises even on online classes has not been fully demonstrated in School due to the type of leadership and the teachers are aging over 50 and above. Table 6 reveals the teachers in school D use of jokes and humor during online class level which is significantly higher than schools B, C and F. This again underscores the fact that the leader of School D deals with the faculty in a jovial and humorous manner.

Table 4. LSD Post Hoc Tests Showing Multiple Comparisons of Schools and Teachers' Use of Interactive Learning Tool

(I) School	(J) School	Mean Difference (I-J)	Std. Error	Sig.
School D	School A	0.586	0.212	0.007*
	School B	0.836	0.307	0.007*
	School C	0.386	0.212	0.071
	School E	0.729	0.290	0.013*

| School F | 0.449 | | 0.317 | 0.159 |
| School G | -0.057 | | 0.380 | 0.881 |

significant at 0.05 level

Table 5. LSD Post Hoc Tests Showing Multiple Comparisons of Schools and Teachers' Encouragement to Exercise at Certain Times

(I) School	(J) School	Mean Difference (I-J)	Std. Error	Sig.
School G	School A	-1.121	0.385	0.004*
	School B	-0.571	0.446	0.202
	School C	-1.221	0.385	0.002*
	School D	-1.114	0.389	0.005*
	School E	-0.857	0.434	0.050
	School F	-0.753	0.454	0.099

*significant at 0.05 level

Table 6. LSD Post Hoc Tests Showing Multiple Comparisons of Schools and Teachers' Cracking of Jokes and Humor

(I) School	(J) School	Mean Difference (I-J)	Std. Error	Sig.
School D	School A	0.061	0.200	0.762
	School B	0.836	0.289	0.004*
	School C	0.411	0.200	0.042*
	School E	0.157	0.273	0.566
	School F	0.722	0.299	0.017*
	School G	0.371	0.358	0.301

*significant at 0.05 level

Roy's Largest Root statistics revealed a significant difference in teaching practices based on age with $F(20, 138)=2.390$, $p=0.002$; Roy's Largest Root = 0.346, partial $\eta^2= 0.257$. Follow up Univariate ANOVA showed that among all twenty dependent variables, there is a significant difference on teachers' manifestation of positive attitude based on age with $F(7, 0.571)=$, $p=0.040$ and partial $\eta^2= 0.091$ only. Subsequent multiple comparisons post hoc LSD test disclosed that 25-30 years old teacher's level positive attitude manifestation during online classes is significantly higher than 20-24 years old and 30-44 years old. This shows that the new teachers are still struggling to adjust in the school environment while those from 25-30-age group have already gained experience in dealing with diverse student population thereby enabling them to localize lessons while injecting humor and wit to motivate students. Furthermore, what is noteworthy is that after the age bracket of 30-44 years old, there is a decline in the positive attitude heightened with the pandemic scenario. Generally, as people aged, health and financial issues confront them and color their life's vision thereby constraining the degree of positive outlook compared to the time when they were 25-30 years old. Howell (2020) asserted that young teachers struggle in their first few years of teaching. Their focus is on the delivery of instructions. However, the school can help new and young teachers improve, develop and hone their skills to keep them in the teaching profession as well as increase student learning and achievement. Mentoring programs, academic chat and sharing of teaching experiences among colleagues particularly with the experienced one can help young teachers cope in the struggles they encounter daily. According to Kini & Podolsky (2019), as the teacher's teaching experience increases, teacher effectiveness correspondingly increases. He added that experiences teachers gain lead them to do better and arouses learners' interest, motivation, engagement and student success. Chiu (2019) perceived that experienced teacher have difficulties in migrating and coping with the new trends in Internet technologies. However, it was found out that there is a dramatic increase of older people learning and using new technologies. This goes to show that educators are always on-the-go and are willing to be taught and trained for the betterment of their respective learners. This was supported by Creech (2019) as he believed that,

despite the barriers the teachers have faced on the current changes in education, experienced teachers need to adjust and uphold high professional standard to the new norm in teaching. MANOVA results revealed a significant difference in teaching practices to minimize stress based on teaching experience, $F(20, 138)=2.098$, $p<.05$; Roy's Largest Root $= 0.304$, partial $\eta^2= 0.233$. Follow up Univariate ANOVA showed that there is a significant difference on the giving of assignments and homework based on teaching experience with $F(6, 2.271)=3.104$, $p=0.007$ and partial $\eta^2= 0.109$.

Multiple comparisons post hoc LSD tests as revealed in Table 8 shows that the limit to the assignments and homework given by teachers is significantly lower among 16-18-year-experience teachers than the rest of the teachers except for the 10-12-year-experience teachers.

Table 7. LSD Post Hoc Tests Showing Multiple Comparisons of Age and Teachers' Positive Attitude

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
(25-29) yrs. old	(20-24) yrs.	0.460	0.205	0.026*
	(30-34) yrs.	0.571	0.158	0.000*
	(35-39) yrs.	0.305	0.152	0.047*
	(40-44) yrs.	0.333	0.148	0.026*
	(45-49) yrs.	0.317	0.168	0.061
	50-54) yrs.	0.253	0.155	0.105
	(55-59) yrs.	0.171	0.174	0.325

*significant at 0.05 level

Table 8. LSD Post Hoc Tests Showing Multiple Comparisons of Teaching Experience and Teacher's Limit in Giving Homework and Assignments

(I) Experience	(J) Experience	Mean Difference (I-J)	Std. Error	Sig.
(16-18) yrs.	(1-3) yrs.	-0.826	0.288	0.005*
	(4-6) yrs.	-0.954	0.297	0.002*
	(7-9) yrs.	-0.950	0.292	0.001*
	(10-12) yrs.	-0.667	0.349	0.058
	(13-15) yrs.	-0.994	0.342	0.004*
	(19-above) yrs.	-1.198	0.290	0.000*

*significant at 0.05 level

This could be attributed to the fact that those with teaching experience from 16-18 years where schooled in the traditional face to face manner where assignment was part of mental discipline and training to gain cognitive knowledge. It should be noted that during the time of DepEd Secretary Armin Luistro, elementary teachers were already mandated to limit the quantity of assignments to provide pupils more time to relax and rest together with their family (Luistro, 2010). More so, the current DepEd Secretary Leonor Briones also expressed her support to include the entire K-12 learners to the proposed no homework policy on weekends to provide balance between schooling and life (Aguilar, 2019). Also, since these experienced teachers have difficulty using the learning management system has hindered them from finishing their lessons have instead given these unfinished lessons as assignments. One-way MANOVA results revealed no significant difference in teaching practices based on educational qualifications.

CONCLUSIONS

Teachers regularly apply intellectually-related, physically-related, and emotionally-related practices in their online classes. Moreover, teachers employ to a greater extent emotionally-related practices as they manifest positive attitude toward their students, create coping toolbox, give student venue to release

their feelings, practice gentleness in giving reminders or corrections, listen with a heart, become generous with praises, mindful of the learner's feelings and responses, and crack jokes and uses humor. These teaching practices significantly vary in terms of school especially with the use of interactive applications, encouragement to do physical exercises, and cracking jokes and humor as big schools which are situated in the city proper are equipped with technology-ready infrastructures and trainings which may not be available in smaller and remote schools. Teaching practices also significantly differ between age of the teachers and teaching experience. The mixture of younger and older teachers in terms of age and experience vary in their teaching practices in the context of their respective schools. Younger or millennial teachers have teaching practices which may not be similar to that of the older or experienced ones and vice versa.

RECOMMENDATIONS

Based from the conclusion, the following recommendations may be considered: 1) reinforce the utilization of other teaching practices to create a sense of balance and promote the well-being of students; 2) establish a venue of sharing teaching practices especially in the use of interactive tools, the way students are encouraged to do physical exercises, and the best practice of injecting humor in the class; 3) establish venue of sharing best teaching practices among new and experienced teachers; and 4) conduct further research among the modular-based educators.

REFERENCES

Aguilar, K. (2019, September 2). DepEd to issue 'more precise' guidelines on students' homework policy. *Inquirer.net. https://newsinfo.inquirer.net/1160100/deped-to-issue-more-precise-guidelines-on-students-homework-policy*

Ayo, E., Montero, D., Dote, D., Villanueva, L. &Verano, C. (2020). *Development of Online Teachers-Student Consultation Application. International Association of Online Engineering.* Retrieved July 28, 2021 from https://www.learntechlib.org/p/216965/

Blaine, A. (2019). *Interaction and presence in the virtual classroom: An analysis of the perceptions of students and teachers in online and blended.* Advanced Placement courses. https://doi.org/10.1016/j.compedu.2019.01.004

Cansoy, R.(2019). *The Relationship between School Principals' Leadership Behaviours and Teachers' Job Satisfaction: A Systematic Review.* International Education Studies. V12, n1, pp37-52. Retrieved from: https://files.eric.ed.gov/fulltext/EJ1201517.pdf

Center for Disease Control and Prevention [CDC]. (2020). *Coronavirus disease 2019 (COVID-19): Stress & coping.* Retrieved from: https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html

Chiu, C.-J., Tasi, W.-C., Yang, W.-L., & Guo, J.-L. (2019). *How to help older adults learn new technology? Results from a multiple case research interviewing the internet technology instructors at the senior learning center.*Comput. Educ, 61–70. Retrieved from: https://www.sciencedirect.com/science/article/abs/pii/S0360131518302914

Creech, A. (2019). *Using Music Technology Creatively to Enrich Later-Life: A Literature Review. . Frontiers in Psychology*, 117.DOI: 10.20429/cimle.2021.250210

Howell, Penny B.; Gnau, Alice; Peavley, Laura; and Workman, Caitlyn (2020) "Field Experiences in the Ether: The Pandemic-induced Realities of Learning to Teach," Current Issues in Middle Level Education: Vol. 25 :Iss. 2 , Article 10.

Irawan, A.W., Dwisona, D., & Lestari, M. (2020). Psychological Impacts of Students on Online Learning During the Pandemic COVID-19. https://doi.org/10.24042/kons.v7i1.6389

Irawan, A.W., Dwisona, D., & Lestari, M. (2020). *Psychological Impacts of Students on Online Learning During the Pandemic COVID-19.* https://doi.org/10.24042/kons.v7i1.6389

Kaloeti, D. V. S. &Manalu, R. (2021). *Because the sky is the limit: Interpretive phenomenological analysis of millennial elementary school teachers using digital technology in the classroom.* Premiere Educandum: JurnalPendidikanDasardanPembelajaran, 11(1), 58 – 74. doi.org/10.25273/pe.v11i1.7843

Kini T. &Podolsky, A. (2019*). Does Teaching Experience Increase Teacher Effectiveness? A Review of the Research.* https://learningpolicyinstitute.org/product/does-teaching-experience-increase-teacher-effectiveness-review-research

Luistro, A. A. (2010, September 7). *Guidelines on giving homework or assignments to all public school elementary pupils.* [Memorandum]. Department of Education. https://www.deped.gov.ph/wp-content/uploads/2018/10/DM_s2010_392.pdf

Zhang, X., Wong, J.L.N., & Wang, X. (2021). *How do the leadership strategies of middle leaders affect teachers' learning in schools? A case study from China, Professional Development in Education.* https://www.researchgate.net/publication/350885991_How_do_the_leadership_strategies_of_middle_leaders_affect_teachers'_learning_in_schools_A_case_study_from_China

An Intervention Program for Communicative Learning

Charito G. Ong[1] and Grace S. Pimentel[2]

[1]*University of Science and Technology of Southern Philippines*
CM Recto Avenue, Lapasan Highway, Cagayan De Oro City, Philippines
charito.ong@ustp.edu.ph
[2]*University of Science and Technology of Southern Philippines*
CM Recto Avenue, Lapasan Highway, Cagayan De Oro City, Philippines
grace.pimentel@ustp.edu.ph

ABSTRACT

This research analyzed and determined the communicative competency level of ninety-five randomly selected Tertiary level students from a private and state university in Cagayan De Oro City. A triangulation method was employed to validate the data gathering process using Focus Group Discussion, interactive survey questionnaire and remote classroom observation. Tuan's (2017) Communication Competency Assessment Instrument was modified to determine the respondents' communicative competence level. The competencies were classified into stages as: unconscious incompetence, conscious incompetence, conscious competence and unconscious competence. Based from the gathered data during the needs analysis, the research results showed that eighty-eight respondents belong to the unconscious incompetence level. Hence, an intervention program named Five-Strand was designed. The study concluded with the findings that the development of the program engaged the students in more communicative sessions. The researchers then recommended for constant exposure of students to communicative activities to enhance the level of their competencies. Engaging the students in activities that encourage and promote interaction and communication maximized the respondents' communicative potentials.

Keywords: Intervention program, Competence, Communicative learning, Design

INTRODUCTION

In the Philippines, the educational system stresses on the importance of communication. Students are thus expected to communicate using a variety of range channels either in person, on the phone or online. As Lu (2021) posited, possessing strong language skills bridges opportunities for individual growth, instructional achievement and career enhancement; which can all be facilitated with strong language skills.

However, the current scenario of state universities and private colleges in the country shows a deteriorating performance of the students in all subject areas such as English, Mathematics, and Science wherein the English language is used as medium of instruction. In a study conducted by Villegas (2021), it was found that majority of the students in a local community college had difficulty in expressing themselves in English. Similarly, a study conducted by Zambas (2020) revealed that Senior High School students encountered varied communication problems which negatively affected their academic performance. Both studies concluded that resolving students' communication problems is deemed vital to fully equip students in preparation for the world of work.

The acquisition of effective communication skills is indeed a global demand. Azagra (2020) cites that all careers offered by the global village like banking, commerce, business, tourism, education, engineering, and medicine, use English language as a means of communication. This is supported by Kachru (2018) as he states that English is the international language of business and banking, aviation, tourism, negotiation, scientific research, and intellectual exchange. Hence, Filipino learners need to respond to the demand of the global world in learning and using the language. Thus, Lightbown &

Spada (2018) emphasized that many educational institutions are interested in developing communication skills and listed it as a primary goal for learning.

It is therefore imperative that students are constantly exposed to communicative classroom activities. They need to develop skills to become an effective communicator and confidently face the world without any fear to speak out their minds. Hence, the paper focused on this ground. The researchers observed tertiary level classes and found that students had difficulties expressing themselves in English. They usually switch back to their first language in communicating their ideas when they respond to their teachers' questions. The same results appeared during the focus group discussion. Students started to communicate in English but halfway in the sentence, they code mixed and then code switched to their first language. With these baseline data, the researchers developed a Five- Strand intervention program for communicative learning. The program contained interactive episodes with conversational tasks; to enrich the involvement of students in a highly communicative classroom setting.

METHODOLOGY

This research utilized the Research and Develop (R&D) design of Cox (2020). An intervention program was designed and developed after the implementation of the needs assessment process. The first year college students of a private and a state university, who were enrolled for school year 2020-2021 served as respondents of this study. These respondents were randomly chosen to represent the tertiary level populace. Online focus group discussion, interactive survey questionnaire and remote class observations were conducted to assess the communicative competency level of the participants. Tuan's (2017) Communication Competency Assessment Instrument was used which classified stages of *unconscious incompetence* or being unaware of communicating in an incompetent manner, *conscious incompetence* referring to those who learn more about communication and having vocabulary to identify concepts thus realizing what is done is not as well as it could have, *conscious competence* describes those who know that they are communicating well in the moment and *unconscious competence* which is characterized by communicating successfully without straining to be competent.

In the online FGD, five questions were adopted from Zurong's (2020) communicative competence assessment. The results showed that eighty-eight respondents belong to the unconscious incompetence level. The fgd questions were used for the interactive survey, conducted via zoom. The questions were presented in a powerpoint presentation and the individual participants responded to each one. For triangulation, a remote classroom observation was done. It manifested that majority of the respondents had a hard time communicating in English. They often fall back to their first language in responding to their teachers. Thus, they were tagged under the unconscious incompetence level. Taking these gathered data as sufficient baseline information, an intervention program named Five-Strand was designed by the researchers. From that phase, the development of topics and activities were laid out according to these competencies: linguistic, sociolinguistic, discourse, and strategic. The training design addressed the communication difficulties of the respondents through the said themed-skills.

Patterned after John's (2018) Systems Approach to Training (SAT), the developed intervention program underwent went three stages of evaluation. Firstly, the design matrix was scrutinized by five faculty experts, two from the state university and three from the private university. With the affirmative responses from these experts, the researchers moved on to the development of the Five-Strand training design. This was composed of introduction, procedure, objectives, context, activities and evaluation.

RESULTS

The needs assessment stage of this paper were triangulated through the conduct of focus group discussion, interactive survey and remote class observation. Zurong's (2020) communicative competence assessment was modified for the conducted focus group discussion. The results showed that eighty-eight respondents belong to the unconscious incompetence level. From Tuan's scale, they are described as being unaware of communicating in an incompetent manner.

Table 1 shows that majority of the College students in the research locale were in the lowest competency level. They formulated un-English sentences, had faulty grammar and incorrect sentence construction. Moreover, they had difficulty in expressing themselves in English. In the one-hour focus group discussion, they switched to their first language in responding to all questions.

Strei's (2020) research on developing the competence level of students, found that the fear of committing mistakes made students hesitant to express themselves orally. Their hesitance to speak was connected to shame. When others hear their mistakes, they dreaded being laughed at, teased, and insulted. Hence, to be on safe side, they preferred to be silent and speak as little as possible. These instances were observed among the respondents of this study. Furthermore, Rena's (2021) study on imaging a program for communication, revealed that many English learners struggle with speaking due to embarrassment of their intonation pattern. Also, they tend to forget the words leading to the halts and pauses. There are also instances when they could not decipher the language codes thus leading to awkward situations. These reasons were cited by the respondents of this study. One of the fgd questions was on what they fear about in communicating using the English language.

Table 1. Communicative Competence Level of the Respondents

Competence Level	Description	Number of Respondents
Unconscious Incompetence	Modest user of English, being unaware of communicating in an incompetent manner	88
Conscious Incompetence	Fair user of English, learning more about communication and having a vocabulary to identify concepts, knowing what is to be done, realizing what is done is not as well as it could have	2
Conscious Competence	Competent user of English, knowing that he/she is communicating well in the moment, which will add to the bank of experiences to draw from in future interaction	3
Unconscious Competence	Very competent user of English, communicating successfully without straining to be competent	2

Similarly, the interactive survey questionnaire exposed the difficulties of the respondents in expressing themselves using the English language. Hargie's (2018) multiple stages of competence was employed to assess the respondents as they responded to the five questions given in the survey form. This is depicted in the tabular presentation reflected as table 2. The data shows that the population studied mostly belong to the unconscious incompetence stage.

Table 3. The Respondents' Stage of Competence

Stage of Competence	Description	Number of Respondents
Unconscious Incompetence	Modest User of English	88
Conscious Incompetence	Fair User of English	2
Conscious Competence	Competent User of English	2
Unconscious Competence	Very Competent User of English	3

According to Weir (2019), before building up a rich cognitive knowledge base of communication concepts, speakers may exhibit unconscious incompetence. As shown in table 2, eighty-eight college respondents fall in this category. They were unaware of communicating in an incompetent manner. Majority of them code mixed and code switched in responding to the survey questions. Moreover, these students manifested anxiety in using English. Most of the time, they were not able to complete one

utterance using the target language. They stammered when they recite. With continual exposure to English language use, these students could likely build up their communicative skills.

Furthermore, two respondents exhibited conscious incompetence. They were conscious of their utterances. They were likewise aware of not doing well as they could. This was triangulated when the remote class observation was conducted. However, there were two whose communicative competence fall under conscious competence. They were aware of communicating well during the online class observation, interactive survey and focus group discussion. The two respondents who reached the stage of unconscious competence, spoke naturally like native English speakers; without straining to be competent.

According to Bacon (2020), reaching the unconscious competence stage does not necessarily mean that the person will always stay there. Factors like regular communication encounters will help in leading to the next level. Yet, he stressed that it will take some instances of conscious incompetence before the advancement to later stages is achieved.

With these results, the researchers designed and developed an intervention program named Five Strand, composed of five sections. Each segment contained topics and activities that address communicative competence difficulties. The program took linguistic, sociolinguistic, discourse, strategic and grammatical competence as core. Varied communicative activities were provided in each section-theme.

This intervention program underwent a thorough assessment. Bree's (2019) assessment scheme was used by the three groups of evaluators before, during and after the implementation phases. Five experts in the field of language teaching were invited to assess the training design topics. During and after the implementation of the intervention program, the respondents evaluated the conduct of the activities. The overall evaluation results was very satisfactory. The experts suggested for three additional online communicative activities inclusive of demonstration, huddle session in break out rooms and feedback exposition. The respondents recommended for the inclusion of video clips and flipgrid activities as their virtual class output. All of these suggestions were incorporated in the final form of the intervention program.

CONCLUSION

This paper explored the communicative competence level of both private and state university students in this pandemic. The research began with a needs assessment and found that the communicative language approach was not completely employed among language classes. Although, there is no single excellent way to teach language, CLT has made a mark in the field of language teaching. It builds up strong communication skills, which has been widely acknowledged in the academia. Hence, to address the needs of the learners for an enhanced communicative ability, an intervention program named five-strand was developed. This exposed the students to rich communicative activities which they enjoyed. In the assessment page, they stated that they looked forward to more communicative engagements in their classes to build their communication skills. The experts' recommendations for additional communicative tasks were used to enhance the intervention program.

RECOMMENDATIONS

These recommendations are advocated to enhance the communication skills of students in the tertiary level. Universities may engage Language teachers in quarterly trainings with focus on communicative teaching. Policies and programs which will enrich communicative and collaborative class activities could be considered among classes. Furthermore, an intensified English language communication program maybe developed to sustain existing language programs. Team teaching may likewise be employed to allow for enrichment of shared ideas and differentiation. This could break up the flatness

of one-person-instruction leading to possible creation of spontaneous teachable communicative moments.

REFERENCES

Azagra, K. (2020). *Teaching English the Communicative Way*. Cambridge University Press.

Bacon, S. (2020) *Questioning the communicative approach*. Communicative English Teacher Vol. 15. No 1.

Bree, J. (2019). *How to Teach English.* International Book of Language Studies.

Cox, W. (2020). Methods and Principles of Communicative Language Teaching. *Academic Research in educational sciences*, *5*(Issue 3).

Hargie, A. (2018). Communicative Language Teaching (CLT) in The Context of Online Learning. International Journal of Language Studies, 3(8), 98-111.

Johns, C. (2018). Systems Approach to training: An Ethnography. International Association of Research Scholars.

Kachru, D. (2018). Communication Skills Development among Students: An Intervention Program. International Association of Humanities.

Lightbrown, E. & Spada, M. D. (2018). Development of Communicative Competence. Canadian Journal of Applied Linguistics.

Lu, O. (2021). The Communicative Language Teaching (CLT) Approach in English Classes. Journal Of Humanities and Interdisciplinary Science, 5(1), 18-28.

Rena, S. (2021). Interactive Strategies of Motivating. Research and Scientific-Methodological Journal, 2021(2), 16-18.

Strei, D. (2020). Implementing the Communicative Language Teaching Approach. Journal of Science and Technology.

Villegas, E. & Ong, C.G. (2021). Oral Fluency: Basis for Designing A Communicative Competence Structured Module. In *International Conferences on Mobile Learning 2021 And Educational Technologies 2021* (p. 143).

Zambas, K. M. D. & Ong, C. G. (2021) A Training Design For Public Speaking Anxiety. In International Conferences on Mobile Learning 2021 And Educational Technologies 2021 (p. 50).

Zurong, L. (2020). A Training Design for the Language Faculty. Tokyo, Japan, 235.

Tuan, A., & Syder, F. H. (2017). Two puzzles for linguistic theory: Nativelike selection and nativelike fluency. In Language and Communication. https://doi.org/10.4324/9781315836027-12 A case study. Canadian Journal of Applied Linguistics.

Learning Approaches in Gross Anatomy Among Physical Therapy Students: A Comparative Study

Dick Herly R. Carskit* and Denise O. Orong**

*Liceo de Cagayan University, Philippines (dcarskit@liceo.edu.ph)
**Liceo de Cagayan University, Philippines (doorong@liceo.edu.ph)

ABSTRACT

Anatomy is integral in physical therapy education and professional practice. In the Philippines, cadaver dissection is the primary mode of instruction during laboratory sessions. Evidence supports a trend increasing time on technology-based instructional methods. Consensus regarding the best learning approach to anatomy remains obscure, and the prerogative of availing all these resources in anatomy will impact the school and the students. This study aimed to compare the learning approaches in gross anatomy among physical therapy students. It utilized a crossover, post-test only experimental method among 40 third year physical therapy students wherein the respondents were exposed to different learning approaches and only a cognitive post-test was given because if given the same test as the pretest, the questions might be familiar, and easier, so if the scores improve from pretest to posttest, it could be a practice effect rather than a learning approach effect. Four (4) sets of 50 points labeling items administered immediately after every session served as their post-tests. This study concluded that physical therapy students can learn knowledge in gross anatomy regardless of learning approach employed. Using textbook approach for independent study is comparable to the use of alternative learning approaches such as using cadaver dissection, video presentation, and anatomical model when students learn gross anatomy. Gaining knowledge in gross anatomy will be enhanced when the textbook approach is combined with either video presentation or anatomical model approach. However, the use of human cadaver dissection does not compliment with a textbook approach to enhance learning gross anatomy.

Keywords: *Learning approaches, Gross anatomy, Physical therapy, Dissection, Anatomical model.*

INTRODUCTION

Anatomy is a foundation subject in the health professions curriculum. Learning human anatomy is an integral component of physical therapy education and professional practice. Mastery of the anatomical structures allows a physical therapist to understand better concepts in biomechanics and to formulate rational examination and evaluation, a precise diagnosis and effectively implement the plan of care which represents the hallmark of quality rehabilitative care. The physical therapy curriculum in the Philippines requires dissection of the human cadaver as the primary mode of instruction during laboratory sessions. With the advancement of technology, human anatomical models, and video presentations are now readily available for the students to use. However, consensus regarding the best learning approach to anatomy remains obscure, and the prerogative of availing all these resources in anatomy will impact the school as well as the students.

The effectiveness in learning gross anatomy between traditional teaching methods (chalk and board lectures with cadaver dissection) versus modern integrated teaching method (power point lectures, computer-based dissection visuals, and cadaver dissection) was evaluated by Kumar et al. (2013) and found out that those students taught under the modern integrated teaching method significantly scored higher than those taught under the traditional teaching methods (p<0.05) and that the difference in the averages between the two groups was also significant (Z > 1.96).

The mainstay of teaching anatomy is via cadaver dissection, but some raised concerns about dissection. Berube (1999) noted that many schools prompted to develop alternative means of learning anatomy

besides cadaver dissection because of the rising cost and availability of human cadavers. Maintenance of cadaver laboratory and high student ratios (Plack, 2000) are additional concerns. The health risks and negative health effects (Malamed, 1995; Baan, 2009, IARC, 2004, NCI, 2011) involved from spending extended periods of time over formalinized wet specimens is one of the major concerns of staff and students regarding dissection on cadavers. Lempp (2005) added that the increased length of time required for the study of anatomy through dissection and difficulties in acquisition of cadavers are practical problems associated with this traditional approach. Moreover, Gabard et al. (2012) concluded in their study that evidence supports a trend of decreasing time on cadaver dissection and increasing time on technology-based instructional methods although it is still the most common instructional technique in anatomy among medical and physical therapy schools.

The textbook approach ensures that students will actively engage in self-directed study to enhance their knowledge and understanding of anatomy (Choi-Lundberg et al., 2016). In the study of Plack (2000), it was found out that the use of computer- assisted instruction is as effective as traditional dissection in teaching human gross anatomy to first-year entry-level physical therapy students, and there was no significant difference between groups on subject knowledge gained in human gross anatomy. Regardless of whether textbook approach or alternative learning approach will be employed, the student will gain knowledge in anatomy. Such it would help guide faculty in selecting and recommending a range of learning resources to the students to support their self-directed study (Choi-Lundberg et al., 2016) and achieve the expected learning outcomes resulting to high scores in the post-tests.

As to dissection approach, Davies et al. (2014) in their study emphasizing the importance of collecting student preferences to optimize teaching methods used in the undergraduate anatomy curriculum found out that all students were strongly in favor of access to cadaveric specimens and that other teaching methods (e-learning, anatomical models, and surgical videos) were considered educational tools.

The video presentation approach presents material in a creative and simplified manner and poses several advantages over other learning approaches like students can slow, stop, reverse, and replay the video. The interactive environment provides immediate feedback, allows for repetition at will, and puts the student in control of the direction and pace of learning (Kesner et al., 2005).

The use of anatomical model approach provides the impression of the real object because it offers a high degree of similarity to the original in terms of shape, size, and color and topological and spatial relationships are possible because it allows dynamic disassembly, relocation, and repositioning of various tissues and organs (Valdecasas et al., 2009). Further, Rizzolo and Stewart (2006) remarked that simulated dissection (use of the model in this study) benefits the development of spatial reasoning skills needed to understand images, drawings, and computer simulations of anatomical materials.

Other approaches toward teaching anatomy such as computer-based, three-dimensional, interactive models of human anatomy have evolved over the last decade with advances in computer technology and web-based education curricula (Florance, 2000).Computer-based anatomy education is advantageous especially using the three-dimensional illustrations that can provide essentially unlimited depictions of anatomical structures and beneficial for the study of anatomical areas for which cadaveric dissection access is limited (Tan, 2012). Because of this, some faculty is proposing that substituting other teaching approaches for cadaveric dissection will suffice, and that dissection may no longer be necessary.

With these pressing issues, the researchers look forward in comparing various approaches to learning anatomy among physical therapy students.

Objectives of the Study
This study aimed to compare the learning approaches in gross anatomy among physical therapy students. Specifically, this study sought to 1). determine the post-test scores in anatomy among physical therapy students after undergoing the textbook and alternative (dissection, anatomical model, video

presentation) learning approaches; 2). determine if there is a significant difference in the post-test scores of physical therapy students utilizing the textbook and alternative learning approaches in anatomy, and 3). determine which of the alternative approaches is significant to enhance the learning of anatomy when combined with textbook approach among physical therapy students.

Null Hypotheses
The following null hypotheses are tested at 0.05 level of significance:

> *Ho1*: There is no significant difference in the post-test scores of physical therapy students utilizing the textbook and alternative learning approaches in anatomy; and
>
> *Ho2*: The alternative approaches are significant to enhance the learning of anatomy when combined with textbook approach among physical therapy students.

MATERIALS AND METHODS

Materials
The materials needed were prepared and categorized according to the learning approaches employed in this study. In the textbook approach, clinical anatomy textbooks and laboratory guides were used by each of the students. During dissection, they utilized human cadaver, dissecting set, pairs of gloves and masks per session, and laboratory guides for a group of students. The group exposed to the anatomical model used a complete plastic-rubber detachable human anatomical model and laboratory guides. The group exposed to video presentation leaning approach used Acland Anatomy video, laptop computer, LCD projector, and laboratory guides.

Method
This research utilized a modified cross-over, post-test only experimental method to compare the learning approaches in gross anatomy among physical therapy students. It is crossover design because the respondents will be exposed to the different learning approaches of the study although at different topic and session. It is a post-test only design because the posttest is a cognitive test and if it is the same test as the pretest, the questions might be familiar, and therefore now easier, so if the scores improve from pretest to posttest, it could be a practice effect rather than a treatment/learning approach effect.

The study is conducted in the Physical Therapy Department of the College of Rehabilitation Sciences of Liceo de Cagayan University. The dissection of the human cadaver and the study of the human anatomical models take place in the anatomy laboratory, video presentation is in the Anatomy cubicle, and reference book reading/studying is in the therapeutic exercise lecture room.

The subjects of this study were the third-year physical therapy students who enrolled in gross anatomy 2 subject during the second semester. Their grade in gross anatomy 1 during the first semester was ranked and based on it; systematic random sampling assigned the subjects into four groups (Groups A, B, C, and D) having ten students each. Each group was randomly assigned to a specific learning approach on a given topic each learning session. For example, in the Pelvis topic (first trial), Group A is randomly assigned to the textbook approach, Group B is randomly assigned to dissection approach, Group C is randomly assigned to video approach, and Group D is randomly assigned to the model approach. A post-test is given after every session to determine scores. After four (4) trials, all groups were able to experience the learning approaches although at different topic and session.

This study utilized four (4) sets of 50 points labeling items administered immediately after every session and serve as their post-tests. Students are provided with session guide to ensure uniformity of the learning objectives and expected learning outcomes.

During anatomy session, each group was given a session guide for the specific learning activity. The groups assigned for cadaver dissection and human anatomical model study proceeded to the anatomy laboratory. The group assigned to study through Acland's video presentation went to the Anatomy

cubicle. The group assigned to do textbook study stayed in the therapeutic exercise lecture room. For this study, each learning session covered 1.5 to 2 hours depending on the assigned topic. After the learning sessions, post-tests which were composed of 50-item labeling exam were administered to all respondents within 30-45 minutes and were checked immediately to determine their scores.

There were four (4) trials during the entire course of data collection. Each trial composed of one learning session and a corresponding post-test which covered the anatomical structures of the head, neck, pelvis, and the back regions.

To determine the post-test scores in anatomy after undergoing the textbook and alternative (dissection, anatomical model, video presentation) learning approaches, the computation of their mean scores was employed. A t-test is utilized to determine if there was a significant difference in the post-test scores between textbook and alternative learning approaches in anatomy and regression analysis was done to determine which of the alternative approaches was significant to enhance the learning of anatomy when combined with the textbook approach.

RESULTS AND DISCUSSION

Table 1: Mean Results of Post-Tests for Textbook and Alternative Learning Approaches in Anatomy

Topics	Learning Approaches			
	Textbook	Alternative		
		Dissection	Video	Model
Pelvis	57.0	46.0	40.0	50.0
Back	65.4	51.2	58.0	64.0
Head	74.8	69.3	60.9	76.5
Neck	34.8	40.4	44.2	41.4
Mean Scores	*58.0*	*51.7*	*50.8*	*57.9*

Table 1 presents the results of post-tests for textbook and alternative learning approaches in anatomy among physical therapy students. Noted that independent study of students using anatomy textbook have the highest scores in pelvic and back regions with mean scores of 57.0% and 65.4%, respectively, as compared to other learning approaches but they got the lowest mean score of 34.8% in the neck region. Students who utilized the textbook approach scored higher in the pelvic and back regions. They stated that the textbook provided them a comprehensive and detailed presentation which they felt address the learning outcomes of the session. However, it did not give them a better presentation when they studied the neck region which resulted in low scores in their post-test. Those students who utilized the model approach in studying the head region got the highest mean score of 76.5%. The anatomical model can be disassembled and reassembled which lead to better appreciation of the knowledge content in learning anatomy and this ability is almost exclusive only to model approach. For the neck region, students who used the video presentation approach got the highest mean score of 44.2%. However, their scores got the lowest mean of 40.0% in the pelvic region. Video presentation in the neck region provided a 3-dimensional view and intelligently informative voice-over which contributed to higher mean score in this topic during the post-test as stated by the students who utilized this approach; however, it did not provide much knowledge needed in the pelvic region. The researchers believed that in the video presentation approach, the manner of presentation and amount of information is somewhat limited and tend to deal with generalities rather than specifics.

As to the overall mean, an independent study using the textbook and model approaches have mean scores of about 58% while video presentation and cadaver dissection approaches have closer mean scores of about 51% and 52%, respectively. The students learned better in the model approach because

it allowed manipulation with texture and consistency that is conducive to learning. Valdecasas et al. (2009) enumerated several reasons why models are useful. First, it provides the impression of the real object because it offers a high degree of similarity to the original in terms of shape, size, and color. Topological and spatial relationships are possible because it allows dynamic disassembly, relocation, and repositioning of various tissues and organs. Rizzolo and Stewart (2006) remarked that simulated dissection (use of the model in this study) benefits the development of spatial reasoning skills needed to understand images, drawings, and computer simulations of anatomical materials. This supports the result of this study wherein those that utilized the model approach scored higher than those that utilized the video presentation and cadaver dissection approaches. However, the scores of students using the textbook and model approaches are almost the same because textbooks are easy to use, aligned with the course syllabus, and contain excellent graphics. Active engagement of the student in the self-directed study can enhance the knowledge and understanding of anatomy (Choi-Lundberg et al., 2016). The dissection and video presentation approaches significantly scored lower than the abovementioned learning approaches in anatomy. The effectiveness in learning gross anatomy between traditional teaching methods (chalk and board lectures with cadaver dissection) versus modern integrated teaching method (power point lectures, computer-based dissection visuals, and cadaver dissection) was evaluated by Kumar et al. (2013) and found out that those students taught under the modern integrated teaching method significantly scored higher than those taught under the traditional teaching methods ($p<0.05$) and that the difference in the averages between the two groups was also significant ($Z > 1.96$). The researchers observed in this study that during cadaver dissection approach, students spent more time in dissecting the cadaver rather than achieving the expected learning outcomes and gaining knowledge in each learning session. This resulted in the low mean scores obtained in the post-test.

Table 2: T-Test Results of the Post-Tests Mean Scores of Physical Therapy Students between Textbook and Alternative Learning Approaches in Anatomy

Learning Approaches	Mean	T-Test Result
Textbook	57.30	T- Calculated Value = 1.40
Dissection	51.20	DF= 77
Difference	6.15	P-Value= 0.164 Decision: Critical value > Calculated value Interpretation: *Not Significant*
Textbook	57.30	T- Calculated Value = 1.85
Video presentation	49.70	DF= 73
Difference	7.60	P-Value= 0.068 Decision: Critical value > Calculated value Interpretation: *Not Significant*
Textbook	57.30	T- Calculated Value = -0.13
Model	57.90	DF= 77
Difference	-0.58	P-Value= 0.899 Decision: Critical value > Calculated value Interpretation: *Not Significant*
Textbook	57.30	T- Calculated Value = 1.14
Combined Dissection, Video presentation, and Model	52.90	DF= 65 P-Value= 0.258
Difference	4.39	Decision: Critical value > Calculated value Interpretation: *Not Significant*

Table 2 shows the performance of physical therapy students using the textbook and alternative learning approaches in Anatomy. Between textbook and dissection approaches, the difference is 6.15, it has a T-calculated value of 1.40, a P-value of 0.164, and interpreted as not significant since the critical value is more than the calculated value. Between textbook and video presentation approaches, the difference is 7.60, it has a T-calculated value of 1.85, a P-value of 0.068, and interpreted as not significant since the critical value is more than the calculated value. Between textbook and model approaches, the difference is -0.58, it has a T-calculated value of -0.13, a P-value of 0.899, and interpreted as not significant since

the critical value is more than the calculated value. Between textbook and combined alternative learning approaches, the difference is 4.39, it has a T-calculated value of 1.14, a P-value of 0.258, and interpreted as not significant since the critical value is more than the calculated value.

Since all the t-test results were interpreted as not significant, this means that textbook approach and alternative learning approaches do not differ significantly in terms of gaining knowledge in anatomy, therefore, using textbook approach is as effective as the alternative learning approaches. Textbook approach ensures that students will actively engage in self-directed study to enhance their knowledge and understanding of anatomy (Choi-Lundberg et al., 2016). In the study of Plack (2000), it was found out that the use of computer- assisted instruction is as effective as traditional dissection in teaching human gross anatomy to first-year entry-level physical therapy students, and there was no significant difference between groups on subject knowledge gained in human gross anatomy. Regardless of whether textbook approach or alternative learning approach will be employed, the student will gain knowledge in anatomy. Such it would help guide faculty in selecting and recommending a range of learning resources to the students to support their self-directed study (Choi-Lundberg et al., 2016) and achieve the expected learning outcomes resulting to high scores in the post-tests.

Table 3: Results of Regression Analysis between Textbook and Alternative Learning Approaches in Anatomy

Alternative Approaches	Coefficient	SE Coefficient	T-Value	P-Value	Interpretation
Dissection	0.3049	0.1610	1.89	0.066	*Not Significant*
Video presentation	0.7916	0.1523	5.20	0.000	*Significant*
Model	-0.3824	0.1467	-2.61	0.013	*Significant*
S= 14.18 R-Sq= 56.4% R-Sq(adj)= 52.7%					
F= 15.21 P-Value= 0.000 Interpretation: *Significant*					

Table 3 shows the regression analysis of using textbook approach versus the alternative learning approaches in anatomy.

The dissection approach has a coefficient value of 0.3049, SE Coefficient value of 0.1610, a T-value of 1.89, a P-value of 0.066, and interpreted as not significant. The dissection approach is less likely to predict that it will enhance learning anatomy among physical therapy students when combined with the textbook approach. Davies et al. (2014) in their study emphasizing the importance of collecting student preferences to optimize teaching methods used in the undergraduate anatomy curriculum found out that all students were strongly in favor of access to cadaveric specimens and that other teaching methods (e-learning, anatomical models, and surgical videos) were considered educational tools. However, in this study, it was found out among physical therapy students that cadaver dissection is less likely to enhance learning anatomy when combined with the textbook approach.

The video presentation approach has a coefficient value of 0.7916, SE Coefficient value of 0.1523, a T-value of 5.20, a P-value of 0.000, and interpreted as significant. When combined with the textbook approach, the video presentation is likely to predict that it will enhance learning anatomy among physical therapy students. Video presentation approach presents material in a creative and simplified manner and poses several advantages over other learning approaches like students can slow, stop, reverse, and replay the video. The interactive environment provides immediate feedback, allows for repetition at will, and puts the student in control of the direction and pace of learning (Kesner et al., 2005).

The model approach has a coefficient value of -0.3824, SE Coefficient value of 0.1467, a T-value of -2.61, a P-value of 0.013, and interpreted as significant. The model approach, when combined with the textbook approach, is likely to predict that it will enhance learning anatomy among physical therapy students. The hands-on approach, disassembly, and reassembly of the parts of complex systems of the

anatomical models is far superior to the simple passive observation that rigid, single-piece models (or cadaver) allow and is a crucial tool for learning anatomy (Valdecasas et al., 2009).

Overall, S=14.18, R-Sq= 56.4%, R-Sq (adj) = 52.7%, F=15.21, P-value=0.000, and interpreted as significant. The alternative learning approaches are likely to enhance the learning in anatomy among physical therapy students when combined with the textbook approach except for the dissection approach. Gabard et al. (2012) concluded in their study that evidence supports a trend of decreasing time on cadaver dissection and increasing time on technology-based instructional methods although it is still the most common instructional technique in anatomy among medical and physical therapy schools.

CONCLUSION

This study concluded that physical therapy students can learn knowledge in gross anatomy regardless of learning approach employed. Using textbook approach for independent study is comparable to the use of alternative learning approaches such as using cadaver dissection, video presentation, and anatomical model when students learn gross anatomy. Gaining knowledge in gross anatomy will be enhanced when the textbook approach is in combination with either video presentation or anatomical model approach. However, the use of human cadaver dissection does not compliment with the textbook approach to enhance learning gross anatomy.

RECOMMENDATIONS

In the light of the finding and conclusion of the study, the following are recommended:

1. Instructional facilities such as viewing room and well-ventilated study area must be available to the physical therapy students for them to view anatomical video presentations and independent study.
2. Acquire state-of-the-art human anatomical models and latest human anatomy videos to enhance the textbook-based knowledge of physical therapy students.
3. There is a need to review and align the physical therapy program outcomes with the teaching-learning approaches and laboratory resources essential in learning gross anatomy.
4. Further studies involving technology-based instructional methods in anatomy should be conducted to determine the best instructional method suited for the new generation learners.
5. For future researchers, compare the use of prosected versus dissected human cadaver in learning gross anatomy.

REFERENCES

Baan, R., Grosse, Y., Straif, K. (2009). Special report: Policy: A review of human carcinogens-Part F: Chemical agents and related occupations. *Lancet Oncology*, 10 (12), 1143–1144.

Berube, D., Murray, C., Schultze, K. (1999). Cadaver and computer use in the teaching of gross anatomy in physical therapy education. *Journal of Physical Therapy Education*, 13, 2; ProQuest

Bukowski, Elaine L. (2002). Assessment outcomes: Computerized instruction in a human gross anatomy course. *Journal of Allied Health*.

Choi-Lundberg, D.L., Low, T.F., Patman, P., Turner, P., Sinha, S.N. (2016). Medical student preferences for self-directed study resources in gross anatomy. *Anatomical Sciences Education*, 9(2), 150-160.

Davis, C.R., Bates, A.S., Ellis, H., Roberts, A.M. (2014). Human Anatomy: Let the students tell us how to teach. *Anatomical Sciences Education*. 7(4) , 262-272.

Florance, V. (2010). Better Health in 2010: a report by the AAMC's Advisory Board. *Association of American Medical Colleges*. www.aamc.org/betterhealth.

Gabard, D. L., Lowe, D. L., Chang, J. W. (2012) . Current and Future Instructional Methods and Influencing Factors in Anatomy Instruction in Physical Therapy and Medical Schools in the U.S. *Journal of Allied Health* . 41(2) , 53-62.

Granmo, M., Bengtsson, F. (2015). Teaching Anatomy in the Multimedia World-Using Digital Tools for Progressive Learning over Time. *Creative Education* . 6 (11) , 1193-1200.

Haase, P. (2000). The challenges of teaching an old subject in a new world-a personal perspective/ discussion. *Clinical and Investigative Medicine*. 23 (1).

International Agency for Research on Cancer (2004). IARC Classifies Formaldehyde as Carcinogenic to Humans. http://www.iarc.fr/ENG/Press_Releases/pr153a.

Johnston, A.N.B., Massa, H., Burne, T.H.J. (2013). Digital lecture recording: A cautionary tale. *Nurse Education in Practice*. 13 (1), 40-70.

Kesner, M.H., Linzey, A.V. (2005). Can Computer-Based Visual-Spatial Aids Lead to Increased Student Performance in Anatomy and Physiology. *The American Biology Teacher*, 206-207,209-212.

Lempp, H.K. (2005). Perceptions of dissection by students in one medical school: beyond learning about anatomy. A qualitative study. *Med Educ*, 39 (3), 318-325.

Malamed S, Seiden, D. (1995). The future of gross anatomy teaching. *Clinical Anatomy*. 8, 294–296.

McKenzie, A.L., Gutierrez, B. (2007). The Varied-Integrative-Progressive (VIP) Model for Anatomy Instruction in Physical Therapist Education. *Journal of Physical Therapy Education*. 21 (2), 17-29.

National Cancer Institute (2011).www.cancer.gov/cancertopics/factsheet/Risk/formadehyde.

Ogard, W. K. (2014). Outcomes Related to a Multimodal Human Anatomy Course with Decreased Cadaver. Dissection in a Doctor of Physical Therapy Curriculum. *Journal of Physical Therapy Education*. 28(3), 21-26.

Pathak, S.K., Bliss, J.P. (2000). The effectiveness of human anatomy instruction as a function of media style. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. 2 , 94.

Plack, Margaret M. (2000). Computer-assisted instruction versus traditional instruction in teaching human gross anatomy. *Journal of Physical Therapy Education*14 (1), ProQuest

Tan, S. Hu, A., Wilson, T., Ladak, H., Haase, P, Fung, K. (2012). Role of a computer-generated three-dimensional laryngeal model in anatomy teaching for advanced learners. *The Journal of Laryngology & Otology*, 126, 395–401.

Udaya, K.P., Seema, M. (2013). Teaching Methodology of Anatomy: Towards a Modern Outlook. IJCRR.

Valdecasas, A.G., Correas, A.M., Guerrero, C.R., Juez, J. (2009). Understanding complex systems: lessons from Auzoux's and von Hagens's anatomical models; *J. Biosci*. 34, 835–843.

The Grant in Need is the Grant Indeed:
The Effectiveness on Providing Grants, Scholarship and Assistant Classes for Disadvantaged Students

Kai Yuan Cheng[1], Tsai Wen Lin[2] and Yi Ju Lin[3]

[1]Central Taiwan University of Science and Technology, Taiwan (kycheng@ctust.edu.tw)
[2]Central Taiwan University of Science and Technology, Taiwan (108610@gtrial.ctust.edu.tw)
[3]Central Taiwan University of Science and Technology, Taiwan (500271@ctust.edu.tw)

ABSTRACT

The project Sustained Progress and Rise of Universities in Taiwan (SPROUT) led by Ministry of Education Taiwan has provided the minority and disadvantaged with grants and scholarships not merely for fostering their living but for encouraging them to attend assistant classes. This study aims to explore the effectiveness on project implementation in one university of middle Taiwan. Grantees' academic performances from 2018 to 2019 were utilized to achieve this retrospective study. According to grantees' attendance frequency, we divided grantees as the stable group and the unstable group. Each group composed of three levels by allocating grantees with different academic performances, including the grantees with better academic record than class and / or department averages (Level 1 and Level 2) and the grantees with worse academic record than class and department averages (Level 3). The two-way factorial research design for an interaction effect and main effects was operated. Results are demonstrated as follows. Firstly, the stable group showed the better academic performance than the unstable group. Secondly, based on comparisons among levels, three levels of the stable group made progress simultaneously by years, yet the significant difference between Level 1 and Level 3 of the unstable group was increasing, pointing out *the Matthew effect* among levels of the unstable group. It demonstrated that grantees with the worse academic performances of the stable group were improved, but contrarily those of the unstable group became worse. Namely, grants and assistant courses for grantees with worse scores fostered their academic performance with regular attendances.

Keywords: Higher education publicity and equity, Grants for the minority and disadvantaged, The Matthew effect

INTRODUCTION

In order to foster enhancement and development of higher education in Taiwan, the Ministry of Education Taiwan has launched the project named Sustained Progress and Rise of Universities in Taiwan running from 2018 to 2022. This project also can be regarded as the acronym, "SPROUT". The kernel of SPROUT is to preserve students' right to education, composing of four facets: develop universities features, fulfill social responsibility, make resources more public (publicity of higher education), and take teaching as the core. According to the far-reaching blue print of this project, the importance of equality, equity and responsibility for higher education has been emphasized.

Grants programs for the minority and disadvantaged are main implementations for putting social responsibility and equilibrium of resource publicity as well as equity into practice. This usage of social investment on higher education is essential and interwoven with national development. Namely, this practice needs the corresponding strategies to assure its effectiveness, success and long-term value or the Matthew effect accompanies owing to disequilibrium of resource allocation or not hitting the bulls' eyes (Hemerijck, 2017, p.67; Rigney, 2010, Wade, 2004). That is to make the rich much better and the poor even worse. Hence, assistant programs, consisting of remedial courses, the second specialty cultivation, and scholarships for attending these courses, has been organized and executed to support the project.

The Matthew effect coined by Robert K. Merton (1968) origins from the Gospel of Matthew in the New Testament, one segment of chapter 25 verse 29 saying "for to every one who has, more shall be given" and that has been designated in many fields of social life (Hemerijck, 2017, p.71). Changes of sizes of concentric circles over time are taken as explanations for the Matthew effect model, pointing out the gap between rich and poor has become larger by years and that is simultaneously applied in education (Perc, 2014). For education, it usually demonstrates the phenomena of widening gap between rich and poor that mentions not only materials but also facets of learning motivation, effectiveness and achievement. Further, learning milieu composing of teaching pedagogies curriculum designs, etc., and individual cognition are keys to result in it (Stanovich, 2008).

When it comes to factors leading to the Matthew effect for education, there are main factors, such as socioeconomic status, respondent education, disequilibrium of social resource allocation, motivation to learn, cognitive skills, the wealth gap and so on, especially existing salient among the minority and disadvantages (Morgan, Farkas & Hibel, 2008; Walberg & Tsai, 1983). Yet, the main mindset of SPROUT is to improve the enhancement of higher education and avoid the Matthew effect occurrence. Therefore, this study aims to apply cross-sectional data of grantees' grade and attendance records for comprehending the effectiveness of grant programs.

METHOD

The study was conducted retrospectively
On account of grants for the minority and disadvantaged provided by Project SPROUT, the number of attendances was 5685 in total funded during 2018 (n=3607) to 2019 (n=2078). The specific programs were organized for encouraging students who needed assistances to apply for grants, inclusive of attending skill-up courses, courses for certificate permission, remedial classes and so on. For the sake of revising the programs dynamically and immediately, study performances of grantees were recorded, composing of attendances and achievement performances which were simultaneously accumulated in the data warehouse of institutional research as research materials for this study.

Data processing
In accordance with attendance frequency, grantees were divided into the stable group and the unstable group during 2018 to 2019 individually. Furthermore, grantees involved in the stable group and in the unstable group were also separated as three levels based on their achievement performances. Three levels were presented as the Level 1grantees with better academic record than class *and* department averages, the Level 2 grantees with better academic record than class *or* department averages and the Level 3 grantees with *worse* academic record than class *and* department averages. The number of attendances for each level within two groups during 2018 to 2019 was in detail presented in Table 1. Cross-sectional approach and data were manipulated in this study. The two-way factorial research design (groups and levels) was operated to calculate interaction effects and main effects of performance differences among grantees with tests for statistical significance.

RESULT

Descriptive data

Based on the descriptive results showed in Table 1, generally speaking, grantees' grades in the stable groups were ranging from 65.03 to 83.31 and that in the unstable group were covering from 59.79 to 83.28. For different levels in the same group, the gap between Level1 as well as Level3 within the unstable group was greater than that involved in the stable group descriptively. The ranking order of grantees' grades was Level 1, Level 2 and Level 3 by years, revealing a stable pattern. Moreover, as grantees' grades between two groups by different levels compared, the subtle differences seemed to be addressed, except for Level 3 between the stable group and the unstable group which might discover the diversity.

Table 1: Descriptive data of grantees' academic performances in two groups

Groups	level / year	Level 1 M (SD) N	Level 2 M (SD) N	Level 3 M (SD) N
Stable	2018(1)	82.60(5.35)(n=471)	76.52(5.37)(n=85)	65.03(12.17)(n=248)
	2018(2)	82.64(5.33)(n=317)	76.22(5.08)(n=79)	65.76(11.23)(n=129)
	2019(1)	83.31(4.93)(n=247)	77.19(3.86)(n=60)	67.53 (7.39) (n=96)
	2019(2)	82.62(5.77)(n=238)	75.55(5.45)(n=38)	65.16(10.98)(n=93)
Unstable	2018(1)	82.33(5.11)(n=626)	76.61(5.83)(n=127)	63.04(17.33)(n=375)
	2018(2)	82.42(5.90)(n=600)	76.52(5.59)(n=152)	60.26(19.27)(n=398)
	2019(1)	81.64(4.66)(n=365)	76.03(4.25)(n=124)	62.56(16.92)(n=191)
	2019(2)	83.28(4.50)(n=372)	77.44(4.47)(n=86)	59.79(23.54)(n=168)

Resource: study records of grantees from data warehouse for institutional research of Central Taiwan University of Science and technology

Interaction effect and main effect

Outcomes for tests of statistically significance were as follows. In the first place, there was no interaction effect between groups and levels (F (1, 5) = 1.09, η^2 = .01, p = .54, p > .05). Further, main effects in the two groups were testified separately. Level 1 was better than Level 3 both in the stable group and the unstable group significantly (F (1, 11) = 195.95, η^2 = .51, p = .000, p < .001; F (1, 11) = 187.21, η^2 = .40, p = .000, p < .001). Nevertheless, the difference between Level 1 and Level 3 in the unstable group was increasing by years which revealed the gap was greater than that in the stable group illustrated as the black bars in Figure 1.
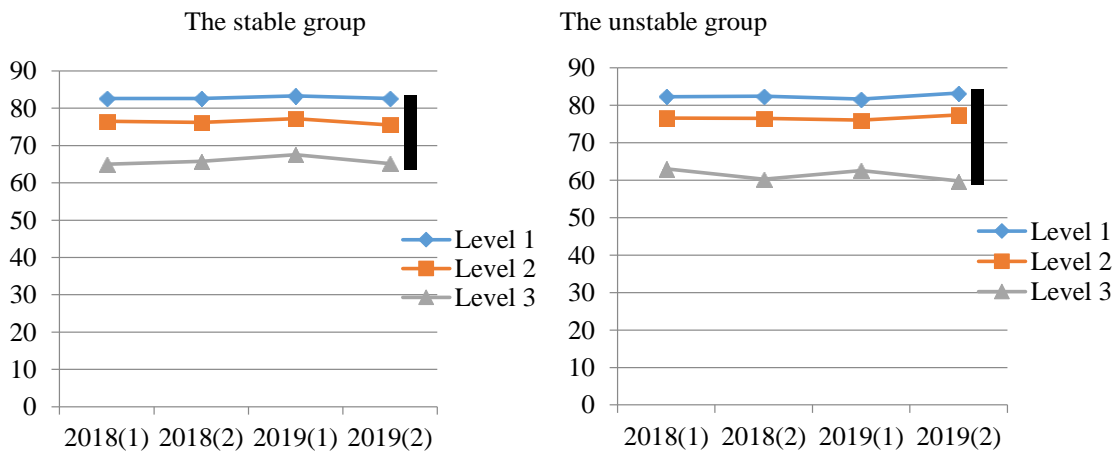
Figure 1 Grantees' grades of different levels in the stable group and the unstable group

Resource: study records of grantees from data warehouse for institutional research of Central Taiwan University of Science and technology.

In other words, although significant differences existed between Level 1 and Level2, yet grantees' performances of Level 3 in the unstable group were even worse. Namely, the Matthew effect occurred in the unstable group, demonstrating that grantees who skipped assistant courses usually and not obtained grants regularly were inclined to fall behind little by little.

DISCUSSION AND FUTURE PLANS

Those who needed helps in need were favored in deed via participation in grant programs

Grantees with worst academic performances attending assistant courses and accepted grants stably made progress in grades by years, even though there was still a distance from grantees with best grades in the group. Grants programs helped them shorten the distance to jeopardize. It could be postulated that there was a reciprocal relationship established in the positive assistant system of grant programs (Kempe, Eriksson-Gustavsson, & Samuelsson, 2011). Grantees were enhanced with not only financial supports but mental encouragement. As a result, grant programs for the minority and disadvantaged were practically beneficial for those really in need with regular participation in programs.

Those who needed a grab in need but escaped went far gradually

Based on grade comparisons among grantees with different achievement performances, those who had the worst grades as well as did not take part in assistant programs in time showed the degrading situation owing to frequent absences, the original skillful gap and decreasing motivation to learn (Kerckhoff & Glennie, 1999; Morgan, Farkas & Hibel, 2008). Hence, grantees rich in grade records became richer whereas grantees poor in grade records turned poorer which forming a vicious circle. On the other hand, it also unveiled that social investments for higher education particularly on the minority is far ideal but worthwhile to contemplate equality and beneficial strategies to implement (Hemerijck, 2017, pp.66-71, Rigney, 2010). For example, the financial need is often regarded as an imperative issue for the minority and disadvantaged superficially but demands for materials or vanity is the latent mediation driving individuals to seek, especially for the graduates. Moreover, insufficient academic achievement or frustration of learning has negative impact on students' self-concept and senses of achievement which leads to escapes from classes and assistant programs (Chen, Chiu, and Wang, 2015).

Drop-off ratio and certificate permission will be tracked and analyzed

In accordance with abovementioned results, how to keep those who will be prone to skip or be absent from grant programs will be take more consideration into implementation. In the beginning, for tracking grantees, a mutual network is about to be built for tutorial teachers and TAs so that instant cares can be delivered to grantees. Secondly, regular remedial classes and interviews will be improved to point out grantees' difficulties in learning. For data analysis, drop-off ratio, certificate permission and self-efficacy will be the future issues to track the longitudinal effectiveness on improving the minority and disadvantaged.

ACKNOWLEDGEMENTS

REFERENCES

Chen, B.H., Chiu, W. C., & Wang, C. C. (2015). The Relationship Among Academic Self-concept, Learning Strategies, and Academic Achievement: A Case Study of National Vocational College Students in Taiwan via SEM. *Asia-Pacific Education Researcher*, *24*(*2*), 419-431. http://doi.org/ 10.1007/s40299-014-0194-1.

Hemerijck, A. (Ed.) (2017). *The uses of social investment*. British: Oxford University Press.

Ministry of Education Taiwan (2019). Higher education SPROUT project. https://sprout.moe.edu.tw/SproutWeb/Home/Index/en.

Kempe, C., Eriksson-Gustavsson, A.L., & Samuelsson, S. (2011). Are there any Matthew effects in literacy and cognitive development? *Scandinavian Journal of Educational Research*, *55*(*2*), 181-196. http://doi.org/10.1080/00313831.2011.554699.

Kerckhoff, A.C. & Glennie, E. (1999). The Matthew effect in American education. *Research in Sociology of Education and Socialization*, *12*, 33-66.

Morgan, P. L., Farkas, G., & Hibel, J. (2008). Matthew effects for whom? *Learning Disability Quarterly*, *31*, 187-198.

Perc M. (2014). The Matthew effect in empirical data. *Journal of The Royal Society Interface*, *11*, 1-15. *http://dx.doi.org/10.1098/rsif.2014.0378*.

Rigney, D. (2010). The Matthew effect: How advantage begets further advantage.

New York: Columbia University Press.

Stanovich K. E. (2008). Matthew effects in reading: some consequences of individual differences in the acquisition of literacy, *Journal of Education*, *189*, 23-55. https://doi.org/10.1177/0022057409189001-204.

Wade, R. H. (2004). On the causes of increasing world poverty and inequality, or why the Matthew effect prevails. *New Political Economy*, *9*(*2*), 163-188. https://doi.org/10.1080/1356346042000218050

Walberg, H. J. & Tsai, S.L. (1983). Matthew effect in Education. *American Educational Research Journal*, *20*(*3*), 359-373. http://doi.org/10.2307/1162605.

SUB-THEME 2:
Education Governance, Culture, and Values

Psychological Readiness and Organizational Commitment of Higher Education Institution Retiring Faculty

Calvin Dave D. Ganub[1], Milagros H. Lagman[2,]
Shinette O. Pestano[3], and Ana Lea T. Reyes[4]

University of St. La Salle Bacolod City, Philippines
(c.ganub@usls.edu.ph)
(m.lagman@usls.edu.ph)
(s.pestano@usls.edu.ph)
(a.reyes@usls.edu.ph)

ABSTRACT

Retirement is an inevitable transition period of one's career life wherein retirees anticipate doing things leading them in achieving wellness and well-being through engaging in meaningful lifestyle activities that sustain them to become productive still. Although retirement has been a studied topic psychological readiness and organizational commitment were not yet explored in the local educational institution context. This explanatory sequential mixed method approach investigated and described the views and experiences of retiring higher educational institution faculty for the academic year 2019-2020. Survey and phenomenological interviews were used for data generation. In terms of psychological readiness, the retiring faculty had been preparing themselves eventually for retirement psychologically, emotionally, and spiritually because the university had given such formation activities for growth. In terms of organizational commitment, the retiring faculty remain committed to the organization even though they are about to retire. Their passion for work is still the same as if they are still new to the organization. Amidst the challenging situation encountered in their stay at the organization; they are still loyal and wanted to go back to teaching after retirement. Given these situations, there is a need for the institution to look into the holistic wellness of employees and making sure that when they retired, they will be responsible for how to go about managing their life that would result in sustainability and productivity.

Keywords: Psychological Readiness, Organizational Commitment, Higher Education, Retiring Faculty

INTRODUCTION

Development occurs throughout the lifespan of the person and is considered inevitable. According to the theorist Havighurst, individual moves from one stage to another using successful resolution of problems or the performance of the developmental tasks. (Uhlendorff, 2016). These developmental tasks provide meaning and satisfaction, thus the drive to perform better gets higher when one can comply with the task at hand much more if appreciated by others.People in their middle adulthood are still recognized to be in productivity years. However, this age can be also the start of some health concerns, as physical aspect gradually declines, hormonal problems as menopausal may set, and other medical issues may also manifest. This can be associated also with emotional, psychological, and cognitive changes that may affect the individuals' performance, productivity, and efficiency at work. Thus, motivation may become a concern, feel easily get tired and priorities may change as they focus more directed on self and family.

As they get into this phase in life, retirement may become part of their thoughts. Issues on finances, wealth, and well-being may become a great concern as they entertain the said idea. People may opt to delay retirement when they find their jobs more satisfying, rewarding, and happy with social interactions. They feel more involved, committed, and loyal to their jobs and

the organizations (Davies and Cartwright, 2016). Consequently, Thabo, et. al (2018) stressed that organizational commitment is a major determinant of organizational effectiveness and desirable employee attitudes and behaviors. Highly committed academic staffs are the backbone of universities since they play an important role in the success of the institution. Direct and indirect decisions and actions as well as management control are factors of organizational commitment. And being in the helping profession, the researchers have noticed this pattern of concerns among colleagues and co-workers in the institution. The service, wisdom, and successes of these people are highly incomparable, are also evident, however, demoralization will include but is not limited to the abrupt transfer of teaching assignments in the senior high school which resulted to lower financial income and triggers self-devaluation which affected their psycho-emotional well-being thus yield inconsistent quality output.

On the other hand, unfairness in the system seems to be evident in the organizational re-engineering process because they are compelled to adhere to the institutional directives even without prior consultation. This causes conflict and misunderstanding which escalate more stress and anxiety and eventually affects word productivity and eventually leads to a decision for retirement. Observing from the previous experiences of retirees, the researchers have seen the strong need to explore this concern to hopefully bridge the gap that has not been fully maximized by employees. The institution may have programs and activities but seems very limited or may have not come to the attention of the people concerned. This study likewise aims to look into the psychological readiness of aging people towards retirement and at the same time determine factors of their commitment to continue teaching and serving the institution. The study may serve as substantial data for the improvement of the retirement program of the institution. In the same way that this study would be able to assist the faculty members specifically those who are in their mid-adulthood stage to make active and solid preparation for their personal, social, and financial endeavors after retirement.

STATEMENT OF THE PROBLEM

This study aims to explore the psychological readiness and organizational commitment of the retiring faculty members of one University in Bacolod City.
Specifically, this study intends to answer the following questions:
1. What is the demographic profile of the participants when grouped according to:
   a. Sexual Orientation
   b. Length of service
   c. Civil Status
   d. Academic Rank
2. What is the level of psychological readiness of the participants when taken as a whole and when group according to?
   a. Sexual Orientation
   b. Length of Service
   c. Civil status
   d. Academic Rank
3. What is the level of organizational commitment of the participant when taken as a whole and when grouped according to?
   a. Sexual Orientation
   b. Length of Service
   c. Civil Status
   d. Academic Rank

4. What are the factors that sustain the participants to stay committed to the organization?
5. What is the workplace-related experiences of the participants?

THEORETICAL FRAMEWORK

This study is embedded in the Three-Stage Model of Change by Kurt Lewin. The process of change entails creating the perception that a change is needed, then moving toward the new, desired level of behavior, and finally, solidifying that new behavior as the norm. According to Lewin three-stage models are: Unfreezing- Since people naturally resist change, this will go through the initial step of unfreezing. The goal of which is to create an awareness of how the status quo or current level of acceptability is hindering the organization in some way. To create and maintain in competitive advantage in the market, old behaviors, ways of thinking, processes, people, and organizational structures should be examined to educate people because change is necessary. Thus, communication is relevant in this stage in making everyone aware of the imminent change, the logic behind and the benefits they may get. People get more motivated and productivity increases when all understand the need for change (Connelly, 2016).

Changing- Change is a process that people need to undergo to create a move or transition to a new state in the system. The process may be accompanied by struggles, uncertainty, and fear that make it difficult to overcome. But these changing steps teach people new behaviors, processes, and ways of thinking. Thus, when change is well planned and people are prepared, support, communication, and implementation of such become easy, and objectives are likely achieved (Connelly, 2016). Refreezing - The refreezing change (final stage) symbolizes the act of reinforcing, stabilizing, and solidifying the new state after the change. The changes made to organizational processes, goals, structure, offerings, or people are accepted and refrozen as the new norm or status quo. This state is considered very important to ensure that people do not revert to their old ways of thinking or doing before the implementation of the change. Efforts must be made to guarantee the change is not lost; rather, it needs to be cemented into the organization's culture and maintained as the acceptable way of thinking or doing. Positive rewards and acknowledgment of individualized efforts are often used to reinforce the new state because it is believed that positively reinforced behavior will likely be repeated (Connelly, 2016)
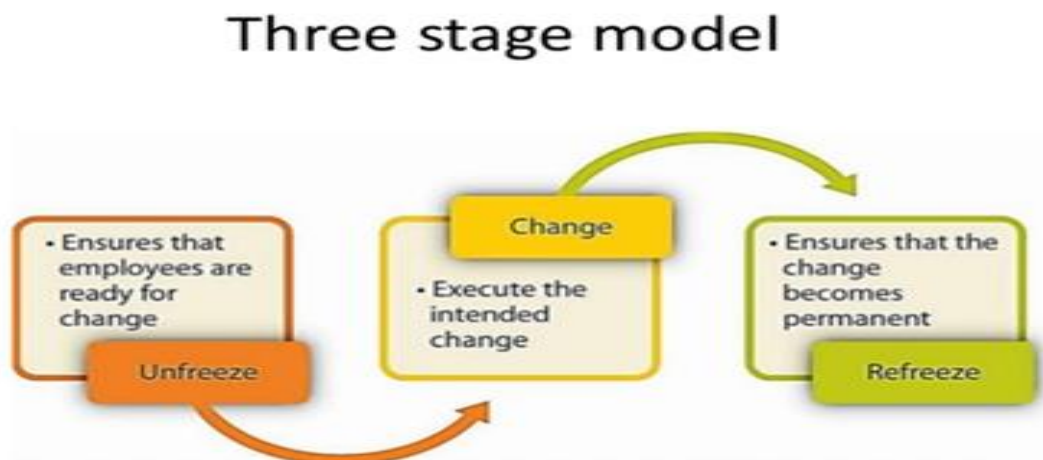

Figure 1. Schematic Diagram of the Theoretical Framework

This research on psychological readiness and organizational commitment investigated how the participants prepared themselves psychologically for the transition and how they fit in or committed to the organization. Thus, through the conduct of the study by quantifying and qualifying the psychological readiness and organizational commitment according to the enumerated variables, it would help the institution in crafting programs and activities that would benefit those employees who are about to retire. Unfreezing happened when higher educational institution faculty adopt the transition that is taking place in the university. Some of them are getting used to the older ways, they have been consumed by the old system and difficulty to shift their paradigms as a result of change; they were baffled with uncertainties and complexities brought by the organizational change thus shaken their psychological equilibrium. Moreover, they were forced to continually embraced the institutional policies/guidelines though they do not concede to them. Changes that are taking place in the organization are seemingly for the betterment of its operations and stakeholders in general. However, the higher education institution faculty should align their values to the institution's mission and vision at all costs.

In addition, psychological readiness refers to the totality of psychological knowledge that includes skills of self-regulation and communicative competence, stitched together by the general notion of emotional intelligence and operational block which is the extent of development of professionally important qualities and individual-typological specific personal features which is the degree of conformity with a job (Vladimirovna & Nikolayevna, 2019). This study pertains to the psychological preparedness of faculty to change lifestyle from being employed full-time to being about to retire. Consequently, Thabo, et. al (2018) stressed that organizational commitment is a major determinant of organizational effectiveness and desirable employee attitudes and behaviors. Highly committed academic staffs are the backbone of universities since they play an important role in the success of their institutions. Most of the factors that affected organizational commitment involved decisions and actions that were directly or indirectly at the disposal and control of the management. The single most important factor that predicted commitment to the university was acceptance of the new criteria for the assessment of academic staff, followed by the perception of research opportunities.

Retirement preparation, both financial and psychological is often neglected, thus the need for psycho-educational activities which can be facilitated by psychologists is much needed to educate employees. Schloddberg, a counseling psychologist came up with a psychological portfolio phrase as a way to let people think about retirement as a career change. In a study of 100 retirees, Schlossberg found that retirement involves many transitions and coping from these depends on the role of work and family in the life of an individual, timing of retirement, degree to which work has been satisfying, degree to which retirement is planned for, one's expectations about retirement, degree to which a meaningful life is established and one's health and sense of financial security. These are factors that contribute to helping people negotiate retirement transition (Burton, 2019).
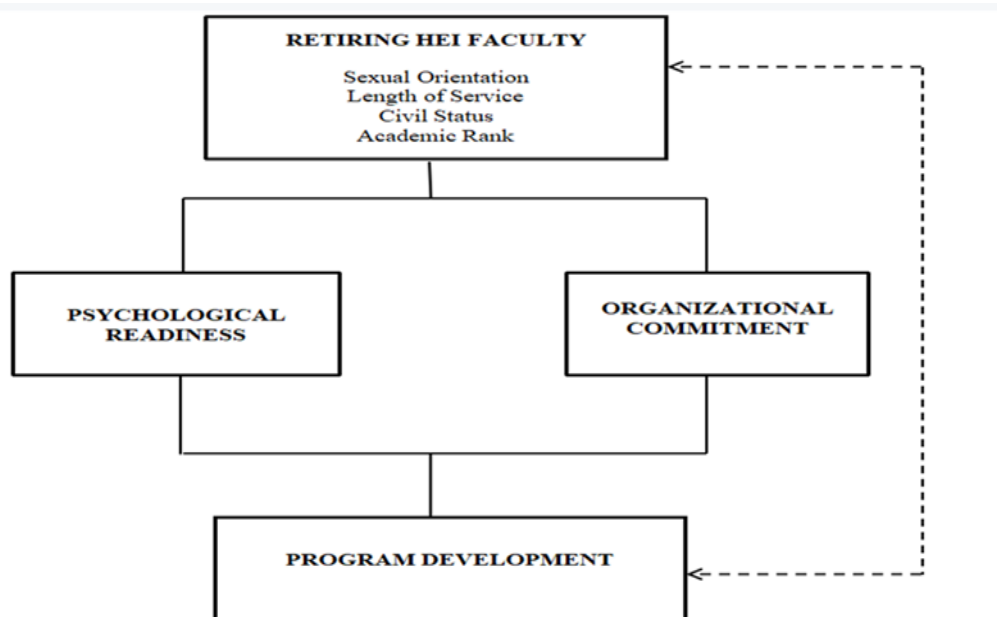
Figure 2. Schematic Diagram of the Conceptual Framework

METHODS

This is a descriptive study employing a survey method approach in data generation and analysis. The survey is a pre-defined series of questions used to collect information from individuals regarding the topic being investigated. The 31 participants of the study met the following criteria: age ranges from 50-60 years old, was a full-time higher education unit faculty, with a master's or Ph.D. degrees, and have been teaching in the university for at least 5 years and beyond. Excluded in the study were part-time faculty, faculty in the college of medicine, and college of law.

RESULTS AND DISCUSSIONS

Means for Psychological Readiness

Participants expressed their common understanding about their psychological readiness for retirement. The majority have disagreed with regular visitation to the health specialist for a follow-up check-up. The issue about finances about health care may not be a factor as most of the participants have medical insurances as this is one benefit given by the institution. However, this may become a concern if the allowable insurance budget has already been used up or maximized, thus finances have become now an important issue that likely hinders them to visit their physicians.

Czeister, Marynak, Clarke et.al. (2020), showed that 41% of adult Americans seemed to delay or even avoid medical care. Seeking emergency care as well as routine check-up likewise were delayed by 12% and 32% respectively. Another relevant study also showed the lower response rate of patients concerning medical utilization in Ethiopia. Statistics showed that 70% of the patients missed doing their follow-up check-ups, 12% missed their medication and 1.3% of patients died due to inability to seek medical assistance due to fear of COVID 19 (Aklilul, Abee, Tadeke et.al., 2020).

Moreover, participants expressed their feedback about having no personal health insurance coverage in preparation for their retirement. The institution has no provisions for those who have already retired from the service except as provided by the government. Dayrit et.al.(2018) cited in El Omari and Karasneh (2021), indicated that one of the recipients of the Philippine Social Health Program is those former members who have reached the age of 60 and have paid for at least 120 monthly contributions with Phil Health before the semester of their retirement. This time, membership becomes free if the above-mentioned categories are met. Yes, this support from the Government is very helpful, but the participants are somehow aware that this support is just very limited. Thus, participants are fully aware that as they age, medical needs get bigger, and assistance from Phil Health would not be enough to sustain their needs. This making most of the participants a concern to think about.

Nevertheless, having no personal health insurance coverage in preparation for their retirement and the challenge of a regular visitation to the health specialist for follow-up check-ups, participants still enjoy thinking about how they will live their future after retirement. This connotes dispositional optimism which impacts the quality of life among retirees. Such a brand of optimism enabled them to incorporate physical and psychological issues in their approach to wellness and well-being in the hope to promote physical and mental health which is notably quite difficult to be achieved in old age. Scheier et al. as cited in Topa & Pra (2017) stipulated that optimism demonstrates favorable expectations about one's future and is a good predictor of positive outcomes such as the formation of motivational priorities and the application of coping

In a like manner, participants' psychological readiness concerning the quality of spiritual life in retirement is remarkable. The circumstances they invariably experienced might have elicited hopelessness, stress, suffering that throw opens the portals to growth and maturity, thus, leading them to embrace and acknowledge God's existence, more so giving them meaning and purpose in life. A study by Malone & Dadswell (2018) revealed that spirituality may directly or indirectly affect health as it normally renders a substantial social support network, a depletion of unhealthy behaviors, and the encouragement of positive emotional states. As emphasized in Topa & Pra (2017), religion, spirituality, and/or belief in older age were likewise associated with comfort, hope, and peace of mind concerning ill-health in older age. Results revealed that although most participants believed that it could not cure physical illness, it could give them something to hold on to; it pacifies anxiety and provides for tranquility.

Table 1. Means for Psychological Readiness

Psychological Readiness	Mean	Std. Dev.	Interpretation
1. I frequently read articles/brochures on physical health and well-being	3.2581	.51431	Agree
2. I regularly visit my health specialist for follow up check-up.	2.8387	.82044	Disagree
3. I am pretty much creative on spending my time traveling, gardening, playing and teaching my grandchildren.	3.2581	.72882	Agree
4. I see the future to be definite and certain.	3.0968	.83086	Agree
5. I am very confident in my ability to forge a new social network upon retirement.	3.6129	.55842	Agree
6. I feel that as I age, I become more attractive.	3.1935	.54279	Agree
7. I discuss retirement plans with my spouse, friends, or significant other.	3.4194	.71992	Agree
8. I enjoy thinking about how I will live years from now in the future.	3.5806	.56416	Strongly Agree
9. I have a clear vision of how life will be after retirement.	3.4194	.62044	Agree
10. I set specific goals on how much will be my savings for my retirement.	3.1290	.67042	Agree
11. I usually save a specific amount from my monthly income.	3.0323	.79515	Agree

	Mean	Std. Dev.	Interpretation
12. I have identified specific spending plans for the future.	3.0000	.73030	Agree
13. I think a great deal about quality of spiritual life in retirement.	3.7419	.44480	Strongly Agree
14. I enjoy living for the moment and trusting what tomorrow will bring.	3.3871	.76059	Agree
15. I engage myself in fitness planning activities.	2.9032	.70023	Agree
16. As I grow older, I exercise reflective thinking activities.	3.4194	.50161	Agree
17. I know how much money I need to accumulate by the time I retire.	3.0645	.67997	Agree
18. I invest in health care packages for health-related expenses.	3.0000	.77460	Agree
19. I have a retiree personal health insurance coverage purchased directly from an insurance company.	2.2903	1.00643	Disagree
20. After retirement, I have other sources of income aside from pension.	2.8387	.89803	Agree
Overall	3.1742	.37680	Agree

Means for Organizational Commitment

The organization's policies on employees' attendance to institutional activities are in-placed and that retirees found the activities relevant to their growth as professionals. In some cases, some employees left the institution and did not find meaning at all to stay. Some employees may have personal reasons or the organization does not give them any reason at all to stay or it might be that there are more opportunities outside of the institution that would be beneficial to their growth as employees. Kaiser (2018) suggests that organizations' activities are a great way to highlight the organization's core values and culture. Employees want to work for an organization where they feel engaged and empowered. Organizations with engaged employees make 2.5 times more than their less-engaged counterparts. Engaged employees are a whopping 87% less likely to leave their organization. It is worth planning activities to keep employees engaged and happy.

Heathfield (2021) stressed that employees quit their job for many reasons. They follow spouses or partners across the country, stay home with children, change careers, find upwardly mobile career promotions, and go back to school. Those reasons are tough to address by an employer because they involve life events in the employee's world outside of work. But, the majority of reasons why employees quit their job are under the control of the employer.

According to Holzman (2018), professional events provide opportunities that staff simply can't get elsewhere. When employees attend an event, they learn new skills, make new connections, expose your brand to new audiences, and so much more.
Employees care for their professional growth by continuing to explore possibilities that would enhance their skills and knowledge on the tasks given because it is meaningful to them. They are happy to work in the organization even how big or small the benefits they can get. Thus, they also stayed because of the good relationships they have with their peers. On the other hand, some employees left the institution and did not find meaning at all to stay. Some employees may have personal reasons or the organization does not give them any reason at all to stay or it might be that there are more opportunities outside of the institution that would be beneficial to their growth as employees.

Table 2. Means for Organizational Commitment

Psychological Readiness	Mean	Std. Dev.	Interpretation
21. Being with partners in any departmental engagement has a great deal of personal meaning for me.	3.6774	.47519	Agree
22. I regularly attend institutional-related activities.	3.9355	.24973	Strongly Agree
23. I would accept almost any type of work assignment in order to keep working for our college unit	3.4516	.62390	Agree
24. One of the major reasons I continue to work for the institution is that leaving would require considerable personal sacrifice.	3.1613	.73470	Agree

25. I care about my professional growth so I continue to explore learning possibilities for continuing education.	3.7097	.46141	Strongly Agre
26. I am encouraged to attend courses/seminar workshops/conferences and other related professional development activities related to my areas of specialization	3.8710	.34078	Strongly Agree
27. I have time to engage in community service even though I have a lot of responsibilities at work.	3.3226	.65254	Agree
28. I engage myself in school-related outreach activities as a matter of necessity as much as I desire.	3.1935	.74919	Agree
29. I enjoy providing voluntary service by sharing my expertise with partner communities.	3.4194	.56416	Agree
30. I am willing to put in a great deal of extra effort to conduct individual or collaborative research on a topic of interest to me professionally.	3.4839	.67680	Agree
31. I actively participate in any research endeavors/initiatives that discuss methodological and scientific results.	3.1613	.77875	Agree
32. I am eager to have my individual or collaborative research published.	3.4516	.67521	Agree
33. I am extremely glad that I chose to teach in this institution.	3.9032	.30054	Strongly Agree
34. There is much to be gained by attending the institution-initiated pedagogical skills development program.	3.7419	.44480	Strongly Agree
35. The institution I am with inspires me to improve my teaching competencies through a course experience survey.	3.6774	.54081	Agree
36. I show loyalty and commitment to the institution by adhering to its rules and policies.	4.0000	.00000	Strongly Agree
37. I have concern for the total welfare of the institution.	3.9677	.17961	Strongly Agree
38. I show a willingness to get involved in institutional activities.	3.9355	.24973	Strongly Agree
39. I participate in the institution environmental projects (e.g., tree planting, clean up drive)	3.6452	.60819	Agree
40. I am often alert to opportunities in the improvement of my instructional approach.	3.9032	.89803	Strongly Agree
Overall	3.6306	.21122	Agre

CONCLUSION AND RECOMMENDATIONS

This section presents the conclusion and recommendations of the study.

In the Means of Psychological Readiness of the participants, they strongly agree that they enjoy thinking about how they will live years from now in the future, and think a great deal about the quality of spiritual life in their retirement. On the contrary, the participants disagree with regularly visiting their health specialists for follow-up check-ups as well as securing retirees' health insurance from the insurance company.

In the Means of Organizational Commitment, the majority of the participants believe that policies on employees' attendance to institutional activities are in place and they found activities relevant to their growth as professionals. In addition, being with partners in any departmental engagements has a great deal of meaning to them which is why they remain committed to the institution.

In terms of psychological readiness, the retiring faculty had been preparing themselves eventually for retirement psychologically, emotionally, and spiritually because the university had given such formation activities for growth. They find retirement as an avenue to explore chances outside of teaching and capitalize on their strengths as retirees. However, when it comes to the financial aspect they do not prepare well because they believe that the Higher being will provide for their needs after retirement. They reap what they sow already by having a relatively good life while being employed in the school which not only benefited themselves but more so their families.

In terms of organizational commitment, the retiring faculty remain committed to the organization even though they are about to retire. Their passion for their work is still the same as if they are still new to the organization. Amidst the challenging situation encountered in their stay at the organization, they are still loyal and wanted to go back to teaching after retirement. The attitude of gratitude was developed because of the assistance and opportunities given by the institution which fosters the personal and professional aspects of their lives. The stay that they had in the university is worthwhile and meaningful to them because they have good relationships with the academic community.

Given these situations, there is a need for the institution to look into the financial wellness of employees and making sure that when they retired, they will be responsible for how to go about managing their finances that would result in sustainability. The Human Resource Development Services may enhance their career progression programs that would cater to the career needs of the employees from hiring to retiring so that it is formative and developmental. The collaborative effort between GEC and HRDS will be strengthened especially on psychosocial support services for the employees. HR may come up with activities, programs, and or interventions that are data-driven and evidence-based for it to be empirical.

REFERENCES

Connelly, M. (2016) The Kurt Lewin Change Management Model. Retrieved from
    https://www.change-management-coach.com › kurt_lewin
Davis, L. (2014) Resilience in the Workplace: How to be More Resilient at Work. Retrieved
    from https://positivepsychology.com › resilience-in-the-workplace
De los Santos, J. Labrague, L., Milla, N. (2019). Happiness and Retirement Readiness amongPre-
    Retiring Employees: a Cross-Sectional Study. Retrieve from
    JAA De los Santos, LJ Labrague, NE Milla - Ageing International, 2019 – Springer
El Omari, S. & Karasneh, M. (2021). Social health insurance in the Philippines: do the poorbenefit?
    Journal of Economics and Finance. Retrieved from:
    https://link.springer.com/article/10.1007/s12197-020-09525-5
Hayes, M. (2017) Why Professional Development Matters - Learning Forward
    learningforward.org › wp-content › uploads › 2017/08
Heenkenda, S. (2016): *Readiness to retirement planning of estate sector employees in Sri Lanka*.
    Retrieved from mpra.ub.uni-muenchen.de
Ilmakunnas, P., and Ilmakunnas, S. (2018) Health and retirement age: Comparison of
    expectations and actual retirement. Retrieved from https://doi.org/10.1177/1403494817748295
Jensen, A. and Bonde, L. (2018). The use of arts interventions for mental health and wellbeing
    in health settings. Perspect Public Health. 2018Jul;138(4):209-214. DOI:
    10.1177/1757913918772602. Epub 2018 Apr 30
Josephson, A. (2019) Why Your Retirement Age Matters. Retrieved from smartasset.com › why-
    your-retirement-age-matters
Kabir, G., Sumi, R.S., and Tesfamariam, S. (2017) Performance evaluation of employees using
    Bayesian belief network model. Retrieved from
    https://doi.org/10.1080/17509653.2017.1312583
Kohll, A. (2018). 5 Reasons Social Connections Can Enhance Your Employee Wellness Program.
    Retrieved from https://www.forbes.com/sites/alankohll/2018/01/31/5-ways-social-connections-
    can-enhance-your-employee-wellness-program/?sh=77b7befa527c. March 17, 2021
Limbadan, N., Leysa, A. Martin, J. P. (2015) The psychology of retirement readiness resources
    among retired and retiring employees of a catholic university: a preliminary investigation.
    Retrieved from https://www.papconvention.org/sites/default/files/presentation/a2-1.pdf
Malone, J. & Dadswell, A. (2018), The Role of Religion, Spirituality and/or Belief in Positive Ageing
    for Older Adults.

Mohan, A. & Subashini, E. (2016). Role of Teachers in Inculcating Values among Students. Retrieved from
http://ijariie.com/AdminUploadPdf/Role_of_Teachers_in_Inculcating_Values_among_Students_c1256.pdf

Naeem, M., Jamal, W., Peshawar, M., and Khan, R. (2017) The Relationship of Employees' Performance Appraisal Satisfaction with Employees' Outcomes: Evidence from Higher Educational Institutes. FWU Journal of Social Sciences, Winter 2017, Vol. 11, No.2, 71-81

Nair, G. (2017), Macroeconomic aspects of aging and retirement of college and university teachers, DOI 10.1057/978-1-137-57472-5_2 H.R. College of Commerce and Economic, Mumbai, India

Osborne, S. & Hammoud, M.S. (2017). Effective Employee Engagement in the Workplace, International Journal of Applied Management and Technology 2017, Volume 16, Issue 1, Pages 50–67 ©Walden University, LLC, Minneapolis, MN. Retrieved from: https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=1239&context=ijamt

Postholm, M. (2018). Teachers' professional development in school: A review study. Cogent Education, Volume 5, 2018 - Issue 1, DOI: 10.1080/2331186X.2018.1522781. Retrieved from: https://www.tandfonline.com/doi/full/10.1080/2331186X.2018.1522781

Ramdhani, A., Ramdhani, M.A. and Ainissyifa, H. (2017) *Conceptual framework of corporate culture influenced on employees' commitment to organization.* International Business Management, 11 (3). pp. 826-830. ISSN 1993-5250. Retrieved from A Ramdhani, MA Ramdhani… - International Business …, 2017 - digilib.uinsgd.ac.i

Rameli R.S. & Marimuthu, M. (2018). A Conceptual Review on the Effect of Attitudes towards Retirement on Saving Intentions and Retirement Planning Behavior. Retrieved from: https://www.researchgate.net/publication/328936374_A_Conceptual_Review_on_the_Effect_of_Attitudes_towards_Retirement_on_Saving_Intentions_and_Retirement_Planning_Behavior

Ranjitha, Shekhar, Rameela (2018) The Scope for Retirement Preparedness EducationProgramme for Pre-Retirees R Shekhar - Advanced Science Letters, 2018 - ingentaconnect.com

Rappaport, A. (2016). Retirement Wellness: Ideas for Improving Retirement Wellness. Retrieved from: https://www.ifebp.org/inforequest/ifebp/0200383.pdf

Riggio R. (2015). Are you psychologically ready to retire*? Psychology Today. Retrieved from* https://www.marketwatch.com › story › why-youre-probably-not-psychologi...

Rosenthal, D & Moore, S. (2018) Retirement Health and Well-being. Retrieved from thepsychologist.bps.org.uk › retirement-health-and-well...

Saks, A.M. and Gruman, J.A. (2017), "Human resource management practices and employee engagement", in Sparrow, P. and Cooper, C.L. (Eds), A Research Agenda for Human Resource Management, Edward Elgar, Cheltenham, pp. 95-113.

Sammer, J. (2020) Preparing for Waves of Retiring Employees. Retrieved from www.shrm.org › hr-topics › benefits › pages › preparin..

Santisi, G., Magnano, P., Platania, S., Ramaci, T., (2018) Psychological resources, satisfaction, and career identity in the work transition: an outlook on Sicilian college students. Retrieved from https://www.ncbi.nlm.nih.gov › pmc › articles › PMC5965388

Saviozzi, M (2017) Loyalty Vs. Commitment: How To Keep Your Employees From Job-Hopping. www.entrepreneur.com › article

Segall, P (2017) Readiness for Positive Change: A Conceptual Framework Integrating Positive Psychology and the Transtheoretical Model of Behavior Change. Retrieved from https://repository.upenn.edu › mapp_capstoneabstracts

Sewdas, Wind, van der Zwaan, van der Borg, Steenbeek, van der Beek & Boot (2017). Why older workers work beyond the retirement age: a qualitative study. BMC Public Health. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5567892/

Shanker, S., Mukku, R., Kumar, V., Shettar, H. and Sivakumar P.T. (2017) *Psychological morbidity after job retirement: A review* SSR Mukku, V Harbishettar, PT Sivakumar - Asian Journal of Psychiatry, 2018 – Elsevier

Society for Human Resource Management, (2015). Employees Job Satisfaction and Engagement: Revitalizing a Changing Workforce. Retrieved From https://www.shrm.org/hr-today/trends-

and-forecasting/research-and-surveys/Documents/2016-Employee-Job-Satisfaction-and-Engagement-Report.pdf. March 17, 2021

Stanborough, R. (2019). Benefits of Reading Books: How It Can Positively Affect Your Life. Retrieved from https://www.healthline.com/health/benefits-of-reading-books. March 17, 2021

Uhlendorff, U. (2017). Havighurst, Developmental Task Theory. The Concept ofDevelopmental-Tasks and its Significance for Education and Social Work. Retrieved from: https://www.psychologynoteshq.com/development-tasks/

Weller, C., (2016) Retirement on the Rocks: Why Americans Can't Get Ahead and How New Savings Policies Can Help, Palgrave Macmillan in the US is a division of Nature America, Inc., One New York Plaza, Suite 4500, New York, NY 10004-15

Strategic Alliances in Institutions of Higher Education to Promote Sustainable Development Goals: A Case Study of Two Universities in Taiwan

Ying-Yan Lu[1], Ching-Hui Lin[2], Chien-Hung Lee[3], Szu-Yin Lin[4], Bo-Hsien Hu[5]

[1]*Kaohsiung Medical University, Taiwan (R091087@kmu.edu.tw)*
[2]*National Sun Yat-sen University, Taiwan (chclin2100@g-mail.nsysu.edu.tw)*
[3]*Kaohsiung Medical University, Taiwan (cnhung@kmu.edu.tw)*
[4]*National Sun Yat-sen University, Taiwan (lin.sy@mail.nsysu.edu.tw)*
[5]*National Sun Yat-sen University, Taiwan (bshu@g-mail.nsysu.edu.tw)*

ABSTRACT

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action through strategic alliances. Higher educational institutions (HEIs) are key contributors to achieving the SDGs, since education, research and innovation are essential in supporting sustainable development. However, each institution may focus on different academic disciplines that correspond to different SDGs, the current study proposed that forming a strategic alliance may facilitate SDG-related research. The current research examines the strategic alliance between the National Sun Yat-sen University (NSYSU) and Kaohsiung Medical University (KMU) in Taiwan. Data on research publications were obtained from the Scopus database between 2004 and 2020, regression analysis was used to compare the changes regarding research productivity that corresponds to relevant indicators among SDGs before and after the strategic alliance occurred in 2012. Furthermore, qualitative data of the educational and community sustainable development promotion after strategic alliance will be collected by case study. In sum, the paper sheds light on a better understanding of the strategic alliances between two institutions with different orientations in Taiwan that can be used as a reference in higher education to promote the sustainable development of higher education.

Keywords: Higher Education, Regression Analysis, Strategic Alliances, Sustainable Development Goals, Case Study

INTRODUCTION

In September 2015, all 193 Member States of the United Nations adopted an inclusive plan "The 2030 Agenda for Sustainable Development" providing a shared blueprint for peace and prosperity for people and the planet, now and into the future to end extreme poverty, fight inequality and injustice, and protect the environment (Lee et al., 2016). Sustainable Development Goals (SDGs) is not a new concept, and it was designed to mobilize the creativity, know-how and resources of multiple stakeholders to take global action and to embrace a wide range of interconnected topics spanning the economic, social and environmental dimensions of sustainable development for our planet.

A careful look at the SDGs reveals a very wide range of specific areas such as poverty, hunger, health, education, gender equality, water and sanitation, energy, industry and innovation, infrastructure, consumption and production, climate, life below water and on land, justice, etc, which are a global framework and integrated way with strong buy-in and adoption among governments, business, civil society, funders, universities and the community (World Health Organization, 2016). Accordingly, the importance of education for sustainable development is recognized in a number of the goals, and these goals are directly relevant to universities, such as for all learners to "acquire the knowledge and skills needed to promote sustainable development" (Avelar et al., 2019). Additionally, based on a survey conducted by the *Times Higher Education,* it pointed that 79% of the students agreed that universities could play a key role in promoting sustainable values and skills for the next generation; 69% said that

acquiring knowledge of sustainability development during their studies can be beneficial to future job search (THE, 2021a). Therefore, the SDGs provide a unique opportunity to higher education institutions (HEIs) to demonstrate their willingness and capability of playing an active and meaningful role in the development of their respective countries and in contributing towards global sustainable development. To sum up, the SDGs provide a universally agreed organizing structure for HEIs to make the university globally aware. While viewing the matter from another angle, HEIs can provide the knowledge, innovations and solutions to underpin the implementation of the SDGs through addressing the challenges of the SDGs that require new knowledge and new ways of doing things (Fleacă et al., 2018). Moreover, HEIs can also provide professional capabilities to create future leaders, decision-makers, innovators, entrepreneurs and citizens with the knowledge and motivation who can contribute to achieving the SDGs (López et al., 2019).

According to the *Times Higher Education* (THE) Impact Rankings assessing universities against the United Nations' Sustainable Development Goals (SDGs), it provides a showcase for the work being delivered by universities to act as important actors and promoters of sustainable development (Hess and Collins, 2018), helping to discover new technologies that make societies, communities and businesses more sustainable and resilient around the world (THE, 2021b). To implement SDGs, the Ministry of Education in Taiwan (2018) has promoted the "University Social Responsibility Practice Project" focusing on "local care", "industrial chain", "sustainable environment", "food safety and long-term care" and "international connection". It encourages universities and colleges to actively connect with local communities and regional school resources, promote the development of urban and rural education, enhance the university's contribution to the region and the locality, and create new urban and rural, industrial and cultural development. However, to effectively achieve SDGs, it clearly highlights the importance of organizational partnerships to complete the global goals and emphasize strengthening global partnerships for sustainable development (Casarejos et al., 2017). To do so, many higher education institutions (HEIs) around the globe have formulated and implemented sustainability-related initiatives on their own and voluntary basis (Freidenfelds et al., 2018). Based on the results of the latest 2021 *Times Higher Education* Impact Rankings (THE, 2021c), there were a record-breaking 35 Taiwanese universities on the list, a sharp increase from the year of 2020. Thus, a growing trend appeared that universities and colleges in Taiwan are involved with sustainability initiatives and transformations align with their missions. Taking the two of the southern Taiwan universities, National Sun Yat-sen University (NSYSU) and Kaohsiung Medical University (KMU) that were be detailed discussed in the study, for example, NSYSU is a public comprehensive university, while KMU is a private medical university. Both universities started strategic alliances in 2012 to explore a series of sustainable strategies to raise environmental awareness, healthcare improvement and therefore generate knowledge, awareness and solutions that can help to face these challenges both in an academic universe and beyond university life. In conclusion, cooperative partnerships in HEIs play a key role to integrate sustainability by initiating and developing their teaching, curriculum, research and campus operations, community outreach and everyday activities (Sonetti et al., 2016).

In recent years there has been a dramatic increase in strategic alliances by multinational firms focusing on alliances between business ventures, corporations and institutions of higher education to tackle complex, fundamental industrial problems of major business or societal significance through cooperative partnerships (Saffu & Mamman, 2000). In the higher education sector, there is also a growing trend of alliance and mergers to achieve economic benefits and productivity (Patterson, 2001; Ahmed et al., 2015). Although there were some studies focusing on the SDGs promotion in HEIs (Fuchs et al., 2020; Groulx et al., 2021; Zahid et al., 2021), very limited research work examined the practice of SDGs in HEIs through strategic alliances (Leal Filho et al., 2015). Given the circumstances, the lack of empirical study on strategic alliances of HEIs on SDGs in Taiwan. Thus, there is a need to investigate the SDGs practices with strategic alliances in Taiwan HEIs. This study primarily emphasized on the cooperative performance of SDGs promotion through strategic alliances of two universities, NSYSU and KMU. The strategic alliances aim to understand the nature of the institution and highlight the relevance of the planning process, given that the characteristics of the educational institutions and their decision-making process define the institutional arrangements and activities that will be developed

(Serra et al., 2017). When seeking sustainable development, it is necessary to develop strategic alliances to achieve this objective.

In the current study, we combine the above indicators in the sustainability index followed by strategic alliances of NSYSU and KMU. First, the cooperative growth trends on the percentage of SDGs joint authorship publications by two universities in 2004-2020 would be analyzed respectively to explore the effects of the strategic alliances. Second, the change rate of percentage of SDGs joint authorship publications was further examined to compare the differences by two universities before and after the strategic alliances in 2012. Last, regression analysis was employed to examine the important factors affecting the cooperation of SDGs joint authorship publications to investigate how the two universities integrated sustainable strategies into their routine campus operations, curriculum development and local, regional, national and international community outreach to strengthen sustainable development. In connection with the theoretical contribution, the study adds new insights to enrich the extant prior literature of education for sustainable development (ESD) particularly in the context of NSYSU and KMU in Taiwan. Last but not least, the study applies the crux of the universities strategic alliances in that HEIs to promote the SDGs which can be used as a reference for policymakers, government agencies and educators to promote the sustainable development of higher education.
The following research questions (RQs) were guided the study:

- RQ1: How does the cooperative growth trends on percentage of SDGs joint authorship publications by NSYSU and KMU in 2004-2020?
- RQ2: How do the differences on percentage of SDGs joint authorship publications by NSYSU and KMU before and after the strategic alliances in 2012?
- RQ3: What are the significant factors affecting the percentage of SDGs joint authorship publications through strategic alliances?

METHODOLOGY

The goal of this research is to explore whether forming a strategic alliance between two universities can facilitate academic publication in SDG-related topics. Data were obtained from Scopus, a subscription-based academic publication database. The data collection process and data analysis strategies are described below.

Research Design

The study will take the " NSYSU and KMU Alliance" signed in 2012 as a case to explore the effects of strategic alliances in SDGs promotion. Both NSYSU and KMU are respectively the index universities of Taiwan's public comprehensive and private medical systems located in Kaohsiung City. Due to the geographical proximity of the NSYSU and KMU and the different nature of the two universities, the strong complementarity of the two universities is conducive to the substantive cooperation and the improvement of the teaching and research. In addition, the two schools also have long-term cooperation in community services to jointly promote the rural education and medical services. With the advantages of location and complementarity between the two universities, NSYSU and KMU integrate resources, enhance the effectiveness of learning, teaching and research, and expand social services to become the world's top joint university system. Moreover, NSYSU and KMU alliance system can share resources such as libraries, computers, internet, merchant discounts, transportation vehicles, sports facilities, parking and other discounts. Students can take courses across schools and recognize each other's credits Study program and participate in international cultural exchange activities. After years of in-depth cooperation between the two universities, in addition to the use of cutting-edge mass spectrometry in food safety and other innovative applications, NSYSU and KMU have also achieved remarkable results in the drug development of marine natural products, the intelligent diagnosis system for Alzheimer's disease, and the assessment of the risk of air pollution to human health. In the future, both universities will continue to invest in research and development funds and cultivate cross-domain research talents, and actively guide the research teams of the two universities to focus on innovative fields such as "AI

artificial intelligence medical care, medical electronic engineering and translation medicine", to create the advantages of academic alliances and lead Taiwan's science and technology Medical development. The expected benefits of the establishment of the NSYSU and KMU alliance system are: 1. Integrating resources to achieve excellence in teaching and research; 2. Improving international visibility and competitiveness; 3. Strengthening social service energy; 4. More diversified learning activities, expanding students' learning horizons; 5. Campus space is conducive to regional development function (NSYSU and KMU strategic alliances news, 2019).

Data Collection

The online tool SciVal® is used to access the Scopus database. We used the Research Areas menu in SciVal® to search for the publications related to each of the SDG targets. Research Areas can be defined by a combination of a comprehensive search query, the set of queries referred to as "Elsevier 2021 SDG mapping" is used for mapping the publications to each of the SDGs and was developed by Rivest et al. (2021), the set of queries is also being used for assessing a university's SDGs research impact and for international rankings such as THE. We then selected publications of both universities from 2004 to 2020 in the database and compared the number of joint authorship papers between the two universities within 16 SDGs.

Data Analysis

We used the open-source tool R for data analysis. To further examine whether a strategic alliance between two universities facilitates joint research, we grouped the SDGs based on the patterns of joint-authorship papers between the two universities into 3 groups, we compared whether the number of joint-authorship papers increase or not prior and after the year of 2012, which is the year of strategic alliance. SDGs falls into the top 33% assigned to the group "high", the bottom 33% are assigned to group "low", as for the middle 33% falls into the group "medium". We then adopt regression analysis to examine if the defined variables have significant effects on the percentage of joint authorship publications.

RESULTS

First, we show the descriptive statistics by comparing the total number of SDG-related publications of both universities. As shown in Figure 1, the total publication numbers have increased for both universities since 2004. Figure 2 shows the percentage of joint authorship publications from both universities. There is an increase on total numbers of SDG-related publications over the past 16 years. A detailed breakdown of the percentage of joint authorship publications on each SDGs over the years is shown in Table 1.
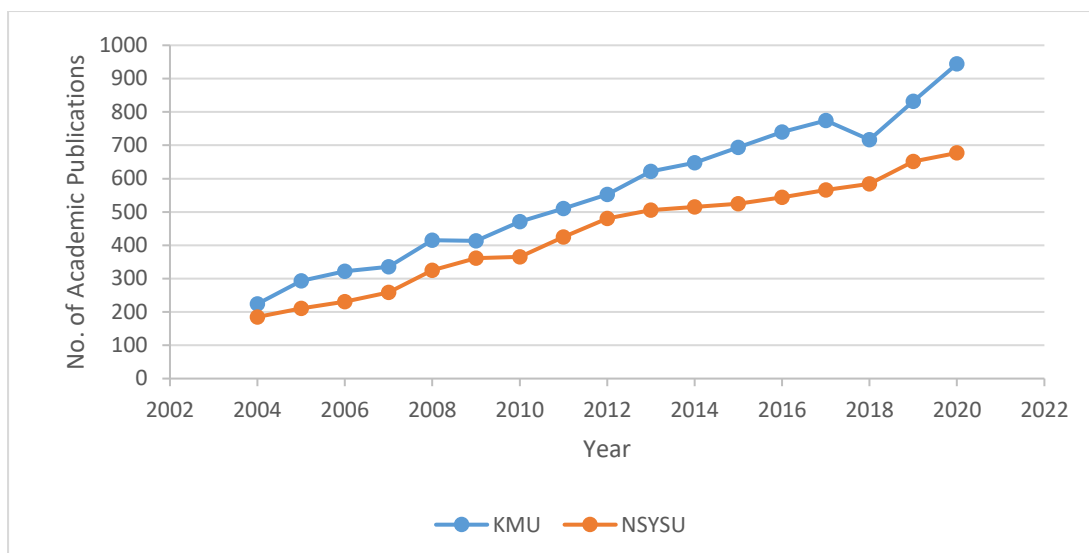
Figure 1: Total number of SDG-related publications
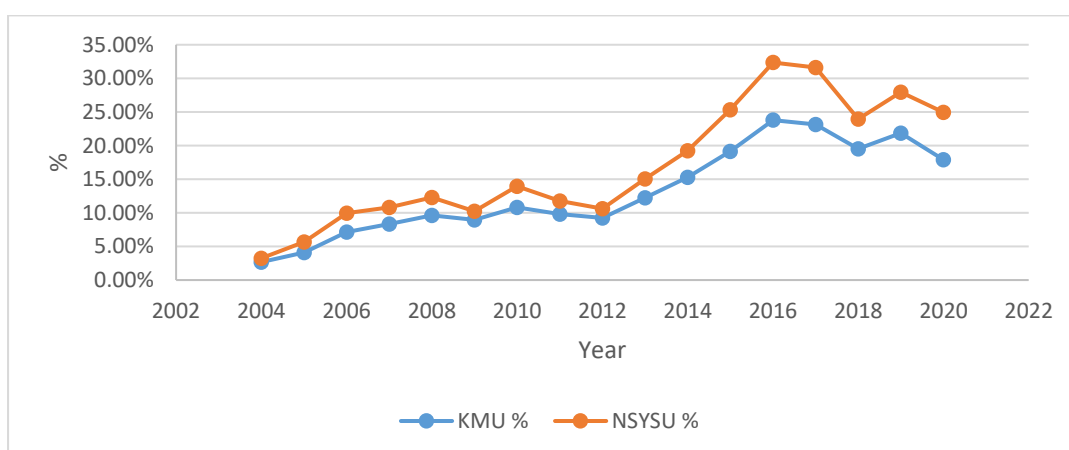
Figure 2: Percentage of joint authorship publications

Table 1: Publications count and percentage of joint authorships

Years SDGs	Publications Count						% of Joint Authorships			
	KMU		NSYSU		Joint Authorship		KMU		NSYSU	
	2004-2011	2012-2020	2004-2011	2012-2020	2004-2011	2012-2020	2004-2011	2012-2020	2004-2011	2012-2020
SDG1	99	327	420	862	11	69	11.11%	21.10%	2.62%	8.00%
SDG2	9	30	10	33	-	5	0.00%	16.67%	0.00%	15.15%
SDG3	2,621	5,468	579	1,632	218	993	8.32%	18.16%	37.65%	60.85%
SDG4	26	72	98	222	-	8	0.00%	11.11%	0.00%	3.60%
SDG5	36	90	13	34	-	2	0.00%	2.22%	0.00%	5.88%
SDG6	65	75	151	211	4	19	6.15%	25.33%	2.65%	9.00%
SDG7	12	78	346	709	-	30	0.00%	38.46%	0.00%	4.23%
SDG8	8	22	73	147	-	1	0.00%	4.55%	0.00%	0.68%
SDG9	10	39	208	231	2	7	20.00%	17.95%	0.96%	3.03%
SDG10	16	53	37	95	-	-	0.00%	0.00%	0.00%	0.00%
SDG11	36	52	88	172	1	12	2.78%	23.08%	1.14%	6.98%
SDG12	4	17	68	113	2	3	50.00%	17.65%	2.94%	2.65%
SDG13	4	29	33	128	-	14	0.00%	48.28%	0.00%	10.94%
SDG14	9	62	149	265	5	29	55.56%	46.77%	3.36%	10.94%

	Publications Count						% of Joint Authorships			
	KMU		NSYSU		Joint Authorship		KMU		NSYSU	
Years SDGs	2004-2011	2012-2020	2004-2011	2012-2020	2004-2011	2012-2020	2004-2011	2012-2020	2004-2011	2012-2020
SDG15	4	21	58	116	2	9	50.00%	42.86%	3.45%	7.76%
SDG16	24	88	31	77	2	4	8.33%	4.55%	6.45%	5.19%

Figure 3 shows how the percentage of joint authorship publications change over time. Based on the change rate of percentage of joint authorship publications, we divided the 16 SDGs into three groups: high, medium, and low, as shown in Table 2. The groups of SDGs were different for both universities, showing that both universities differ in academic focuses, and the increase in joint publication also have different focuses. For example, SDG3 falls into the medium group for KMU, whereas for NSYSU, SDG3 joint authorship papers increased by about 24% after the strategic alliance; for both universities, SDG2, SDG6, and SDG13 are among the high group of joint authorship publications after 2012; SDG10, SDG12, and SDG16 are the three goals which joint authorship publications decreased after 2012.
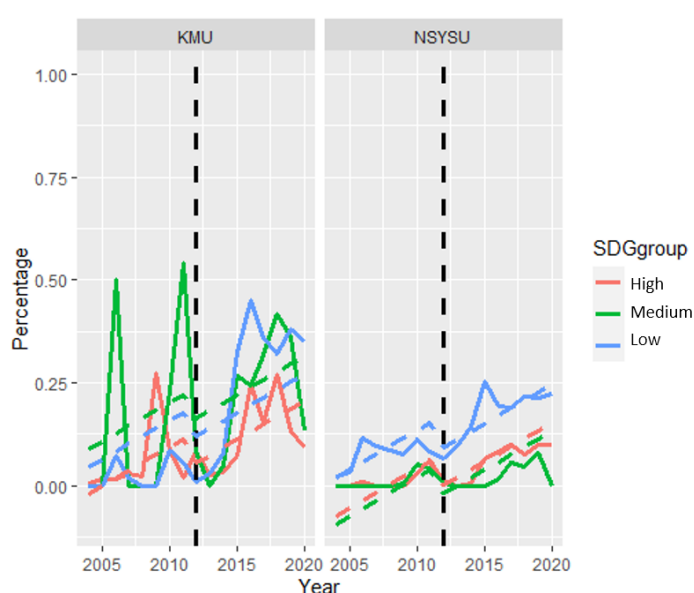
Figure 3: The change rate of percentage of joint authorship publications

Table 2: SDG groups by change rate

University	KMU		NSYSU	
Groups	SDGs	Change Rate	SDGs	Change Rate
High	SDG01	0.11316804	SDG02	0.11904762
	SDG02	0.10952381	SDG03	0.23955343
	SDG06	0.20670795	SDG05	0.05555556
	SDG07	0.37991453	SDG06	0.06555633
	SDG11	0.2276455	SDG13	0.09159399
	SDG13	0.42687075	SDG14	0.06644805
Medium	SDG03	0.10018967	SDG01	0.0533832
	SDG04	0.10343237	SDG04	0.04345479
	SDG05	0.01719577	SDG07	0.04363313
	SDG08	0.03703704	SDG11	0.04932632
	SDG09	0.06018519	SDG15	0.04870454
Low	SDG10	0	SDG08	0.00555556
	SDG12	-0.5	SDG09	0.01842372
	SDG14	-0.1588519	SDG10	0
	SDG15	-0.0666667	SDG12	0.00135918

University	KMU		NSYSU	
Groups	SDGs	Change Rate	SDGs	Change Rate
	SDG16	-0.0272006	SDG16	0.02478505

To assess the effects of various factors affecting the percentage of joint authorship publications, we included year, strategic alliance, school, SDG group, and an interaction term between school and SDG group as predictors. As shown in Table 3, year significantly predicts the percentage of joint authorship publications, meaning that the number of joint authorships increase with time (β=0.02[***], [0.01, 0.03]). We compared the regression results between different groups within each variable, the items in brackets indicate the reference group. Results showed that there is a significant increase in percentage of joint authorship publications after the strategic alliance (β= -0.08[*], [-0.14, -0.01]); and no significant difference between the percentage of joint authorship publications between the two schools (β= -0.05, [-0.11, 0.00]). For SDG groups, compared to the medium group, both the low-SDG group (β=0.11[***], [0.05, 0.17]) and high-SDG group (β=0.06[*], [0.01, 0.12]) showed significant difference. As for the interaction between schools and groups, the interaction effect shows that within NSYSU, compared with the medium group, the low group differs in a positive intercept and a lower slope. In addition, within the low-SDG group, the slope of KMU would be significantly lower than the NSYSU.

Table 3: Regression Analysis Results

Predictors	Percentage of Joint Authorship Publications		
	Estimates	CI	p
(Intercept)	-38.08[***]	-50.98 – -25.18	**<0.001**
Year	0.02[***]	0.01 – 0.03	**<0.001**
Alliance [1]	-0.08[*]	-0.14 – -0.01	**0.015**
School [NSYSU]	-0.05	-0.11 – 0.00	0.057
SDG group [low]	0.11[***]	0.05 – 0.17	**<0.001**
SDG group [high]	0.06[*]	0.01 – 0.12	**0.020**
School [NSYSU] * SDG group [low]	-0.13[**]	-0.21 – -0.05	**0.002**
School [NSYSU] * SDG group [high]	0.03	-0.05 – 0.10	0.461
Observations	498		
R^2 / R^2 adjusted	0.208 / 0.196		

Notes:
-Alliance: 1=after strategic alliance; 0=before strategic alliance.
-School: NSYSU, KMU
-SDG group: high, medium, & low.

DISCUSSION

The goal of this research is to explore whether forming a strategic alliance between two universities will effectively promote sustainable development goals. Through examining joint authorship publications related to different SDGs between two universities, we are able to explore how institutions with different focuses may benefit from forming a strategic alliance. First, we noticed that SDG 2, 5, 7, 13 were the goals that did not have any collaboration prior to 2012. However, the two universities put more attention on these goals to strengthen sustainable campus operations, curriculum development and local, regional, national and international community outreach after strategic alliance. For SDG2 zero hunger, the two universities have cooperatively implemented the "*Sustainable Development Plan for Namasia and Kaohsiung Original Township*" to ensure sustainable food production systems and agricultural practices that increase productivity and production, including through secure and equal access to land, knowledge, financial services, and opportunities for value addition employment. For SDG5 gender equality, the two universities have joint curricula on gender equality education and related

issues to nurture respect for gender diversity, eliminate gender discrimination, and advance genuine gender equality. For SDG7 affordable and clean energy and SDG13 climate action, both universities have joined together in research projects and centers, such as the "Taiwan and Sri Lanka Environmental Change Sciences and Technology Innovation Center (TS/ECSTIC)" focusing on marine ecosystems, plant ecology, bio-resources, as well as global warming and anthropogenic impacts in the regions of the subtropical and tropical belts to improve SDGs education and strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in the countries. Second, we see the two universities with complementary advantages help each other in different fields of research. For NSYSU, the percentage of joint authorship publications of SDG3 Good Health and Well-being has increased to 60.85% after the strategic alliance from 37.65; as for KMU, although the cooperation for SDG 3-related publications increased, SDG 7 and 13 related publications are the two fields that tops the list. Since KMU focuses mainly on medicine, pharmacy and health care, the research capacity in natural science and engineering from NSYSU can support KMU and create an opportunity for interdisciplinary collaboration. In recent years, the two universities have combined information technology, intelligent health care system, disease management with global health cooperation plans to solve the healthcare problems and promote the goal of sustainable well-being developments. Furthermore, after years of in-depth strategic alliance, NSYSU and KMU have achieved remarkable results in the drug development of marine natural products, the intelligent diagnosis system for Alzheimer's disease, and the assessment of the risk of air pollution to human health. In the future, the two universities will continue to pay more attention to SDGs research and international community outreach development on innovative fields such as "AI artificial intelligence medical care, medical electronic engineering and translation medicine" to create the advantages of academic alliances and lead Taiwan's science and technology sustainable development. Casarejos et al. (2017) emphasized the importance of organizational partnerships to effectively achieve SDGs. López et al. (2019) pointed that HEIs can provide professional and cross-disciplinary contributions to solve real world problems and achieve SDGs. The results from the current study parallel these earlier studies and add new insights focusing on the value of the SDGs promotion through strategic alliance in Taiwan's higher education.

RESEARCH LIMITATIONS

Higher education institutions have a great responsibility to form future sustainability leaders and support the ambitious SDGs targets implementation. The results of the study are mainly based on the descriptive findings, hence, studies in future studies may focus on the qualitative aspect of the subject for a richer and clearer framework. Likewise, this is the first-ever test of the newly developed research on strategic alliance of the two universities in Kaohsiung. Therefore, more and more studies may be carried out in the future to check the validity of the framework on a substantial number of both the public and private universities from the rest of the areas. Overall, strategic alliance is the basis for the achievement of all the SDGs and have an essential contribution to the formation of society willing to support different SDGs aspects (e.g., global citizenship, gender equality, respect for human rights).

CONCLUSIONS AND RECOMMENDATIONS

Higher education institutions have a great responsibility to form future sustainability leaders and support the ambitious SDGs targets implementation. Universities with a strategic alliance, through their extensive research capabilities and activities, have a critical role in providing the necessary knowledge, evidence-based, solutions and innovations to underpin and support achieving SDG goals. To achieve the SDGs through education with strategic alliance, universities can integrate the multiple SDGs-related courses and collaborative projects to help students to have the opportunities to reflect the SDGs problems and to set up a network to implement the SDGs programs. To achieve the SDGs through research with strategic alliance, universities can advocate for national support and coordination of research on the SDGs. It can also strengthen the interdisciplinary and transdisciplinary research community efforts to support the SDGs. To achieve the SDGs through organizational governance with strategic alliance, universities can have significant impacts on social, cultural, and environmental sustainable development within their campuses, communities, and regions.

Success in achieving the SDGs will depend on action and collaboration by all actors. Therefore, it is suggested that universities with strategic alliance should initiate and facilitate cross-sectoral dialogue and action on SDG implementation, as well as play an important role in policy development and advocacy for sustainable development. Higher education has an important role to play in meeting the sustainable development challenges. But the sector can do much more than offer advanced training and skills. It holds the potential to educate excellent teachers, uncover ground-breaking research, and connect services to communities. To truly form a part of the sustainable development agenda, governments, multilateral agencies and universities must work together by targeting publicly-funded research and building cooperative partnerships across sectors.

REFERENCES

Ahmed, J. U., Ahmed, K. U., Shimul, M. A. S., & Zuñiga, R. (2015). Managing strategies for higher education institutions in the UK: an overview. *Higher Education for the Future, 2*(1), 32-48. https://doi.org/10.1177/2347631114558189

Avelar, A. B. A., da Silva-Oliveira, K. D., & da Silva Pereira, R. (2019). Education for advancing the implementation of the Sustainable Development Goals: A systematic approach. *The international journal of management education*, *17*(3), 100322. https://doi.org/10.1016/j.ijme.2019.100322

Casarejos, F., Frota, M.N., & Gustavson, L.M. (2017). Higher education institutions: A strategy towards sustainability. *International Journal of Sustainability in Higher Education, 18*(7), 995-1017. https://doi.org/10.1108/IJSHE-08-2016-0159

Fleacă, E., Fleacă, B., & Maiduc, S. (2018). Aligning strategy with sustainable development goals (SDGs): Process scoping diagram for entrepreneurial higher education institutions (HEIs). *Sustainability, 10*(4), 1032. https://doi.org/10.3390/su10041032

Freidenfelds, D., Kalnins, S.N., & Gusca, J. (2018). What does environmentally sustainable higher education institution mean? *Energy Procedia, 147*, 42-47. https://doi.org/10.1016/j.egypro.2018.07.031

Fuchs, P., Raulino, C., Conceicao, D., Neiva, S., de Amorim, W. S., Soares, T. C., ... & Guerra, A. (2020). Promoting sustainable development in higher education institutions: the use of the balanced scorecard as a strategic management system in support of green marketing". *International Journal of Sustainability in Higher Education*, *21*(7), 1477-1505. https://doi.org/10.1108/IJSHE-02-2020-0079

Groulx, M., Nowak, N., Levy, K., & Booth, A. (2021). Community needs and interests in university–community partnerships for sustainable development. *International Journal of Sustainability in Higher Education*, *22*(2), 274-290. https://doi.org/10.1108/IJSHE-03-2020-0086

Hess, D.J. & Collins, B.M. (2018). Climate change and higher education: Assessing factors that affect curriculum requirements. *Journal of Cleaner Production*, *170*, 1451-1458. https://doi.org/10.1016/j.jclepro.2017.09.215

Leal Filho, W., Manolas, E., & Pace, P. (2015). The future we want: Key issues on sustainable development in higher education after Rio and the UN decade of education for sustainable development. *International Journal of Sustainability in Higher Education, 16*(1), 112-129. https://doi.org/10.1108/IJSHE-03-2014-0036

Lee, B. X., Kjaerulf, F., Turner, S., Cohen, L., Donnelly, P. D., Muggah, R., ... & Gilligan, J. (2016). Transforming our world: implementing the 2030 agenda through sustainable development goal indicators. *Journal of Public Health Policy, 37*(1), 13-31. https://doi.org/10.1057/s41271-016-0002-7

López, I. L., Bote, M., Rives, L. M., & Bañón, A. R. (2019). Higher education institutions as a transformation platform under the sustainable development goals framework. *European Journal of Sustainable Development*, 8(3), 306. https://doi.org/10.14207/ejsd.2019.v8n3p306

NSYSU and KMU strategic alliances news (2019). *Kaohsiung Medical University and National Sun Yat-sen University strategic alliance renews.* https://www.cna.com.tw/postwrite/detail/248046 (accessed 22 Sep 2021).

Patterson, G. (2001). Playing the alliance game in higher education. *Perspectives: Policy & Practice*

in Higher Education, 5(1), 6–11. https://doi.org/10.1080/13603100150505190

Rivest, M., Kashnitsky, Y., Bédard-Vallée, A., Campbell, D., Khayat, P., Labrosse, I., …& James, C. (2021). Improving the Scopus and Aurora queries to identify research that supports the United Nations Sustainable Development Goals (SDGs). *Mendeley Data*, *V3*. [data set]. https://doi.org/10.17632/9sxdykm8s4.3

Saffu, K. & Mamman, A. (1999). Mechanics, problems and contributions of tertiary strategic alliances: the case of 22 Australian universities. *International Journal of Education Management, 13*(6), 281-286. https://doi.org/10.1108/09513549910294487

Sonetti, G., Lombardi, P. & Chelleri, L. (2016). True green and sustainable university campuses? Toward a clusters approach. *Sustainability, 8*(1), 83. https://doi.org/10.3390/su8010083

Times Higher Education (2021a). *Sustainability 'more important than location' for mobile students*. https://www.timeshighereducation.com/news/sustainability-more-important-location-mobile-students

Times Higher Education (2021b), *Impact Rankings 2021: methodology*. https://www.timeshighereducation.com/world-university-rankings/impact-rankings-2021-methodology

Times Higher Education (2021c). *Impact Rankings 2021*. https://www.timeshighereducation.com/rankings/impact/2021/overall#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined

Too, L. & Bajracharya, B. (2015). Sustainable campus: Engaging the community in sustainability. *International Journal of Sustainability in Higher Education*, *16*(1), 57-71. https://doi.org/10.1108/IJSHE-07-2013-0080

World Health Organization. (2016). *World health statistics 2016: Monitoring health for the SDGs sustainable development goals.* World Health Organization.

Zahid, M., Rahman, H. U., Ali, W., Habib, M. N., & Shad, F. (2021). Integration, implementation and reporting outlooks of sustainability in higher education institutions (HEIs): Index and case base validation. *International Journal of Sustainability in Higher Education, 22*(1), 120-137. https://doi.org/10.1108/IJSHE-10-2019-0308

And Then There was Light: The Career Transition Experiences of Guidance Designates

Sheila A. Javier

University of St. La Salle (s.javier@usls.edu.ph)

ABSTRACT

This qualitative inquiry utilized the phenomenology approach to understand the career transition of teachers assigned as guidance designates and granted scholarship in Master of Science in Guidance and Counseling (MSGC). A purposive sampling method was used in identifying the five participants and the semi-structured in-depth interview method of data collection was employed in this study. The transcribed data were coded and analyzed, using Schlossberg's Transition Theory as the theoretical framework. Data analysis generated five common themes: (1) the assignment: saying yes to the unfamiliar, (2) just one of the many: overlapping work assignments, (3) it's a hit or miss: carrying out the role of the guidance designate, (4) the breakthrough: Project-Flagship to Reach Excellence in Education (Project-FREE)- MSGC program as a lifeline, and (5) opening new windows of opportunities. Findings showed the lack of training and overlapping responsibilities among guidance designates which made the transition challenging and overwhelming. Also, there is a need to equip the guidance designates with the knowledge and skills vital for the role. Results further implied that there is a need to establish clear policies in terms of the criteria for assigning guidance designates as well as the process of monitoring and evaluation procedures. Thus, this study provided some valuable implications for practice in guidance and counseling, specifically in the public school setting.

Keywords: Career transition, Guidance designate, Guidance and counseling, Phenomenology approach, Teacher's assignment

INTRODUCTION

The development of the career transition phenomenon has evolved through time. Until the present, this phenomenon is still being studied given the changing career trends and behavior of the new century workers. The typology of career transitions from Louis (1980) seems to be central to any and all research on career transitions. Career transition according to him is consists of two categories namely, inter-role and intra-role. Inter-role refers to new and different roles and is more or less a linear process. In contrast, intra-role transition refers to the orientation towards an existing role that is changing (Janse, Rensburg, & Ukpere, 2014). This study revealed that teachers who transitioned to guidance designates experienced the intra-role transition along with the extra-role adjustment. This transition was also involuntary as they did not seek out the assignment but was assigned to them due to the dynamic change in the educational sphere. Career transition for teachers who were assigned as guidance designates and are expected to take on the role of Guidance Counselors without due training is a phenomenon brought about by the limited number of licensed guidance counselors. The chronically overworked state of public school teachers in the Philippines is well-known (Esguerra 2018). The workload of public school teachers is not only limited to teaching but also to other nonteaching tasks. Given this workload, actual teaching is increasingly being sidelined by the multitude of other responsibilities and roles that teachers play (Albert et al. 2018). One of the ancillary functions of public school teachers is the assignment of guidance designate, to take the role of the Guidance Counselor. Without the necessary trainings and skills for such role may serve as one of the stressors for them. Given this scenario of the Guidance and Counseling profession in the country, the Negros Occidental Provincial Government, in partnership with the University of St. La Salle (USLS), provided a scholarship program for the public school teachers. The Project-Flagship to Reach Excellence in Education (Project-FREE) program funds the graduate studies of public school teachers who qualify for the program they applied for, which included Master of Science in Guidance and Counseling (MSGC) in the program offerings. It was during the

school year 2017-2018 that the MSGC program was offered to help address the issue of scarcity of Registered Guidance Counselors in the public schools. The students of this course are trained to prepare themselves to take the licensure exams for Guidance Counselors.

This phenomenological study was conducted to explore, understand and gain insights into the lived experiences of the guidance designates. This study hopes to shed light on this phenomenon called career transition of teachers assigned as guidance designates. Likewise, the result of this study may generate appropriate recommendations for Negros Occidental Provincial Government, being the funding agency of the Project-FREE program as well as University of St. La Salle, serving as the partner university. Consequently, this study also aims to help open a whole new world of understanding of the experiences of the guidance designates, who are responding to the challenge of preparing to be licensed Guidance Counselors in the future. Furthermore, it aims to fill the research gap in the current research literature in the Philippines on public school teachers who are assigned as guidance designates.

STATEMENT OF THE PROBLEM

This study explored, described, and analyzed the lived experiences of teachers who were assigned as guidance designates and were granted scholarship by the Project-FREE- MSGC program.

FRAMEWORK OF THE STUDY

This study was anchored on Schlossberg's Adult Transition Model. "Transitions, although represent a natural and necessary aspect of adult development, are viewed as the times that are most distressing and challenging yet are unique in opportunities for growth and development" (Anderson, Goodman, and Schlossberg (2012). According to Schlossberg's Adult Transition Model, each "S" variable in the 4-S System (situation, self, social support, and strategies or coping responses) is interconnected and an individual's coping effectiveness in any transition is strongest when a balance exists between all variables— and in particular, when assets outweigh liabilities (Anderson, et al., 2012). Successful transitions depend in large part on the individuals' ability to identify, and then increase, their assets over their liabilities (Beacom, 2013).

The guidance designates found themselves in a *situation* that they did not expect to have - the unanticipated transition. They found out that the work assignment given to them left them with no choice but to to say "yes to the unfamiliar." This situation placed them in a "chaotic" environment which they have a little control when it started.

The challenges that were present revolved around the *self* - changes in perspectives, struggles experienced due to lack of knowledge, empowerment and enhancing one's innate capacity to engage and listen to people. The participants learned to handle their own biases about human nature and became more accepting of individual differences. Their own feelings of self-doubt and confusion due to lack of confidence in doing the assignment that they were not prepared to do, challenged them to get out of their comfort zones and made them take initiatives in making the most of the personal and professional resources that were available to them.

Furthermore, the *support* that helped them in their coping through the transition included the support coming from their own families, friends, colleagues and most especially, from their principals. Some of them were helped by the support of the principal, while one was also crippled and discouraged because of the lack of it. A good working relationship with their superiors made easy the delivery of the guidance services, especially when they were already empowered with what they know from their Guidance and Counseling course.

The philosophical basis for this research was anchored on interpretive framework which is social constructivism. This research paradigm assumes reality as we know it and is socially constructed

(Mertens, 2015) through the meanings and understandings developed through social interchange and experiences.

LIMITATIONS

This study collected data through interviews with a small number of participants. The interpretations and meaning making of each participant based on the same transition experience vary and may limit the range of experience shared as well as the generalization of the results. Being it qualitative research, the themes of these study may be affected by the researcher's own meaning making of the data, being herself the instrument of the research.

METHODOLOGY

Research Design
This qualitative inquiry utilized the phenomenology approach to understand the career transition of teachers assigned as guidance designates with scholarship grant in MSGC. This study "describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon" (Creswell and Poth, 2018). The qualitative-phenomenological design is more appropriate to use in this study because this research attempts to understand in a deeper sense, how the participants define their world through their own language and understanding of their experience.

Participants
Phenomenology as a research modality strives for an in-depth exploration of experiences, meanings and insights of a particular phenomenon and therefore due to the depth of analysis it entails, Creswell justifies the use of a very small number of participants, the upper limit of which is ten (Creswell, 1998). Dukes (1984) as cited in Creswell et. al., 2018) recommends studying 3 to 10 participants in a phenomenology. The participants of this study were five guidance designates who were enrolled in the Project FREE-MSGC program (AY 2018-19) of USLS. Each participant is briefly described below:

Carla is a 48-year-old, soft-spoken teacher who has a Bachelor in Secondary Education-Biology degree with Masters in Natural Science. For eighteen years, she has been serving the Department of Education as a Science teacher, aside from being an adviser for fifteen long years and counting. She is has three years of experience as a guidance designate in senior high. Carla's transition experience is one that she considers as a "*turning point.*"

Jona is a 43-year-old graduate of Bachelor of Arts-English and Sociology. She took up supplemental courses in Education and passed the licensure exam for teachers. She served as a teacher for three years when appointed as guidance designate. She is has three years of experience as a guidance designate in junior and senior high. She aspires to become a Registered Guidance Counselor. The transition experience for Jona is one that she reflects as *"an achievement for myself, for my school, and for my students."*

Ronnie is a 46-year-old school administrator who claimed to have found inner joy in teaching Math and Values Education when he started his teaching profession. He has a Bachelor in Secondary Education-Math degree with Masters in Educational Management. He stayed a total of eighteen years in two private institutions before he decided to transfer in the public setting. He has three years of experience as a guidance designate in junior high. Ronnie's transition experience is one of *"fulfilment and improvement."*

Susan is a 42-year-old teacher with Bachelor in Secondary Education-Technology and Livelihood, and Filipino. She has been in the teaching profession for sixteen years, with three years of experience as a guidance designate in senior high. She considers the exposure to guidance work as another opportunity in her career journey. Susan's transition experience is one of *"challenges turned into fulfilment."*

Daisy is 43-year-old ex-postulant in one of the religious congregations in the Philippines. She has a Bachelor in Secondary Education-English degree, with eight years of teaching experience and six years as guidance designate in junior high. She believes that one of the reasons for her appointment is her love for the young which can be observed by her superior and her colleagues in the workplace. Daisy's transition experience is one of "*difficulty leading to self-improvement*".

Sampling Procedure

The study employed purposive sampling in identifying the participants. More specifically, the study used criterion sampling wherein only the participants who met the criteria set are involved in the study. All forty pioneer Project FREE-MSG scholars were invited to answer a demographic questionnaire which included questions on age, sex, participant's educational attainment, length of service as teacher and as guidance designate, and present designation. There were twenty-four teachers who answered that they have guidance designate assignments. Among them were five participants who met the following set criteria: teacher assigned as guidance designate who was not a degree holder in Psychology or Guidance and Counseling, scholar of Project-FREE-MSGC program, had at least three years of experience as classroom teacher and with at least two years of experience as guidance designate in junior or senior high school.

Research Instrument

An interview schedule made by the researcher was used to gather the data. The open-ended questions for the in-depth interview were subjected to face and content validity five researchers and practitioners in the fields of Psychology, Guidance and Counseling, and Education. They were asked for their technical expertise in ensuring that the instrument could capture the participants' description of the phenomenon that they share in common. The Interview Guide included but not limited to the following questions: 1. Describe your experience during your transition from being a classroom teacher to being guidance designate? 2. How did you manage the transition from being a teacher to guidance designate? 3. How did you carry out the role as a guidance designate? 4. What were the challenges that you have experienced being a guidance designate? 5. How did you cope with the challenges? 6. Describe your experiences as a student of Project-FREE Masters in Science in Guidance and Counseling. 7. What are some of your recommendations?

Data Gathering Procedure

Semi-structured face-to-face interviews were conducted with the five participants to explore their experiences. In order to ensure that the participants agree to the voluntariness of the interviews, the researcher signed a consent form which stipulated that any information shared would be dealt with utmost confidentiality and will be used for research purposes only. Upon the consent of the participants, a good and reliable tape recorder was used to capture all their responses and to ensure that everything was documented. Each interview began with casual chatting to establish rapport. Then the researcher would ask the participant to describe the transition from teacher to guidance designate. Follow-up questions were then made. The researcher also made sure that she documented all the salient points expressed by the participants without missing out important and salient details, both the obvious and the subtle nuances by taking down notes while the recording of the participants' interview was ongoing.

Data Analysis Procedures

In order to analyze the data, the researcher utilized the "modification of Van Kaam method of analysis of phenomenological data" as presented by Moustakas (1994). Using the complete transcription of each research participant: 1. Listing and Preliminary Grouping: List every expression relevant to the experience. (Horizonalization) 2. Reduction and Elimination: To determine the Invariant Constituents 3. Clustering and Thematizing the Invariant Constituents: Cluster the invariant constituents of the experience that are related into a thematic label. The clustered and labeled constituents are the core themes of the experience. 4. Final Identification of the Invariant Constituents and Themes by Application: Validation Check the invariant constituents and their accompanying theme against the complete record of the research participant. 5. Using the relevant, validated invariant constituents and themes, construct for each co-researcher an Individual Textural Description of the experience. Include

verbatim examples from the transcribed interview. 6. Construct for each co-researcher an Individual Structural Description of the experience based on the Individual Textural Description and Imaginative Variation. 7. Construct for each research participant a Textural-Structural Description of the meanings and essences of the experience, incorporating the invariant constituents and themes (DeVilbiss, 2014).

While reliability and validity are common concepts in quantitative studies, there is no consensus on terms or procedures that should be used in qualitative studies, partially due to the variability of methodologies and contexts (Creswell, 2007). The validation strategies used to safeguard proper context of the phenomenon in this study involved member checking or seeking participant feedback and enabling external audits. The member checking strategy or seeking participant feedback is the technique considered by Lincoln and Guba (1985) to be the "most critical technique for establishing credibility". The researcher also facilitated auditing by an external consultant, the auditor to examine both the process and the product of the accounts to assess their accuracy (Erlandson et al., 1993; Lincoln & Guba, 1985; Merriam & Tisdell, 2015; Miles and Huberman, 1994 as cited in Creswell, 2018). The auditor examined whether or not the findings, interpretations, and implications were supported by the data.

Ethical Considerations

The approval to conduct the research was sought and granted through the University of St. La Salle. It was submitted for review and approval for ethical considerations by the USLS Ethics Review Board. Each participant signed an informed consent document. Moreover, steps were taken to maintain confidentiality and protect the identity of the participants. In order to accomplish this, a pseudonym was assigned to each participant. The pseudonym was used for every transcript and in this report. The only location of the actual names of the participants is on their informed consent forms, which are locked in a file cabinet to which, only the researcher has the access. The data and materials used in the research will be stored in secure location for five years (APA, 2010 as cited in Creswell, et. al., 2018)

RESULTS AND DISCUSSION

The following themes emerged based on analysis of data gathered from the participants. Through careful and repeated review of the participants' transcripts, horizons, and invariant constituents; the researcher identified 5 themes that were apparent across each individual participant, and within which each invariant constituent could be classified: (1) the assignment: saying yes to the unfamiliar, (2) just one of the many: overlapping work assignments, (3) it's a hit or miss: carrying out the role of the guidance designate, (4) the breakthrough: Project-FREE MSGC program as a lifeline, (5) opening new windows of opportunities. Below is a section for each of the five themes with a selection of representative invariant constituents from each participant.

The Assignment: Saying Yes to the Unfamiliar. The transition experience of the participants started when their respective school principals informed them of their designation as guidance designates. The criteria for choosing the guidance designate is dependent on the principal's assessment of the teacher whom he or she considered "fit" to do guidance work. The participants observed however, that principals were not also clear about the guidance designates' job functions. Because of this, the participants experienced mixed feelings of doubt, being shocked, and being affirmed at the same time. Although they were not so sure of what to do, saying yes to the assignment is expected of them. As Susan puts it, *"Who are we to say no? For us public school teachers, it is difficult to say no to the one superior to us."* The guidance designates might have felt safer, knowing that their principals were on their sides, ready to help them when they find themselves in the sphere of not knowing what to do next. Even if they also have the impression that even the principals were not also clear about the nature of guidance and counseling work. As Jona puts it *"He supports me and I open up to Sir (principal)."* In the same way, Ronnie has the same impression of his principal, acknowledging that, *"He is very supportive."*

As professional teachers, their expertise lies in teaching rather than in guidance and counseling. The unfamiliar career path led them to describe the transition as *"chaotic"* for Carla, *"challenging"* according to Ronnie, *"vague"* as experienced by Jona, *"disoriented,"* and *"shocked"* as described by Daisy and Susan, respectively. In the study of Kamau (2014), secondary school principals do not put emphasis on training when appointing teacher counselors. Likewise, the teachers in the study were assigned as guidance designates by their principals based on different factors that the principals deemed as worthy qualifications for the designation. The factors for consideration however vary depending on the understanding of the principals in terms of the job functions of the guidance designates. In the case of the participants of the study, they were chosen in terms of their maturity in dealing with the students, their capacity to handle disciplinary cases and the rapport that they have established with students in general.

Just One of the Many: The Overlapping Work Assignments. The guidance designation is just an ancillary function given to the teachers. This means that this is an additional assignment for them to do, aside from teaching. *"The stress is tremendous. I am an adviser. Being a guidance designate is only an addition which is why you cannot focus on it fully. You will tend to neglect it,"* shared Jona. Added to it, they also handle advisory classes and even administrative functions. Thus, there is a need to comply with reports that are required of them by the Division Office. According to Carla, "*the work overlapped because as guidance designate, there are reports to be done for the Division Office such as number of bullying, cases of fighting in school, and resolved cases which are reported to the Division Office."* Given these responsibilities, the guidance designates felt that sometimes, they could not focus on their guidance work and admitted that at times, left unattended to. Ronnie said that "*I had difficulty. It was a pity because it seemed like I have neglected my work as the designate of the junior high school because of my work as administrator, you get to attend seminars here and there."* Susan can related to this also saying, *"It was very hard when the senior high school program was just starting. I was the coordinator and at the same time there were numerous problems. You have to be coordinator and guidance designate at the same time."* Overlapping assignments overwhelmed them, and as a result increased their stress level and affected their well-being in general. As Daisy puts it, *"You have to leave your class because you called for someone so it's like that. I was disoriented as to which to do first. Reports or paper works are also needed to be accomplished on the day of the deadline."*

It's a Hit or Miss: Carrying Out the Role. Most participants carried out the role of a guidance designate in the best way they can, given the fact that they did not have any training in guidance work. Jona was expected to function as a disciplinary officer and she did just that saying, *"I was functioning as a disciplinary officer and asked to when there is a fight."* Some participants initiated programs just to make guidance visible to the school community by interviewing students, doing disciplinary functions, settling small conflicts of the students or even among teachers themselves, Carla recalled, *"I initiated some programs on my own so that at least they can say that I am visible and that the guidance is also visible."* Doing referrals to the principal when cases were beyond his capacity to handle was working for Ronnie . He said that, *"If there were issues that I felt I could not handle, I referred it to my school head, my principal."* On the other hand, some participants were realistic enough to say that they were not able to do any program or activity because they lacked the knowledge and information to do the job.

The Breakthrough: Project-FREE MSGC program as a Lifeline. The Project-FREE MSGC program came as a source of light, a learning opportunity, a privilege, and a blessing As Jona captured it, *"The transition was a vague, dark thing. It only became like sunrise when MSGC was offered to us."* Jona saw the light at the end of the tunnel. Her scholarship from Project-FREE MSGC made it possible for her to see the light and find direction and in effect enlarged her perspective of the helping profession and described it as *"sunrise."* Carla began to *"really enjoyed"* the transition process when she went back to school. She said that the *"knowledge about the process, what you can do, and what approach to use"* made her navigate through the challenges and claimed that *"when you see a problem, you already know how to approach it."* Ronnie could relate to the experience of Carla saying that, "As a guidance designate, I realized that there is so much that you can do that can be helpful. "It is different

when you have studied about it. When you learn which theory you can connect that applies to the child that you are helping." Susan considered Project-FREE-MSGC program as *"a blessing for me. Although at first, I strongly resisted it knowing that Lasalle is a standard school. But it's a blessing.* As a lifeline, The Project-FREE MSGC journey as a lifeline sustained the participants in this transition journey.The participants were grateful that despite their resistance to enrol in the program, as this again would add up to the existing workloads and thereby increase their stress level, they persisted and allowed themselves to continue and commit themselves to the process. The knowledge that they acquired from their education put their work in the right perspective, making them confident and more inspired to design their own guidance program and carry out the role of a guidance designate. They felt a sense of empowerment with the knowledge and skills that they got from their studies. In effect, the school, their colleagues and the students, benefited from the delivery of relevant guidance services.

Opening New Windows of Opportunities. The transition process made the participants in this study recognize career options aside from teaching. Ronnie's interest for the guidance profession was reinforced and he shared that, *"I like guidance better. That seems to be my focus, even telling myself that I want to do college guidance, still with the public school."* Carla recognized the fact that there are many students who need the help of abled Guidance Counselors. She foresees that *"if I stayed the same and I did not transition to guidance, what will I do since my career as science teacher is already done. But if I retire, guidance will still be there, maybe even when I grow old, I will still be able to help."* This is one opportunity that majority of the participants want to have, the opportunity to help the students achieve their full potential in their capacity as full-fledged Guidance Counselors. *"I am praying that I will pass the board exam. If that would be God willing I will be full time Guidance Counselor. I will give up the teaching profession,"* claimed Susan. According to Jona, *"There is an offer right now in the Division. They have a slot for guidance designate. I really want to apply for it.* Daisy found clarity saying, *"I like it better that I will be a guidance designate because it is like I already have a vision."* The transcripts of the study are supported by the auto-ethnographic research conducted by Penick (2017), which revealed that career transitions helped the participants become more aware of the various situations, distinct cultures and their unique selves.

IMPLICATIONS

The findings of this study provided some valuable insights in the practice of Guidance and Counseling, specifically in the public-school setting. The Guidance and Counseling Act of 2004 prohibited the practice of the profession without the license on the part of the practitioners. In effect, the Department of Education deemed it necessary to designate teachers and assigned them as guidance designates to perform the duties of Guidance Counselors. They were chosen by virtue of having the character traits of a disciplinarian or based upon the observation of their principals as having the heart to help the students. The rise of mental health issues among the students in all levels highlighted the need of the presence of the mental health professionals in schools. However, the results of the study presented the difficulty of the guidance designates as they embraced their added assignments as Jona puts it, *"The stress is tremendous because of overlapping functions."*

Consequently, the participants consider the privilege to avail of the scholarship through Project-FREE MSGC program a blessing and a venue for them to acquire knowledge that made them have even a bit of confidence to face their clienteles who deserved better student services. However, they also pointed out that there were only a number of them who avail of this privilege. They see the value of the support given to them by the program thus, they wished that this endeavor to provide education and training to the guidance designates be sustained. The assignment of guidance designates, being an ancillary function also added to the workloads of the teachers. This has a great impact in the delivery of the services. This left the guidance designates extremely overworked or even to non-performance of their duties. Susan admittedly said, *"I did not have any programs because I had no access to information that the guidance should have certain programs. There was none."* Despite the resistance and doubts on the part of the participants in the initial stage of their transition process, they have learned to see the importance of what they do in the lives of their students. They found inspiration in the circumstances

of the students that they are facing, who need assistance in making major decisions in their pursuit of being better individuals with bright futures. The guidance designates aspire to graduate and eventually take the licensure exam thereafter to become Registered Guidance Counselors. In the process, they are seriously in need of the support that they can get to realize this goal.

RECOMMENDATIONS

As the guidance designates experienced their career transitions from teaching to doing Guidance and Counseling work, there were realities that were presented in this study from which the following recommendations were based:

1. Provision of skills trainings and capability building on appropriate Guidance and Counseling practices to guidance designates be considered by authorities in schools as well as by government officials.
2. Balanced work load assignments for the guidance designates may be considered.
3. Increased awareness on the part of the school administration and the school community on the job functions of the guidance designates.
4. The result of the study can be the basis for the continued partnership between the Province of Negros Occidental and the University of St. La Salle in providing opportunities to more guidance designates to enroll in Project-FREE MSGC program.
5. Provision of a clear policy from the Department of Education regarding monitoring of these designates.
6. The results of the study can serve as initial data for policy recommendation.
7. Budget appropriation for guidance services may be reviewed so that needed programs and activities be given attention in the order of priorities.
8. More researches be made in the area of Guidance and Counseling in the public-school setting, specifically in the conduct of the guidance program and the support available for the guidance designates. There is a need for clearer policies in terms of criteria for appointment of guidance designates, as well as proper monitoring and evaluation procedures.

CONCLUDING STATEMENT

The prime contribution of the present study is to enrich the field of higher education from the lived experiences of teachers who are given the assignment of guidance designates while given the opportunity as scholars of the Project-FREE MSGC program. The implications and recommendations from the experiences of these teachers contributed to the needed literature on governance and academic profession in the context for a developing country like the Philippines. Moreover, the research findings contributed to the body of knowledge in the discipline of Guidance and Counseling which may be useful to the local and international data generation for future researches and interventions.

REFERENCES

Albert, J.R.G., C.C. David, and J.F. Vizmanos. 2018a. Barriers and bottlenecks to school attendance: An update. PIDS Policy Notes No. 2018-17. Quezon City, Philippines: Philippines Institute for Development Studies.

American Psychological Association. (2010). Publication Manual of the American Psychological Association (6th ed.). Washington, DC: Author.

Anderson, M. L, Goodman, J. G., & Schlossberg, N., K. (2012). Counseling Adults in Transition. New York, NY: Springer Publishing.

Andolong, I. 2018. DepED calls for increase in guidance counselors' pay. CNN Philippines. July 13. http://cnnphilippines.com/news/2018/07/13/Guidance-counselor-salary-public-school.html (accessed on October 2, 2019).

Beacom, A. M. (2013). The RETAIN maternity leave transition coaching model: Applying schlossberg's transition theory to create a new model of executive coaching (Order No. 3557142). Available from ProQuest Dissertations & Theses A&I; ProQuest Dissertations & Theses Global. (1335917714). Retrieved https://search.proquest.com/docview/1335917714?accountid=28547

Choles, J. R. (2018). *Impacts of mindfulness training on mechanisms underlying stress reduction in teachers: Results from a randomized controlled trial* (Order No. 10750824). Available from ProQuest Dissertations & Theses A&I; ProQuest Dissertations & Theses Global. (2090029096). Retrieved https://search.proquest.com/docview/2090029096?accountid=28547

Creswell, J. (1995). Educational research (planning, conducting and evaluating quantitative and qualitative research). Pearson Educ. Inc., New Jersey: USA.

Creswell, J. (2007). Qualitative inquiry and research design: Choosing among five approaches,2nd ed. Sage Publications, Inc. Thousand Oaks, California.

Creswell, J. (2014). Research design: qualitative, quantitative and mixed-method approaches (4th ed.). USA: Sage Publications, Inc.

Creswell, J. & C. Poth (2018). Qualitative inquiry and research design (choosing among five approaches (4th ed.). SAGE Publications, Inc.

DeVilbiss, S. E. (2014). The transition experience: Understanding the transition from high school to college for conditionally-admitted students using the lens of Schlossberg's transition theory (Doctoral dissertation).

Esguerra, D.J. 2018. DepED urged to lighten teacher workloads following suicide reports. Philippine Daily Inquirer. August 27. https://newsinfo.inquirer .net/1025288/deped-urged-to-lighten-teacher -workloads-following-suicide-reports.

Guidance and Counseling Act. (2004). Republic Act No. 9258. Retrieved from http://www.lawphil.net/statutes/repacts/ra2004/ ra_9258_2004.html

Janse, A. & Rensburg, V. & Ukpere, W. (2014). An Evaluation of Career Transition Phenomenon. Mediterranean Journal of Social Sciences. 5. 735. 10.5901/mjss.2014.v5n1p725.

Lincoln, YS. & Guba, EG. (1985). Naturalistic Inquiry. Newbury Park, CA: Sage Publications.

Louis, M. (1980, Jul). Career Transitions: Varieties and Commonalities. The Academy of Management Review, 5(3), 329-340.

Mertens, D.M. (2015). Research and evaluation in education psychology: Integrating diversity with quantitative, qualitative, and mixed methods (4th ed.). Thousand Oaks. CA: Sage.

Moustakas, C. (1994). Phenomenological research methods. Sage Publications Inc., Thousand Oaks, California.

Penick, F. E., Jr. (2017). Examining the career transitions and transformation of an urban educator (Order No. 10266776). Available from ProQuest Dissertations & Theses A&I; ProQuest Dissertations & Theses Global.

Awareness and Incidence of Bullying among Students in a Philippine Public High School

Janice L. Gonzales [1] and Dennis V. Madrigal[2]

[1]*Antique National School, Antique, Philippines (j.lamprea29@gmail.com)*
[2]*University of Negros Occidental-Recoletos, Bacolod City, Philippines (dennis_madrigal@yahoo.com)*

ABSTRACT

Bullying has been an increasing problem globally which affects school children over the years and brought a negative impact on their lives. Moreover, students who experience bullying have a greater risk of psychological distress. Likewise, the incidence of bullying has been increasing despite of the attention given by the government and the Philippine Department of Education. This descriptive-correlational study examined the level of awareness and the extent of bullying incidence experienced by the junior high school students in a public school in Antique. Using a researcher-made instrument, data were analyzed using mean, standard deviation, Kruskal Wallis test, Man-Whitney U test, and Spearman Rank Correlation. The findings of the study revealed that the level of awareness on bullying of the high school students is generally high regardless of the variables. On the other hand, the extent of bullying in high school students rarely happen. Female, 7th grader, and with high family income students demonstrated a higher level of awareness compared to their counterparts hose of 8th graders. For the extent of bullying incidence, results showed that males had higher bullying incidence compared to females. Also, a significant relationship was observed between awareness and bullying incidence. School-based anti-bullying programs are vital to improving the level of awareness of students on bullying. Thus, by having a clear policy on bullying in school, the students can determine appropriate behavior and bullying consequences. A higher level of awareness is associated with a lower incidence of bullying. Hence, the school has a vital role in raising awareness and reducing the incidence of bullying among school-aged youth.

Keywords: Educational Management, Bullying Awareness, Incidence of Bullying, Junior High School, Descriptive-Correlational, Antique

INTRODUCTION

Bullying is an increasing problem in every school worldwide (Kartal & Bilgin, 2009) and the number of cases that affect school children has increased over the years (Hymel, 2005). In a survey conducted among 25 Western Countries, an average of 11% of youth reported instances of bullying, with at least 10% of them bullied two or more times (Nansel et al., 2004). Also, bullying is Asia is highly prevalent. In East Asia and the Pacific region, bullying prevalence is 41.1% and 43.5 in the South Asian Region (Richardson & Hiu, 2018). In the Philippines, high bullying incidence also persists. According to the Department of Education, there were 1,165 cases of bullying during the school year 2012-2013. In response, the Republic Acts 10627, known as the Anti-bullying Law of 2013, was enacted (Congress of the Philippines, 2013). However, in a survey conducted among Filipino teenagers, results revealed that around 80% of Filipino teens, aged 13 to 16, reported the bullying (Takumi, 2016).

Technology has exacerbated bullying creating a new form called cyberbullying. Forms of bullying have evolved and has become a widespread problem (Sullivan, 2011).

Moreover, bullying has become the subject of increasing attention and social alarm in recent years, school violence and bullying issues continue to be an alarming subject of national discussion for years (Brunner & Lewis, 2007). It is imperative to evaluate students' awareness of bullying and determine the incidence of bullying in secondary schools (Smith, et al., 2003 cited in Chapell, et al., 2006).

Locally, there is a dearth of research on bullying, and the studies are exploratory (Bayhon, 2001). There is still a need to conduct more studies on bullying in the Philippine context because of limited local literature (Laus, 2016). Bullying incidents persist at an alarming rate in secondary schools (Galabo, 2019). In a public school in Antique, bullying is also prevalent. According to the guidance center's data, there were 69 reported cases of bullying in 2019, which was equivalent to 1.31.% of the student population. Currently, there are no research studies on bullying awareness and extent of bullying incidence in a public school in the Division of Antique. Hence, the researcher conducted the study to assess the level of awareness of bullying and the extent of bullying incidence in a public school. The findings served as the basis for designing an enhanced school-based anti-bullying program.

FRAMEWORK OF THE STUDY

The study theorized that there is a link between the level of awareness and the extent of bullying incidence among junior high school students. The high level of awareness is associated with a low extent of bullying incidence. Hence, the study is anchored on Knowledge, Attitude, and Practice (KAP) Model as substantiated by the theoretical assumption that the level of bullying awareness is linked with the extent of bullying incidence. Moreover, KAP Model posits that behavior is divided into three consecutive processes: knowledge acquisition, attitude generation, and behavior formation. The theory illustrates that knowledge is the base of behavior changes. Beliefs and attitudes of individuals are the key driving forces of changes in behavior. Hence, there exists a growing relationship between knowledge, attitudes, and practices (Fan et al., 2018).

When applied in the context of bullying awareness and bullying incidence, the level of awareness of bullying is linked with the extent of bullying incidence. The level of awareness refers to the level of consciousness of students on actions that may inflict any type of pain or harm among other such students in verbal, physical, social, and online forms. The level of consciousness on these actions may be categorized as very high, high, moderate, low, and very low. In addition, the extent of bullying is measure in terms of bullying incidence experienced by the student that may be classified as physical, verbal, social or cyberbullying. The extent of bullying experience can be classified as always, often, sometimes, seldom, and never.As a framework, in reducing the incidence of bullying, the acquisition of knowledge in bullying is a key factor in changing behavior. In the current study, the extent of bullying incidence can be reduced by a change in behavior because of a higher level of awareness of the different types of bullying (Menesini & Salmivalli, 2017).

In addition, the assessment of the level of bullying awareness and the extent of bullying incidence is also anchored on Reasoned Action Theory (Fishbein & Ajzen, 1975). The theory suggests that a person's behavior is determined by their intention to perform such behavior. The intention is affected by attitudes and subjective norms. The stronger the intention, the greater the likelihood of the behavior to be performed. Furthermore, Reasoned Action Theory is also complemented by the Theory of Planned Behavior (Ajen, 1991). It posits that the strength of a person's intention affects the likelihood of a behavior's occurrence. A person's behavioral intention is affected by attitude toward the behavior, subjective norms, and perceived control over the behavior. The higher the level of awareness on different actions that may inflict harm or pain among students, the lower the likelihood of performing these actions as part of their "reasoned" behavior. These two theories help explain and predict human behavior in both voluntary and self-controlled situations. As a framework used in the study, the researcher hypothesized that the level of bullying awareness of students influences the extent of bullying incidence. The level of awareness affects their intention and attitude on the different types of bullying observed inside the campus.

METHOD

The study employed a quantitative research design using descriptive comparative and correlational approaches. This design described, compared, and assessed the relation of the variables of the study (Creswell, 2014). Descriptive approach was used to compare and describe the level of awareness and

extent of bullying experiences when the respondents are grouped according to demographics. Correlational approach evaluated the relationship between the level of bullying awareness and extent of bullying experience.

A total of 358 junior high school students from different grade levels in junior high school were selected through stratified random sampling. The sample size was calculated using Raosoft online calculator with the margin of error 5% and level of confidence 95%. Researcher-made instrument was used to collect data.

The permission of the school administrator was sought before the administration of the survey questionnaire. Upon approval, the researcher oriented the respondents of the purpose of the research and secured their informed consent before they answered the questionnaire. The parents' consent for their children to participate in the study was also secured before the study's conduct. In addition, confidentiality and anonymity was assured. All materials containing raw data was stored, protected, and manually shredded after data processing in a given period.

Mean, standard deviation, Kruskal Wallis test, Man-Whitney U test, and Spearman Rank Correlation were used to analyze data.

RESULTS AND DISCUSSION

Overall, the findings in Table 3 showed that the students demonstrated a high level of awareness of bullying, which implies that they can identify actions or situations that are considered bullying. Similarly, high level of awareness was also observed to all the subcategories of bullying. Students reported the highest level of awareness on verbal bullying and lowest on social bullying. Students easily acknowledge verbal bullying because they think it is more serious (Jacobsen & Bauman, 2007) than other forms of bullying. Moreover, when classified according to sex, female students had higher mean scores than male students. Also, male students reported a high level of awareness in all forms of bullying but with a lesser mean than female results. The level of awareness of junior high school students, when classified according to sex, is "high.". This is attributed to a more developed cortex of the female's brain which causes them to have higher mental functions (Fishbein, 1992).

In terms of grade level, Grade 7 students had the highest mean scores of bullying awareness among the respondents. It implies that although Grade 7 students are younger than other grade levels, the higher level of awareness could be attributed to thorough students' formation programs implemented by the school, including anti-bullying programs. The existence of these programs, in the educational component, indicates that the school has a strong commitment to a whole school anti-bullying program (Rigby, 1996). On the other hand, Grade 10 students also have high social bullying awareness because they have been exposed to different learning materials and experiences that have increased their awareness of bullying. Hence, age can be an important factor in the level of awareness and behavior of junior high school students (Smith et al., 2012)

When grouped according to birth order, the eldest group showed the highest level of awareness among the groups and less diverse compared to other birth order while the youngest get the lowest mean. Furthermore, the level of knowledge on bullying when respondents are classified according to family income is "high." Bullying role and victimization is associated with low family income. A higher level of awareness of students from high income families may be related to the availability of resources that can enrich their knowledge on the different forms of bullying (Galobardes et al., 2012).

Table 1. Level of Awareness on Bullying of the Junior High School Students of a Public School in Antique

Variable	Bullying Awareness			Physical Awareness			Verbal Awareness			Social Awareness			Cyberbullying Awareness		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex															
Male	3.82	1.00	HL	3.78	1.03	HL	3.98	0.97	HL	3.74	1.03	HL	3.83	1.29	HL
Female	4.14	0.84	HL	4.18	0.82	HL	4.33	0.89	HL	4.05	0.94	HL	4.18	1.05	HL
Grade Level															
Grade 7	4.23	0.69	HL	4.24	0.71	HL	4.41	0.74	HL	4.14	0.73	HL	4.12	1.03	HL
Grade 8	3.84	1.00	HL	3.80	1.04	HL	4.04	1.01	HL	3.86	1.06	HL	3.88	1.23	HL
Grade 9	3.87	0.99	HL	3.93	0.88	HL	4.06	1.03	HL	3.70	1.15	HL	3.90	1.24	HL
Grade 10	4.01	0.97	HL	4.01	1.07	HL	4.16	0.92	HL	3.93	0.95	HL	4.18	1.21	HL
Birth Order															
Eldest	4.09	0.86	HL	4.07	0.93	HL	4.29	0.84	HL	4.01	0.92	HL	4.14	1.03	HL
Middle	3.95	0.94	HL	3.98	0.94	HL	4.08	0.96	HL	3.86	1.00	HL	3.92	1.28	HL
Youngest	3.93	1.00	HL	3.97	0.98	HL	4.17	0.99	HL	3.85	1.05	HL	3.97	1.22	HL
Only Child	3.96	0.89	HL	3.84	0.90	HL	4.04	1.02	HL	3.96	0.98	HL	4.12	1.13	HL
Living Condition															
Living with Both Parents	4.01	0.90	HL	4.00	0.93	HL	4.17	0.92	HL	3.94	0.96	HL	4.07	1.09	HL
Living with Single Parent	4.00	0.97	HL	4.10	0.92	HL	4.10	1.04	HL	3.93	0.96	HL	4.20	1.44	HL
Living with Guardian/Relatives	3.86	1.04	HL	3.88	1.03	HL	4.20	1.00	HL	3.73	1.17	HL	3.57	1.35	HL
Family Monthly Income															
Low	3.90	0.94	HL	3.90	0.98	HL	4.09	0.97	HL	3.86	1.00	HL	3.89	1.19	HL
High	4.17	0.88	HL	4.19	0.82	HL	4.33	0.86	HL	4.02	0.97	HL	4.29	1.12	HL
As a Whole	3.99	0.93	HL	3.99	0.94	HL	4.17	0.94	HL	3.91	0.99	HL	4.01	1.18	HL

Note: VLL=Very Low Level, LL=Low Level, ML=Moderate Level, HL=High Level, VHL=Very High Level

Extent of Bullying Incidence

Table 2 shows the extent of bullying incidence of the Junior High School Students of a public school in Antique. As a whole, results revealed that the students "rarely" experienced bullying. The result implies that they had only bullied once a month. Physical, verbal, social, and cyberbullying were "rarely" experienced. The results showed that verbal bullying is the most prevalent form of bullying. In terms of sex, and female students reported that bullying incidence in a public school in Antique "rarely" happened. In addition, when classified according to the subcategories of bullying, male students reported that physical, social, and cyberbullying "rarely" occurred while verbal bullying "sometimes" occurred. On the other hand, female students reported that physical, verbal, social and cyberbullying "never" occurred in the campus. In terms of the sub-types of bullying, the results also show that male students have higher bullying incidence in all sub-types, however, the global trend indicates that male students tend to be more involved with physical bullying (Pepler et al., 2006).

Table 2. Extent of Bullying Incidence on Bullying of the Junior High School Students of a Public School in Antique

Variable	Bullying Incidence			Physical Incidence			Verbal Incidence			Social Incidence			Cyberbullying Incidence		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex															
Male	2.36	0.83	Ra	2.46	0.90	Ra	2.73	1.04	So	2.34	0.92	Ra	1.88	0.93	Ra
Female	2.09	0.80	Ra	2.25	0.95	Ra	2.41	0.98	Ra	2.15	0.99	Ra	1.62	0.81	Ra
Grade Level															
Grade 7	2.24	0.86	Ra	2.39	0.85	Ra	2.60	1.06	So	2.18	0.97	Ra	1.68	0.89	Ra
Grade 8	2.32	0.80	Ra	2.53	0.98	So	2.63	1.01	So	2.38	0.91	Ra	1.80	0.89	Ra
Grade 9	2.16	0.76	Ra	2.16	0.91	Ra	2.42	1.01	Ra	2.21	1.01	Ra	1.67	0.79	Ra
Grade 10	2.16	0.88	Ra	2.31	0.96	Ra	2.56	0.99	So	2.16	0.95	Ra	1.83	0.92	Ra
Birth Order															
Eldest	2.30	0.86	Ra	2.31	0.93	Ra	2.62	1.10	So	2.34	0.99	Ra	1.83	0.93	Ra
Middle	2.17	0.77	Ra	2.41	0.89	Ra	2.50	0.95	So	2.17	0.93	Ra	1.67	0.80	Ra
Youngest	2.20	0.83	Ra	2.33	0.99	Ra	2.54	1.03	So	2.22	0.97	Ra	1.76	0.89	Ra
Only Child	2.20	0.91	Ra	2.32	0.90	Ra	2.60	0.96	So	2.20	0.91	Ra	1.60	0.87	Ra
Living Condition															
Living with Both Parents	2.21	0.85	Ra	2.31	0.94	Ra	2.52	1.04	So	2.20	0.95	Ra	1.72	0.86	Ra
Living with Single Parent	2.29	0.78	Ra	2.39	0.92	Ra	2.63	0.94	So	2.29	1.08	Ra	1.76	0.99	Ra
Living with Guardian/Relatives	2.20	0.74	Ra	2.51	0.87	So	2.67	0.99	So	2.41	0.91	Ra	1.82	0.88	Ra
Family Monthly Income															
Low	2.22	0.87	Ra	2.39	0.98	Ra	2.58	1.07	So	2.22	0.96	Ra	1.76	0.90	Ra
High	2.21	0.73	Ra	2.27	0.81	Ra	2.50	0.91	So	2.27	0.96	Ra	1.69	0.81	Ra
As a Whole	**2.22**	**0.83**	**Ra**	**2.35**	**0.93**	**Ra**	**2.56**	**1.02**	**So**	**2.24**	**0.96**	**Ra**	**1.74**	**0.87**	**Ra**

Note: Ne=Never, Ra=Rarely, So=Sometimes, Of=Often, Al=Always

Moreover, the respondents reported that the incidence of bullying in the campus "rarely" occurred regardless of their birth order. The eldest children in the family reported the highest incidence of bullying while middle children had the lowest reported mean scores. In terms of living condition, all respondents from different subcategories reported that bullying "rarely" happened in the school grounds. The findings indicating that bullying is most prevalent among students living with single parents is consistent with the study of Spriggs et al., (2007) that children living with single parents have a higher risk of bullying. This implies that family warmth and cohesion are an important factor in students' bullying behavior (Steven & Epstein, 2002). It further signifies those parents and guardian play a very important role in guiding their children in terms of their attitude, behavior, and well-being (Sawyer et al., 2011). Additionally, when classified according to family income, students from both low- and high-income families reported that bullying incidence "rarely" occurred on the campus.

Difference in the Level of Awareness of Bullying

The data in Table 3 showed a significant difference in the level of awareness of bullying when the junior high school students are grouped according to sex [U=12967.5, p=0.001] and family monthly income [U=11704.0, p=0.012]. Hence, the null hypothesis, in terms of sex and family income, was rejected. Females have a higher level of awareness when compare to males because the cortex of their brain is more developed than of the male, which causes them to have higher mental functions (Fishbein, 1992). The findings are consistent with Collier et al. (2013) that sex and gender identity play a vital role in

students' knowledge and bullying experiences. On the other hand, the significant difference in the level of bullying awareness on family income is attributed to the ease of access to intellectual resources. Students from higher income families have more access to books, classes, social gatherings that give them more information on desirable behaviors and attitudes expected of them (Galobardes et al., 2012).

Table 3. Difference in the Level of Awareness on Bullying when the Junior High School Students are Grouped According to Sex and Family Monthly Income

Variable	Sex		U	p
	Male	Female		
	3.82	4.14	12967.5*	0.001
	(1.00)	(0.84)		
Bullying Awareness	Family Monthly Income		U	p
	Low	High		
	3.90	4.17	11704.0*	0.012
	(0.94)	(0.88)		

Note: *the difference is significant when p≤0.05

As presented in Table 4, there was no significant difference in the level of bullying awareness on bullying when the junior high school students are grouped according to birth order [$\chi^2(3)$= 1.851, p=0.604]. However, when junior high school students are grouped according to grade level [$\chi^2(3)$= 8.507, p=0.037], there was a significant difference in the level of bullying awareness. Post hoc test revealed that in terms of grade level, the level of awareness on bullying is significantly higher among 7th graders than among 8th graders.

On the other hand, the higher level of knowledge of Grade 7 students compared with Grade 8 students can be attributed to more intensive anti-bullying programs adopted by schools that typically begin in the seventh grade. Hence, this implies that the anti-bullying program to raise awareness of students must be progressive. This also means that anti-bullying programs should be integrated into all grade levels. The results imply that birth order is not a significant factor in bullying awareness. With the advent of technology, each member of the household has access to information. Furthermore, internet access has been rapidly growing (U.S. Department of Commerce, Census Bureau, 2017).

Table 4. Difference in the Level of Awareness on Bullying when the Junior High School Students are Grouped According to Grade Level and Birth Order

	Grade Level				χ^2	df	P
	Grade 7	Grade 8	Grade 9	Grade 10			
	4.23	3.84	3.87	4.01	8.507	3	0.037
	(0.69)	(1.00)	(0.99)	(0.97)			
Bullying Awareness	Birth Order				χ^2	df	P
	Eldest	Middle	Youngest	Only Child			
	4.09	3.95	3.93	3.96	1.851	3	0.604
	(0.86)	(0.94)	(1.00)	(0.89)			

Note: *the difference is significant when p≤0.05

As shown in Table 5, there was no significant difference in the level of awareness when students are grouped according to living conditions [$\chi^2(2)$= 0.7420, p=0.690]. The findings revealed that being away from parents does not signify the absence of parental support. With the advent of modern technology, there are different ways for parents to connect and give guidance to their children. For parents working in other provinces or other families, parents communicate with their children through mobile phones, video chat, and other electronic means (Zhao et al., 2017). Different factors affect the level of awareness of students. Hence, physical separation does not necessarily have adverse effects on their level of awareness (Li et al., 2019) Hence, the hypothesis on the difference in the level of awareness in terms of

birth order and living conditions was accepted. However, the difference in the level of awareness in terms of grade level, the null hypothesis was rejected.

Table 5. Difference in the Level of Awareness on Bullying when the Junior High School Students are Grouped According to Living Condition

Variable	Living Condition				χ^2	df	p
	Living with Both Parents	Living with Single Parents	Living with Guardian/Relatives	Total			
Bullying Awareness	4.01 (0.90)	4.00 (0.97)	3.86 (1.04)	3.99 (0.93)	0.742	2	0.690

Note: the difference is significant when p≤0.05

Difference on the Extent of Bullying Incidence

The data in Table 6 indicated no significant difference in the extent of bullying incidence when the junior high school students are grouped according to family monthly income [U=13776.5, p=0.938]. However, when grouped according to sex [U=13102.5, p=0.002], there was a significant difference. In terms of sex, males have significantly more extent of bullying incidents than females. This is attributed to the social pressures expected from male students. Bullying behavior is aggressive behavior that is socially rewarded among males. Aggressive behaviors are associated with being a "strong" person. Hence, the social reinforcement of these behaviors serves as an incentive for male students to continue such behavior.

Similarly, female students also adhere to social stereotypes of gender. Female students are expected to be weak and submissive. Hence, aggressive behavior is discouraged. These social pressures serve as incentives for students to earn distinct social positions among their peers (Hong & Espelage, 2012). Low-income families are associated with stricter forms of punishment, abuse, sibling, and family violence. This implies that the experiences and relationship of the child with his family plays a bigger role in bullying behavior. Females are expected to be soft and amenable, while males are expected to be strong. Hence, male students may exhibit aggressive behavior because society expects them. Similarly, female students may not be as expressive as the male students. Therefore, the null hypothesis on the difference in the extent of bullying incidence in terms of family income was accepted while the null hypothesis on sex was rejected.

Table 6. Difference in the Extent of Bullying Incidence when the Junior High School Students are Grouped According to Sex and Family Monthly Income

Variable	Sex		U	p
	Male	Female		
	2.36 (0.83)	2.09 (0.80)	13102.5*	0.002
Bullying Incidence	Family Monthly Income		U	p
	Low	High		
	2.22 (0.87)	2.21 (0.73)	13776.5	0.938

Note: *the difference is significant when p≤0.05

The data in Tables 7 and 8 showed that there was no significant difference in the extent of bullying incidence when the junior high school students are grouped according to grade level [χ2(3)= 2.614, p=0.455], birth order [χ2(3)= 1.915, p=0.590]   and living condition [χ2(2)= 0.342, p=0.843].

In terms of grade level, the results showed that the school anti-bullying programs have been very effective in improving students' bullying behavior across all grade levels. Whole- school programs are

effective in reducing cases of bullying at schools (Menesini & Salmivalli, 2017). This means that students' previous experiences on bullying influence their current bullying behavior (Espelage et al., 2001). Older students may have learned more advanced social skills that may have helped them adopt variable social situations that lessened the incidence of bullying (Pellegrini & Long, 2002).In addition, in terms of birth order, the findings imply that there are underlying factors that affect the bullying behavior of students from different birth order (Oliva & Arranz, 2005).

Furthermore, the findings of the study on living conditions confirm the results of a survey conducted among high school students. Students who do not live with both biological parents are not an indicator of poor parental emotional, social, and psychological support. Students continue to reach out to their parents in the advent of technology. This implies that living condition has a deeper underlying context in terms of parental support to their child (Li et al., 2019). Hence, the null hypothesis on the difference of extent of bullying incidence in terms of grade level, birth order, and living condition was accepted.

Table 7. Difference in the Extent of Bullying Incidence when the Junior High School Students are Grouped According to Grade Level and Birth Order

	Grade Level				χ^2	Df	p
	Grade 7	Grade 8	Grade 9	Grade 10			
	2.24	2.32	2.16	2.16	2.614	3	0.455
	(0.86)	(0.80)	(0.76)	(0.88)			
Bullying Incidence	**Birth Order**				χ^2	Df	p
	Eldest	Middle	Youngest	Only Child			
	2.30	2.17	2.20	2.20	1.915	3	0.590
	(0.86)	(0.77)	(0.83)	(0.91)			

Note: *the difference is significant when p$\leq$0.05

Table 8. Difference in the Extent of Bullying Incidence when the Junior High School Students are Grouped According to Living Condition

Variable	Living Condition				χ^2	df	p
	Living with Both Parents	Living with Single Parents	Living with Guardian/ Relatives	Total			
Bullying Incidence	2.21	2.29	2.20	2.22	0.342	2	0.843
	(0.85)	(0.78)	(0.74)	(0.83)			

Note: the difference is significant when p$\leq$0.05

Relationship between Level of Bullying Awareness and Extent of Bullying Incidence

Spearman's rank correlation coefficient was used to determine the significant relationship between the level of awareness on bullying and the extent of bullying incidence. There was a significant relationship between bullying awareness and bullying incidence [$\rho(356)=-0.123$, p=0.020]. Meaning to say, the level of awareness of students on bullying is linked with their bullying behavior. Furthermore, this implies that an increase in knowledge of the students in bullying would change the behavior of students. As their level of awareness increases, the students can identify more types of bullying. The higher level of awareness affects their bullying behavior that leads to reduced incidence of bullying (Chatters, 2012).

Furthermore, this is consistent with the findings of Thompson and Smith (2011), indicating that improved awareness of bullying through classroom interventions reduces bullying incidence.

Table 9. Relationship between Awareness of Bullying and Bullying Incidence

Variables	ρ	df	p
Bullying Awareness x Bullying Incidence	-0.123*	356	0.020

Note: *the correlation is significant when p≤0.05

Overall, the findings affirmed the theoretical assumption of the study that the acquisition of knowledge on bullying is linked with a generation of attitudes that will reduce bullying and eventually lead to the formation of behavior to reduce bullying in the campus. Also, it supports the theoretical assumption that awareness of students positively linked on bullying incidence. This implies that the higher level of awareness of students, the lower the chance of bullying behavior.

CONCLUSION

The study has established the link between awareness and bullying incidence. The increase in students' awareness of bullying influences their experience of bullying incidence. Indeed, education is an important factor in improving the awareness of students on bullying. In this context, a school-based anti-bullying program can help administrators, teachers, and students to get them involved in the advocacy in reducing the bullying incidence in the campus. Guidance centers should review and create more anti-bullying programs that involves various stakeholders to make a more comprehensive anti-bullying plan. In addition, the school as a center of learning plays a vital role in instilling discipline among the students and makes them more conscious of the consequences of their actions. Strict adherence and implementation of the school's anti-bullying policy may positively contribute to establishing a bullying-free culture and forming student's awareness, attitude, and practices on bullying.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.Retrieved from https://doi.org/10.1016/0749-5978(91)90020-T

Brunner, J., & Lewis, D. (2007).Ten strategies to address bullying. Principal Leadership, 7(9), 73-75

Congress of the Philippines. (2013). An Act Requiring All Elementary and Secondary Schools to Adopt Policies to Prevent and Address the Acts of Bullying in their Institutions. Retrieved on February 1, 2020, from https://www.lawphil.net/statutes/repacts/ra2013/ra_10627_2013.html

Fishbein, M. & Ajzen, I. (1975). Belief, attitude, intention, and behaviour: An introduction to theory and research.Reading, MA: Addison-Wesley

Hymel, S. N.-H. (2005). Moral Disengagement: A Framework for Understanding Bullying Among Adolescents. Journal of Social Sciences, Special Issue No. 8 1-11, 1-11.

Kartal, H., & Bilgin, A. (2009). Bullying and School Climate from the Aspects of the Students and Teachers. Eurasian Journal of Educational Research, 36(1), 209-226.

Laus, M. (2016). A Profile of Bullying, Peer Aggression, and Victimization in Philippine Junior High School. Journal of Society & Technology, 6(1), 22-36.

Li, J., Sidibe, A., Shen, Xi., & Hesketh, T., (2019). Incidence, risk factors and psychosomatic symptoms for traditional bullying and cyberbullying in Chinese adolescents. Children and Youth Services Review. 107. 104511. 10.1016/j.childyouth.2019.104511.

Menesini, Ersilia & Salmivalli, Christina. (2017). Bullying in schools: the state of knowledge and effective interventions. Psychology, Health & Medicine. 22. 1-14. 10.1080/13548506.2017.1279740.

Nansel, T. R., Craig, W., Overpeck, M. D., Saluja, G., Ruan, W. J., & Health Behaviour in School-aged Children Bullying Analyses Working Group (2004). Cross-national consistency in the relationship between bullying behaviors and psychosocial adjustment. Archives of pediatrics & adolescent medicine, 158(8), 730–736. doi:10.1001/archpedi.158.8.730

Richardson, D., & Hiu, C.F. (2018). Developing a Global Indicator on Bullying of School-aged Children. New York: UNICEF

Sullivan, K. (2011). The Anti-Bullying Handbook. London: Oxford University Press. doi: http://dx.doi.org/10.4135/9781446289006

Takumi, R. (2016). 80% of young teens in PHL experience cyberbullying-survey. Retrieved from http://www.gmanetwork.com/news/lifestyle/parenting/560886/80-of-young-teens- in-phlexperience-cyberbullying-survey/story/

U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), November 2017. Digest of Education Statistics 2018, table 702.40

Assessment of the Implementation and Challenges of Basic Guidance Services in Selected Philippine Diocesan Catholic Schools

Genalyn E. Gipalen[1] and Dennis V. Madrigal[2]

[1]Dao Catholic High School, Inc., Antique, Philippines (genalyngipalen0822@gmail.com)
[2]University of Negros Occidental-Recoletos, Bacolod City, Philippines (dennis_madrigal@yahoo.com)

ABSTRACT

This descriptive-comparative study assessed the extent of implementation of guidance services in selected diocesan Catholic schools in Antique, Philippines. Likewise, it identified the challenges encountered by school personnel and students in implementing school guidance services. Participated by 683 school personnel and high school students as assessors, the data was gathered using a validated and reliability tested researcher-made instrument. Mean, Standard Deviation, Frequency count, percentage distribution, Kruskal Wallis, and Mann Whitney U Test as statistical tools were used for the statistical analysis. The findings of the study revealed that the extent of implementation of guidance services in selected Catholic schools is of great extent, which means that the schools have substantially implemented the guidance services of the school with placement, and follow-up as the highest and lowest, respectively. When assessors are grouped according to school origin and designation, the implementation of guidance services was rated to a great extent. Both students and school personnel considered placement and follow-up as strong and weak services, respectively. Moreover, the findings showed that there was a significant difference in the extent of basic guidance services when assessors are grouped according to the designation and the school of origin on how they viewed the implementation of information services, individual inventory services, counseling services, placement services, and follow-up services. Furthermore, the results revealed that the topmost challenges in the implementation of guidance services were inadequate facilities, lack of awareness on guidance services among students, basic facilitating skills for teachers, inadequate time to render guidance services, and inadequate resources for guidance program.

Keywords: Education, Classroom Climate, Academic Performance, Descriptive-Comparative, Antique

INTRODUCTION

Guidance and counseling refer to the process of helping individuals to discover and develop their educational, vocational, and psychological potentials to achieve an optimal level of personal happiness and social usefulness (Heyden, 2011; Ravi, 2016). The primary purpose of a school's guidance and counseling program is to provide a broad spectrum of services to students, such as student assessment, the information service, placement and follow-up, and counseling assistance and facilitate the growth and development of all students from kindergarten through high school experiences (Lunenburg, 2010). In Africa, guidance and counseling is recommended to improve school attendance, better study habits, better scholastic achievement, fewer scholastic failures, lower dropout rate, better educational planning, and better home-school relations among students in Ghana (Kemetse, Nyarko-Sampson, Nkyi, & Nyarko, 2018). In Asia, it has been recognized as an integral part of the total educational program and effective means to maximize student success and student behavior (Atan, 2013).

In the Philippines, guidance and counseling has dramatically changed within the last two decades. It has become more evident in educational institutions because of the changing needs in the psychological, social, physical, and spiritual milieu of the Filipino people (Bustos, 2016). In response, the Republic Act of 9258, known as Guidance and Counseling Act 2004, enacted by the Congress of the Philippines (2004) to address problems and provide assistance to the needs observed in school clientele (Villar, 2007).

Primarily, this program should help an individual utilize his/her potentials to the fullest and plan his/her present and future given his/her abilities, interests, and needs. The law further mandates that counseling, psychological testing, research, placement, referral, and group processes provide guidance services to students. It also includes individual inventory, information, referral, follow-up, and evaluation. In recent years, consultation, program development, and public relations are part and parcel of every service of the guidance program (Villar, 2007). All these guidance services are offered and considered useful to students' development and areas needing improvement (Ancheta, Balot, & Garcia, 2016).

At present, the majority of the Diocesan Catholic schools in Antique have no licensed guidance counselors. In effect, school principals appoint a teacher to act as a guidance associate or designate to be responsible for doing the task of a guidance counselor. As specified in the Antique Diocesan Catholic Schools Manual (2018) for personnel, one qualified guidance counselor is needed for every 500 students. However, there is only one registered guidance counselor for the whole Diocesan Catholic schools, which may account for the school's guidance services' dismal implementation. Currently, guidance designate or associate of the Diocesan Catholic schools pursue graduate studies in Guidance and Counseling to address the gap so that schools can cater to the students' guidance and counseling needs as well as the teachers, administrators, and the school (Idagdag, 2017). The existing guidance services implemented in the Diocesan Catholic schools include individual inventory, information, counseling, psychological testing or placement, referral and follow-up, consultation, and evaluation. However, due to a lack of qualified counselors, the effective implementations of the guidance services mentioned above are beset with various challenges.

Previous studies conducted about the implementation of guidance services focused on individual inventory/appraisal service, information service, consultation service, and counseling service (Namale & Awabil, 2018); orientation service, individual inventory/appraisal, consultation, information, follow-up, placement, counseling, referrals, and evaluation (Kemetse et al., 2018). Other studies focused on students' access and use of guidance services, the effectiveness of guidance services to assist learners in achieving academic, career, and personal-social development, and factors affecting the implementation of guidance services (Owusu, Dramanu, Nyarko, & Opoku-Amankwa, 2018). Also, some studies pertain to respondents such as students and school counselors only in Ho Municipality in Ghana (Kemetse et al., 2018); student and staff in Upper Denkyira East Municipality (Owusu et al., 2018); and students of Gomoa West District in the Central Region of Ghana as respondents (Namale & Awabil, 2018). So far, few studies have assessed the implementation of guidance services in Catholic schools in Antique.

Hence, this study intended to determine the extent of implementation of guidance services in Catholic schools in selected Diocesan Catholic Schools in Antique. The findings of the study were used as a baseline to develop a proposed program for the enhancement of the implementation of basic guidance services in Diocesan Catholic schools.

STATEMENT OF THE PROBLEM

The study assessed the extent of implementation of basic guidance services in selected Diocesan Catholic schools in the province of Antique during the academic year 2019-2020 as assessed by school personnel and students when they are taken as a whole and grouped according to school origin and designation of assessors.

Likewise, it identified the challenges encountered by school personnel and students in implementing school guidance services. Specifically, it sought to answer the following questions:
1. Is there a significant difference in the extent of implementation of basic guidance services when assessors are grouped according to the school of origin?
2. Is there a significant difference in the extent of implementation of basic guidance services when assessors are grouped according to their designation?

CONCEPTUAL FRAMEWORK

The paper aimed to assess the extent of implementation of basic guidance services among selected Diocesan Catholic schools in the province of Antique for the academic year 2019-2020. The model shows the link between assessors and the extent of the implementation of basic guidance services. Assessors are categorized into school personnel (school heads, guidance personnel, and teachers) and students. The assessment will focus on basic guidance services such as individual inventory services, information services, placement services, counseling services, and follow-up services. The study results will be used to design a proposed program for the enhancement of the implementation of guidance services.
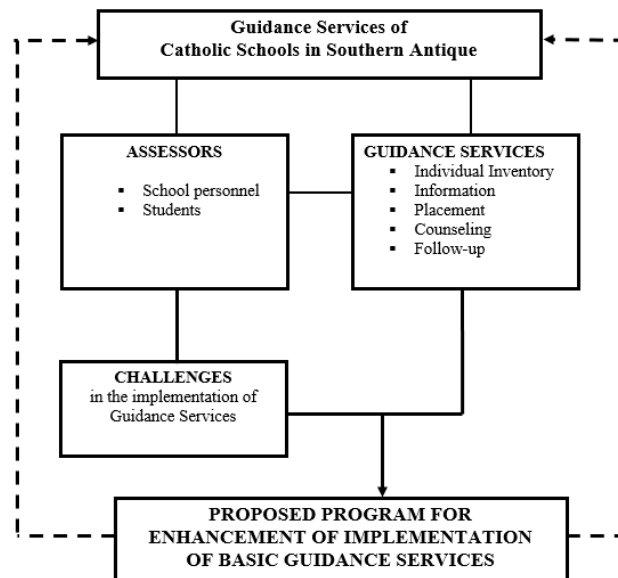
Figure 1. Conceptual Model

METHODOLOGY

The study employed a quantitative research design using descriptive-comparative approaches to describe the extent and challenges encountered in implementing basic guidance services of selected Diocesan Catholic schools in the province of Antique for the academic year 2019-2020. It also compared the extent of implementation of guidance services in terms of assessors' school origin and designators.

The respondents were 683 school personnel and high school students of selected diocesan Catholic schools in the province of Antique for the academic year 2019-2020. The total enumeration was used for school personnel and teachers while students were determined using the stratified random sampling method. Table 1 shows the distribution of respondents:

Table 1. Distribution of Respondents

School Personnel	N	n	%
School A	18	-	34.62
School B	18	-	34.62
School C	16	-	30.76
Total	52		100
Students	N	n	%
School A	449	208	32.99
School B	500	218	36.74

School C	412	200	30.27
Total	1361	626	100
Grand Total	678		

A validated and reliability tested researcher-made survey questionnaire was employed to gather the data. The questionnaire was a paper-and-pencil self-administered instrument, which consisted of three parts. The first part contained the respondents' demographic profile in terms of their school of origin and designation. The second part was a 47-item questionnaire used to assess the extent of implementation of basic guidance services. The respondents responded to each item using a 5-point Likert Scale. The third part of the instrument was a checklist of the challenges encountered by school personnel and students in the implementation of guidance services in Diocesan Catholic School in Antique.

Scale for Extent of Implementation of Basic Guidance Services

Scale	Mean Range	Verbal Description	Verbal Interpretation
5	4.21-5.00	Very Great Extent	The guidance services are fully implemented.
4	3.41-4.20	Great Extent	The guidance services are substantially implemented.
3	2.61-3.40	Moderate extent	The guidance services are partially implemented.
2	1.81-2.60	Poor Extent	The guidance services are hardly/barely implemented.
1	1.00-1.80	Very Poor Extent	The guidance services are not and implemented.

Moreover, the instrument went through testing procedures for validity and reliability. To establish the instrument's content validity, the researcher sought five guidance counselors' assistance to check the accuracy of the items using Good and Scates Validation Form. The comments and suggestions of the experts were incorporated in the final revision of the instrument. The validity index yielded a score of 4.90, which indicated that the research instrument is valid.

Meanwhile, the reliability was established by subjecting the instrument to a pilot test to 30 respondents who were not part of the actual sample. Cronbach's Alpha was used to compute the reliability index of the instrument. The reliability index obtained a score of 0.953, which signified that the research instrument is reliable.

Before conducting the study, the School Principal's approval in selected Diocesan Catholic schools in the province of Antique was obtained. Before administering the questionnaire, the researcher sought parental consent for the participation of the students in the study. The respondents were oriented about the purpose and scope of the study, the nature, and parts of the questionnaire. The survey questionnaire was personally administered and collected by the researcher on the same day from the school. The data collected were encoded for statistical treatment and analysis.

The descriptive and comparative analyses were utilized to analyze data with the aid of appropriate statistical tools. The descriptive analysis was used to assess the extent of implementation of guidance services using Mean and standard deviation, and challenges encountered by respondents using frequency and percentage. On the other hand, the comparative analysis was employed to compare the implementation of basic guidance services of the respondents according to demographics. Also, the predictive analysis was done to determine the predictors of the implementation of guidance services. The result of the normality test using Kolmogorov-Smirnov and Shapiro-Wilk tests showed that the variable implementation of guidance service [KS=0.055, p=0.000] is not normally distributed. Hence,

the use of the Kruskal Wallis and Mann Whitney U Test as statistical tools for the comparative analysis was appropriate.

The researcher assured respondents of full confidentiality. The researcher obtained the respondents' informed consent for school personnel and parental consent for students, and emphasized that their participation in the study will be voluntary. They have the right to withdraw if they feel uncomfortable in the process of gathering information from them. Likewise, no information that disclosed their identity were released or published without their specific consent to the disclosure. Also, the researcher had the sole access to the data gathered and used the same for research. Also, the materials that contained raw information derived from them were stored and appropriately protected and disposed of through manual shredding after data processing within a given period.

RESULTS AND DISCUSSION

Extent of Implementation of Basic Guidance Services

The extent of implementation of basic guidance services refers to the scale that will measure the organization and administration of basic guidance in Diocesan Catholic schools in Antique to facilitate the educational, vocational, and psychological growth and development of students. These guidance services include: information, individual inventory and testing, counseling, placement, and follow-up.

Generally, the findings in Table 3 showed that the extent of implementation of guidance services in selected Catholic schools in southern Antique is great (M=3.92, SD=0.60 which means that the schools have substantially implemented the guidance service. In terms of areas, all guidance services were implemented to a great extent with placement (M=4.08, SD=0.68) and follow-up (M=3.65, SD=1.06) as the highest and lowest services in terms of mean scores.

In Table 2, when assessors are grouped according to school origin, all schools implemented the guidance services to a great extent. School C (M=4.23, SD=0.54) obtained higher mean score with information (M=4.36, SD=0.48) and individual inventory (M=4.11, SD=0.61) as the substantially implemented services, respectively. Meanwhile, School A got a lower mean score (M=3.62, SD0.48) with placement (M=3.95, SD=0.65) and follow-up (M=2.77, SD=1.03) as partially implemented services, respectively.

When assessors are grouped according to designation, the implementation of guidance services was rated great extent with students (M=3.95, SD=0.58) and school personnel (M3.59, SD0.67). Both students and school personnel considered placement and follow-up as the substantially implemented and partially implemented services, respectively.

The findings signify that the extent of the implementation of basic guidance services is significantly different both school origin and designation of assessors. Guidance and counseling is a process of helping an individual to discover and develop their educational, vocational, and social-dimensions (Akinade, 2012). And also, guidance and counseling is an integral part of educational program; it is developmental by design (Cooley, 2010; Coy, 2004) and as a system of services designed to improve the adjustment of every person for whom it was organized (Villar, 2007). Guidance and counseling services are designed and offered by the school to assist individuals to recognize, accept, and develop their potentialities and skills to cope the problems they encounter (Cinco, 2008) which means guidance services are observed and implemented.

In terms of areas in Table 2, placement services revealed as the highest services in terms of mean scores. Placement services enable students to be admitted into a school of their choice (Namale & Awabil, 2018), involves students choices of school subjects, co-curricular activities and employment (Lunenberg, 2010). Both school personnel and students have a positive respond in placement services because are aware of opportunities available in and out of the school. School personnel, especially the teacher do their best in helping the students to develop their skills, to enhance self-acceptance in a

group, to develop leadership skills (Taylor & Buku, 2006). Placement services starts with information and ends when students have been able to attain their plans and have been followed up to find out the progress they are making.

Table 2. Extent of Implementation of Basic Guidance Services in Selected Diocesan Catholic Schools

Variable	Implementation			Information Services			Individual Inventory And Testing Services			Counselling Service			Placement Service			Follow-up Service		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
School of Origin																		
School A	3.62	0.48	GE	3.78	0.63	GE	3.75	0.65	GE	3.78	0.67	GE	3.95	0.65	GE	2.77	1.03	ME
School B	3.91	0.60	GE	3.98	0.63	GE	3.80	0.65	GE	3.86	0.69	GE	4.00	0.70	GE	3.90	0.75	GE
School C.	4.23	0.54	GE	4.36	0.48	GE	4.11	0.61	GE	4.16	0.65	GE	4.27	0.66	GE	4.27	0.70	GE
Designation School																		
	3.59	0.67	GE	3.66	0.76	GE	3.76	0.77	GE	3.58	0.69	GE	3.69	0.71	GE	3.22	0.90	ME
Personnel Students	3.95	0.58	GE	4.08	0.61	GE	3.90	0.64	GE	3.97	0.69	GE	4.11	0.67	GE	3.68	1.06	GE
As a Whole	*3.92*	*0.60*	*GE*	*4.05*	*0.63*	*GE*	*3.89*	*0.66*	*GE*	*3.94*	*0.69*	*GE*	*4.08*	*0.68*	*GE*	*3.65*	*1.06*	*GE*

Note: ME=Moderate Extent, GE=Great Extent

However, the findings revealed that follow-up service is the lowest services in terms of mean scores as a whole. Follow-up services is used to assess the success or failure of guidance services rendered to students. The result of the study affirmed the study conducted in Ilorin Metropolis, counselors perceived that follow-up services are very unpopular in the Nigerian educational system (Esere et al., 2010). Moreover, this study again confirmed the findings of Kemetse et al. (2018), and Saban (2015) that follow-up services were provided to a lesser extent in schools. Because due to lack of time of the guidance designate they neglected to monitor their students when they leave the school.

The results showed that on the extent of implementation of guidance service reflected in Table 2, is supported by Saban (2015), and Ligasan (2009), that rendering guidance services has not been easy. Difficulties have resulted from direction, opposition, misconception as well as from language obstacles and failures in communication.

Moreover, in a study made by Saban (2015) about the extent of implementation of guidance services of Negros Occidental High School was generally high which means guidance services is functioning well as the conditions or provisions are implemented. School personnel and students were satisfied with the implementation of guidance services. Placement services were the most availed and follow-up service is the least availed one.

Difference in the Extent of Implementation of Basic Guidance Services

Kruskal Wallis was used to determine the significant difference in the extent of implementation of basic guidance services when assessors are grouped according to the school of origin. As presented in Table 3, the findings showed that there was significant difference in the extent of implementation of basic guidance services when assessors are grouped according to the school of origin [$\chi 2(2)=157.467$, $p=0.000$] Post hoc test revealed that School C has significantly higher implementation than other schools.

Hence, the null hypothesis which states that there is no significant difference in the extent of implementation of guidance services when assessors are grouped according to the school of origin was rejected.

The findings of the study in Table 3 indicate that the Guidance and counseling program may differ from school to school because of different local situations and needs. However, the essential components of guidance and counseling services should be present and it is difficult to operate for schools without having such services (Calaguas, 2012). In the implementation of well-planned structure of activities, there must be an alignment of guidance services to assist the individual in meeting his/her needs. The guidance services may refer to methods, procedures or devices to secure necessary information in organizing effective training to facilitate the growth and development of an individual (Lunenberg, 2010), and provide assistance to enhance skills and knowledge in making them efficient and effective learner (Saban, 2015).

In the study in Table 3 revealed that School C has a higher implementation of basic Guidance Services than other schools because the ADCS guidance counselor is permanently residing in their school while the other schools, the school principal appoint a teacher to become a guidance designate and visited once a month by the ADCS guidance counselor. However, the guidance designate appointed by the school principal have inadequate time to render guidance services and lack of proper training in guidance and counseling.

Table 3. Difference in the Extent of Implementation of Basic Guidance Services when Assessors are grouped according to the School of Origin

School of Origin	M	x2	df	p
School A	3.62 (0.48)			
School B	3.91 (0.60)	157.467*	2	0.000
School C	4.23 (0.54)			

Note: the difference is significant when p$\leq$0.05

On the other hand, Mann Whitney U test was used to determine the significant difference in the extent of implementation of basic guidance services when assessors are grouped according to their designation. As shown in Table 5, the results revealed that there was significant difference in the extent of implementation of basic guidance services when assessors are grouped according to their designation [U=11007.5, p=0.000].

Hence, the null hypothesis which states that there is no significant difference in the extent of implementation of guidance services when assessors are grouped according to designation was rejected.

The findings of the study in Table 4 indicate that school personnel and students had a significant difference on how they viewed the implementation of the guidance services namely, information services, individual inventory services, counseling services, placement services, and follow-up services. This implies that both school personnel and students generally agreed that guidance and counseling services are necessary in their school and acknowledge that they need the services. Which means they have a positive response in the implementation of basic guidance services. The students' view the guidance program having a very good contributions for their welfare.

This study was supported several studies conducted in Africa on the implementation of guidance services. Both students and staff have a significant difference in their perception of the nature of guidance services which means they have positive views (Owuso et al. (2018).

Based on the results of a study conducted by Yuksel-Sahin (2009) showed that teachers listed the counseling and guidance services from the most utilized to the least as follows: consultation, counseling, information gathering and outreach, appraisal, orientation, placement, and follow-up services which means guidance services were not offered adequately.

Table 4. Difference in the Extent of Implementation of Basic Guidance Services when Assessors are grouped according to the Designation

Variable	Designation		U	p
	School Personnel	Students		
Implementation	3.59 (0.67)	3.95 (0.58)	11007.5*	0.000

Note: the difference is significant when p≤0.05

Challenges in the Implementation of School Guidance Services

The challenges encountered by school personnel and students in the implementation of guidance services refer to problems, barriers, and concerns which affect the implementation of basic guidance services in Diocesan Catholic schools.

As presented in Table 6, the top five challenges in the implementation of guidance services were inadequate facilities (f=360, 53.1%), lack of awareness on guidance services among students (f=355, 52.4%), basic facilitating skills for teachers (f=351, 51.8%); inadequate time to render guidance services (f=312, 46%), and inadequate resources for guidance program (f=295, 43.5%). Other problems include lack of proper training and professional requirement of guidance designate, lack of administrative support, lack of guidance counselor, lack of functional guidance services, and lack of giving advices to students.

The findings of the study in Table 5 indicate that rendering guidance services has not been easy. Table 6 is supported by Ombaba and Magaki (2013) conducted the study on the assessment of implementation levels of guidance and counseling program in Kenyan secondary school who pointed out that there are inadequate facilities in schools to enable provision of basic resources for guidance and counseling and also, have few reference books for guidance and counseling and most schools do not have sufficient funds to provide adequate resources for the guidance and counseling department, creation of awareness among students on the importance of guidance and counseling services, and must have reduction of workload to allow them to carry out guidance and counseling duties more effectively.

Moreover, there must be a provision on administrative support in terms of resources, time allocation, and minimization of workloads among the designated guidance associate or designate (Alcazaren, 2018). Furthermore, inadequate guiding and counseling offices was one of the challenges facing guiding and counseling services in the schools. Counselling is a kind of service that requires a private and spacious office so that the learner feels safe and free to share information required for counseling (Namai, & Manyasi, 2019).

Table 5. Challenges in the Implementation of Basic Guidance Services

Challenges	f	%
1. Inadequate facilities (private rooms) for counseling	360	53.1
2. Lack of awareness among students about guidance services	355	52.4
3. Basic facilitating skills for teachers	351	51.8
4. Inadequate time to render guidance services	312	46.0
5. Inadequate resources for guidance program	295	43.5
6. Lack of proper training and professional requirements of guidance designates	278	41.0
7. Lack of administrative support	221	32.6
8. Lack of guidance counselors	9	1.3

Overall, the findings of the study, confirmed that Guidance and counseling is the essential part of education for helping individuals to discover and develop their educational, emotional, and social-personal dimensions (Akinade, 2012). Placement services could influence the students' to find a place that will contribute to their physical, mental, emotional, and spiritual health and well-being so that they

can be happy, contributing members of the society (Villar, 2007), and also, they are aware of opportunities available in and out of the school.

Similarly, the findings of the study revealed that there is significant difference when assessors are grouped according to school origin. The study implied that the implementation of basic guidance services may differ from school to school because of different local situations and needs. Moreover, the findings revealed that both school personnel and students are agreed that guidance and counseling services are necessary in their school and aware the implementation of guidance and counseling program.

Furthermore, the findings revealed that inadequate of guidance and counseling facilities was one of the challenges highlighted by the school personnel and student in Diocesan Catholic schools such as office space, bookshelves, drawers, files, finance, time, reference books, guidance and counseling manuals and psychological test materials (Boitt, 2016).

CONCLUSION

Guidance and counseling services in the school setting have always played an important role in helping the students' wellbeing and acting as a guide to the school personnel in determining the best options for the students while they are in the institution. The implementation of the guidance services was to a great extent, which means that the guidance services of selected Diocesan Catholic schools are functioning well as the provisions are implemented, which means that school personnel and students are satisfied in the implementation of guidance services even though there is inadequate facilities (private room) for counseling.

Most of the guidance services were implemented with placement services as the most recognizable and follow-up services as the least recognizable. This is where the students are assigned to the most appropriate level based on the administered tests and interview results. These tests are done through the other guidance services, which are information and individual inventory services. However, it can be noted that these students were not followed up and monitored if the decided tier level works best for them. They were not assessed whether the placement and other services used were a success or a failure to determine the needs of the students.

The reasons for this are mainly due to the inadequate avenues for the follow up to happen. Issues like lack of facilities and resources, time constraints, lack of awareness of the students, and limited facilitating skills of the school personnel impede the successful implementation of the guidance services. Some of the services can be administered like information and personal inventory. Still, some services like counseling and follow-up should not need only one on one interaction but also advanced counseling skills to provide the correct process in counseling.

REFERENCES

Alcazaren, L. C. (2018). Challenges Faced by The Guidance Counselors and Guidance Teachers In The Implementation Of Guidance Services In K To 12 Curriculum: Basis For An Enhanced Implementation Program.

Ancheta, F. P., Balot, M. A., Garcia, J. R. (2016) *Student's Perceptions on the Guidance Program of Philippine Normal University, Isabela Campus.* Asia Pacific Journal of Research.

Atan, N. J. M. I. A. (2013). A guidance and counseling model practiced within Malaysian schools. *International Journal of Education and Research*, *1*(4), 1-12.

Awabil, G., & Kankpog, E. B. (2011). Evaluation of guidance services in junior high schools in the JirapaLambussie District of Ghana: Students' perspective. Journal of Educational Research and Development, 6(3), 83-89.

Boitt, M. L. (2016). Evaluation of the Challenges in the Implementation of the Guidance and Counselling Programme in Baringo County Secondary Schools, Kenya. *Journal of Education and Practice*, *7*(30), 27-34.

Buku, D. K. & Taylor, A. I., (2006) Basics in Guidance and Counselling (2nd ed.) Winneba: Department of Psychology and Education, University of Education.

Bustos, I. G. (2016). Development of the Guidance Counselors' Occupational and Life Satisfaction Scale. *Journal of Universality of Global Education Issues*, *3*.

Calaguas, G.M. (2012). Academic Achievement and School Ability: Implications for Guidance and Counseling Programs. Research World. Journey of Arts, Science & Commerce. Vol.-III, Issue 2(3)

Cinco, L.A.(2008). Guidance and Counseling in Schools. National Bookstore; Navotas Press

Cooley, L. (2010). *The Power of Groups: Solution-focused Group Counseling In Schools*. Thousand Oaks, CA: Corwin Press.

Coy, D. R. (2004). *Developmental Guidance and Counseling in Today's Schools*. Alexandria, VA: National Association of Secondary Schools.

Dizon, A. R. A. (2018). Direction and Emerging Needs of the Office of Guidance and Counseling at Batangas State University. *International Journal of Recent Innovations in Academic Research*, *2*(8), 118-130.

Esere, M. O., Omotosho, J. A., & Eweniyi, G. B. (2010). Needs Assessment of Guidance Services in Schools as a Method for Achieving Quality Education in Nigeria: An Exploration Study. *Edo Journal of Counselling*, *3*(2), 273-278.

Eyo, M., Joshua, A., & Esuong, A. (2010). The attitude of secondary school students towards guidance and counseling services in Cross River State. *Edo Journal of Counselling*, *3*(1), 87-99.

Gudyanga, E., Wadesango, N., Manzira, L. R., & Gudyanga, A. (2015). Implementation of guidance and counselling in secondary schools in Chinhoyi urban. *International Journal of Educational Sciences*, *11*(1), 41-49.

Heyden, S. M. (2011). *Counseling children and adolescents*. Belmont, CA: Brooks/Cole.

Idagdag, John I. (2017). The Quality of Guidance Services as Related to Competencies, Stewardship, and Self-efficacy among Guidance Facilitators: Bases for the Formulation of Professional Development Program. Unpublished Doctor of Philosophy in Education Thesis, Western Visayas States University, Iloilo City, Philippines.

Kemetse, G., Nyarko-Sampson, E., Nkyi, A., & Nyarko, P. (2018). *Implementation of Guidance Services in Senior High Schools in Ho Municipality, Ghana*. European Journal of Education Studies, 0. Retrieved from https://oapub.org/edu/index.php/ejes/article/view/1625/4258

Lunenburg, F. C. (2010). School guidance and counseling services. *Schooling*, *1*(1), 1-9.

Mbongo, E., Maöwes, A, & Chata, C. (2016). *Factors Impacting the Implementation of Guidance and Counselling Services in Secondary Schools in the Ohangwena Region of Namibia*. International Jornal for Innovation Education and Research, 4(5). Retrieved from https://ijier.net/index.php/ijier/article/view/537

Namale, M. K., & Awabil, G. 1. Department of Psychology and Education, University of Education, Winneba, Ghana 2. Counselling Centre, University of Cape Coast, Ghana.

Nkechi, E. E., Ewomaoghene, E. E., & Egenti, N. (2018). The Role of Guidance and Counselling in Effective Teaching and Learning in Schools. *RAY: International Journal of Multidisciplinary Studies*, *1*(2).

Nyamwaka, E. O., Ondima, P.C., Nyamwange, C., Ombaba, S.A.M.S.O.N., & Magaki, E.K. (2013). *Assessment of Implementation levels of Guidance and Counseling Program in Kenyan Secondary Schools: A case of Sotik district, Bomet County, Kenya*. Journal of Education Practice, 4(3), 178-186.

Owusu F., Dramanu Bakare Yusif, Nyarko Phyllis Agyeman and Opoku-Amankwa Kwasi (2018). *Assessment of Guidance Services in Senior High Schools in Upper Denkyira East Municipality*. British Journal of Education. Retrieved from https://www.eajournals.org/journal/british-journal-of-education-bje/vol-6-issue

Obumneke-Okeke, I. M., & Mogbo, I. N. (2011). Implementation of guidance and counseling Services in Nigerian schools. *Journal of Emerging Trends in Educational Research and Policy Studies*, *2*(5), 361-364.

Ravi, V. (2016). Guidance and Counseling. Lulu Publication.

Saban, M. B. (2015). Implementation of Guidance Services of Negros Occidental High School.

UNESCO (2000). Guidance: Module I. France Agzi Communication.

Villar, I.V.G. (2007). *Implementing a Comprehensive Guidance and Counseling Program in the The Philippines.* Makati City: Aligned Transformations Publication

Villar, I.V.G. (2009). Implementing a comprehensive guidance and counseling program in the Philippines. Makati City: Aligned Transformations.

Von Bertalanffy, L. (1956). General system theory. *General systems*, *1*(1), 11-17.

Yuksel-Sahin, F. (2009). The Evaluation of Counseling and Guidance Services Based on Teacher Views and Their Prediction Based on Some Variables. *Online Submission*, *2*(1), 59-76.

Ati - Culture Narratives in English Language Teaching

Shirley d. Frigillano, EdD

Faculty of Iloilo Science and Technology University
Miagao Campus, Philippines
shefrigillano@sipc.edu.ph

ABSTRACT

This qualitative study explored the Ati - culture narratives to develop an instructional material for English language teaching and to preserve the Ati culture and language. Specifically, the study aimed to collect IPs folk literature and translate them to English and Ati languages, examine the Ati culture embedded in the narratives, and create an instructional guide based on the anthology of the Ati people. The researcher interviewed the Ati elders and tribal leaders using a validated semi-structured open-ended questionnaire.

The Ati culture narratives revealed varied themes such as danger and valor, life and survival, feasts and celebration, faith and devotion, and resilience and heroism. As IPs, the Ati were superstitious, in terms of indigenous healing, burial, and courtship. Their life is coupled with danger but they show valor in facing it. Their life is a survival since they look for food to eat each day. They show resilience in facing their arduous tasks like charcoal making and exotic food hunting, preparation for calamity, and interpersonal with the non-ethnic group. They feel proud of their race having people they look up to who influence their faith in God and the bravery of their ancient elders during the war. They feel delighted of their race as the first to settle in the land. Their close family bond contributes to this resilience. Integration of the Ati-narratives in English language teaching will preserve the rich Ati culture and language. Ati folk literature can also be a supplementary material in Literature Teaching, even in Humanities such as Anthropology and Sociology.

Keywords: Ati-culture, English, language, instructional, narratives

INTRODUCTION

Language and culture are intertwined (Khatib, Tabari, & Mohammadi, 2016). Language serves as a verbal expression of culture and as the symbolic representation of its people (Jiang, 2000). Sapir (1964, in Doupnik, & Richter, 2003) claims that the perfection of a language is a requirement for culture development.

Since language intricately weaves with culture, separating the two loses their meanings. Chu (2018) emphasized that language and culture are inseparable because an individual with both linguistic and cultural background would be influenced by both two aspects naturally. Furthermore, Nall and Nall (2009), stressed that cultures cannot be studied without considering the native languages spoken within them. Hence, languages cannot be studied in isolation from the cultures in which they are spoken. Bai & Qin, (2018) stated that without languages, it is impossible to spread any kind of culture because language carries the country's values and beliefs and traditions.

In English language teaching, students learn the language better when culture is part of it. Embedding students' local culture in English language teaching facilitates students' success in learning the language. Having a deep understanding and awareness of the local culture promotes global communication. With language, people can immediately communicate and express their values, beliefs, and world views to one another. So, when a language is lost, a part of the cultural patrimony of humanity will face extinction (Margana, 2009).

For the millennials to know and appreciate their root, there is a need to revitalize the indigenous languages and preserve cultural identity. Language revitalization pushes education to a relevant curriculum which can alter people's understanding of culture and language (Hermes et al., 2012). Since heritage language and culture are vital, especially that of the indigenous people, there is a need to preserve them. It is distinct and strongly connected to their culture, dignity as distinct peoples, and the security of their traditional knowledge and practices. Furthermore, it is also incredibly crucial to the definition of indigenous identity; IP language, according to the First Peoples' Cultural Council (2010), as cited by LaPier (2018), is at the core of the identity as people, members of a family, and nations; it provides the underpinnings to the people's relationship to culture, the land, spirituality and the intellectual life of a nation. However, in many cases, these languages gradually disappear due to land grabbing, conflicts, climate change, industrialization, language policy, and contact with other cultures that impact their traditional ways of living. Fewer groups seem to learn or speak the native language, which the older generation speaks. Out of the 7000 languages reported by the IWGIA (2019), approximately 600 languages have disappeared in the last century and they continue to disappear at a rate of one language every two weeks. The world's 370 million indigenous peoples are estimated to speak more than 4,000 different languages. The UNESCO predicts that between 50-90% of indigenous languages, approximately 3000 languages will disappear by the end of this century, to be replaced by English, Mandarin, or Spanish. The gradual extinction of indigenous language has been the concern of the UN. People need to be aware of this reality. There is a need for an in-depth study of the indigenous culture narratives to preserve the rich genre of literature.

In the Philippines, relevant to the teaching of the K-12, promoting mother tongue preserves the indigenous languages in the country for people to appreciate their roots and identity as Filipinos. Protecting indigenous languages may empower indigenous communities by drawing support for indigenous culture and traditions. There is a need, therefore, to preserve indigenous languages, particularly the Ati language. Developing instructional materials which contain culture narratives leads to a preservation and appreciation of the rich ancient Ati culture. Salim (2017) believed learners can be more successful in language learning if teachers integrate culture into a language classroom. According to Gultom (2016), by designing the course or lesson materials that incorporate the culture of the native speakers of the language. the learners will have a better competence in the language being learned or even acquired. It is, therefore, the aims of this paper to explore the Ati -culture narratives to develop an instructional material for English language teaching. The IPs folk stories will be translated to English and local Ati language to preserve their culture and language for the future generation of Ati indigenous people.

METHODOLOGY

Research Design

This study employed the qualitative – sociolinguistic research design to explore the Ati – culture narratives of the IPs in Camanggahan, Guimbal, and Iloilo. The researcher investigated the distinct local culture of the Ati based on their oral narratives as basis for the development of instructional material for English language teaching. A qualitative sociolinguistic design was appropriate for this study for it would collect and closely examine the IPs folk literature; examine their culture embedded in the narratives, and create an instructional guide based on the anthology of the Ati people. Qualitative–sociolinguistic data and information contain the actual utterances or longer stretches of speech of the IPs as key informants, presented in a written form, or a transcription of an interview or a conversation recorded audio-visual clips/videos.

The study made use of the narrative analysis method to analyze the Ati stories. Narrative analysis is a valuable method for uncovering the underlying ideologies embedded in stories and the larger culture that creates the narratives. It divides the structure of the stories, making up of a series of distinct narrative segments or phases or events (Kleres, 2010). To place the narrative analyses in a context, the researcher reviewed the major themes within the relevant literature on indigenous culture.

Key Informants

The study's key informants were the seven (7) indigenous peoples living in Barangay Camanggahan, Guimbal, Iloilo Philippines. The Indigenous People (IPs) are homogenous societies identified by self-aspiration and ascription by others, who have continuously lived as an organized community, sharing common bonds of language, customs, traditions, and other distinctive cultural traits (Republic Act 8371, IPRA 1997: 3). These indigenous peoples are the descendants of the country's inhabitants who present when people of different ethnic or cultural origins settle and later become dominant through settlement or occupation of some means (Balila, 2013).

The researcher identified the informants using purposeful sampling. This is a technique of choosing the samples based on judgment and inclusion criteria set in the study, as the informants should be tribal leaders and prominent IP elders, and young people who knew well the tribe's folk stories other literary genres. These key informants who underwent a series of interviews possess unique features - with dark to black skin and curly hair. As a distinct group, they eat exotic food halo (monitor lizard). They were unschooled or could not recognize letters nor write them. They were distinctively naïve and unaware of many things, even their birthdays. They were nomads and earned a living by making charcoal and brooms.

After identifying the informants, the researcher secured the permit from the National Commission on Indigenous People (NCIP) and the Local Government unit of Guimbal, Iloilo. Each informant signed informed consent before the NCIP personnel and legal counsel, and the barangay officials during the preliminary meeting. Informed consent proved that they understood the purpose of the interview. The researcher arranged the schedule of the personal in-depth interview according to the informants' convenient time and place. From the key informants, eighteen narratives of the different genres were collected and analyzed.

Research Instruments

The study employed three research instruments to gather information on the IPs' folk stories: researcher, instrument guide, matrix, and interview protocol.

The Researcher's Role. The researcher performed the roles of both the active listener and observer participant to the informants. The researcher listened to every detail of their narratives they shared and noted down significant events, practices, beliefs, and unique experiences of their Ati elders and tribal leaders. Further, she played the role of a confidante to them by allowing each one to share or reveal their ancestors' stories freely. All the verbal and non-verbal responses and actuations were carefully noted and documented. She had conversations with the informants' family members and barrio folks or Tanods and punong baranggay. In the course of the study, the researcher recorded and documented what the informants shared. She empathized with the stories they shared and established a good relationship, even friendship with them.

Instrument Guide. The study used a researcher-made interview Guide in obtaining information from the Ati key informants. The interview guide questions included the informants' narratives of their oral traditions that reflect their culture, dialect, or vernacular. The informants shared their stories in a different genre that reflects their ancient elders' history and their forefathers' stories. These were related or retold in a *Kinaray-a* language, which later was translated in English, then into Ati language. The instrument was validated by the jurors of experts in English language teaching, psychology, and sociolinguistics.

Matrix. The researcher prepared the matrix for the content analysis of the oral narratives of the key informants. A matrix was used to organize the transcribed texts and later were translated into the English language. The interview and observation's verbal narrative was entered in their appropriate cell categories and presented in the summary matrix. Common themes as to the culture were looked into.

Interview Protocol. Establishing rapport with the informants was the first step done through genial smiles and greetings before starting the interview. A little "knowing each other" or "sharing of thoughts" followed to strengthen the informants' close relationship. The study's purpose was explained to them, which is to gather information about their oral traditions, which later to come up with an anthology to preserve or revitalize their language heritage as IPs. The Ati informants participated by answering some questions about their data and information. The informants were assigned pseudonyms to safeguard their identity. The informants narrated their oral traditions of folk literature according to the guide questions during the interview. Field notes were utilized for any observation noted by the researcher. Questions were carefully phrased for them to understand the intent of the interview. The art of questioning was applied to elicit responses from the informants. The researcher observed and documented verbal and non-verbal communication, and the words used were recorded and noted verbatim. Facial expressions and other gestures were also noted. Interviews ended with the assurance of the utmost confidentiality of the disclosed information.

Data Gathering Procedures

The researcher obtained permission from the proper authorities, such as the Director of the National Commission of Indigenous People, Region 6 Western Visayas, to conduct the study with the IPs. In order to gather the narratives of the IP's, the researcher had a preliminary visit among the Ati people and identification of key informants. The informants who were the selected Ati elders, tribal leaders, and young people signed the informed consent, after explaining to them the purpose of the study. The written consent includes interviewing the informants, recording videos, taking photographs, translating the Ati vernaculars and narratives to English. The researcher asked the Barangay Captain's assistance and tribal leader to acquaint them on the Ati and ask their permission to be the informants in the study. A preliminary observation and a tape-recorded interview were conducted after their approval.

The researcher listened to the recorded interview of the informants and the essential details related to their oral traditions. Informants were allowed for storytelling of their folk narratives. Each informant was encouraged to participate by narrating the story of the folks or the oral traditions they have and to answer the interview questions.

The researcher conducted a series of a face-to-face interviews with the key informants. Five to seven interviews were done at their convenient time, considering their livelihood activities selling brooms and producing charcoal. Validation of the findings and the transcripts for triangulation were held together with the NCIP personnel and legal officer.In putting together the stories of the IPs, the researcher engaged the Ati informants in a talk story *(sugilanon)* for them to unfold their local culture in the context of their experiences and practices, and beliefs to arrive at their story and oral traditions. Multiple data-gathering techniques were used, including formal and informal interviews; participant observation; and casual conversations with the informants' relatives, friends, and other IP elders and young people. Interview approaches include the following: collective indigenous discussion, informal and repetitive asking of questions, storytelling, and considering their emotions. Interviews were being recorded and analyzed using a matrix.

The stories of the Ip's in the Ati language were recorded and carefully noted and documented. After the observations and interviews made by the researcher, documents that reflected the narratives were examined. At the same time, the researcher gathered information from other indigenous people in the barangay, and had a conversation with the informants' family members, relatives, friends, and neighbors as triangulation. Community observation and interviews with other siblings validated further the informants' responses and narratives of their oral traditions. To enhance the anthology of the Ati literature, the study used a storyboard in the form of illustrations or images displayed in the sequence of events of the narratives.

Data Analysis

The researcher transcribed the interview material to familiarize with the data. The study identified the themes in the Ati-culture narratives using the content and thematic analysis. In content analysis, the researcher collected codes under the potential themes and subthemes in the Ati narratives. In the thematic analysis, the researcher identified the common threads that extend across an entire interview or set of interviews with the Ati. In analyzing the themes of the Ati culture, the study used both the realist/essentialist and constructionist paradigms. In analyzing the Ati culture's themes, the study used both the realist/essentialist and constructionist paradigms (Braun & Clarke, 2006: 79 in Vaismoradi, Turunen, & Bondas, 2013). In constructionism, the researcher looked at the Ati people's historical knowledge, which their cultural values and practices reveal (Camargo-Borges & Rasera, 2013). Thematic analysis is a method for identifying, analyzing, and reporting patterns or themes within data. In both the content and thematic analysis, four phases of theme development include initialization, construction, rectification, and finalization of the themes of the Ati – culture (Vaismoradi et al., 2013).

Ethical Considerations

In order to abide by the ethical consideration in conducting the study, the researcher secured free and prior informed consent under the RA 8371 or the Indigenous People Act of 1997 before gathering the data. The researcher obtained written consent from the National Commission on Ingenious People (NCIP) – Provincial Level to interview with the IPs at Guimbal, Iloilo.

A courtesy call to the Datu or leader to get his approval for the interview was made. The researcher explained the purpose of the visit and informed them as key informants of the study. Informed consent was prepared to ask the target informants to conduct a series of interviews to obtain their oral tradition narratives. In the informed consent, the purpose and explanation on the flow of the interview are written. These informants could decide whether they participate in research voluntarily, despite the possible benefits or risks of the research undertaking.

The confidentiality and anonymity of the informants were handled appropriately in connection with their rights of beneficence, respect for dignity, and fidelity. In order to protect the informants, they were informed of their rights to privacy and confidentiality of information. Tomaquin (2013 in Salvaelon, 2018) emphasized that in conducting studies to an ethnic group; the Indigenous Knowledge System (IKS) should be respected and recorded for the posterity and recognition of the community's collective knowledge, which showcases their distinct cultural identity and in the forefront of the Philippine nation uniqueness as a diverse/ multi-ethnic society.

RESULTS

The study has collected the following Ati folk literature as findings: The Ati Exodus, Ati Specialty River, the Fountain of Life, Name-calling: A True Confession, Bread and Butter, Time for Pleasure: Drink, Chant, and Play, Mangalok as a Cautionary Tale, Witchcraft, Story of Labnog, Death and Burial Practices, What New Year Means to Me, Indigenous Romance, Paltera, Mantas and Monitor Lizard, Man of Valor, Lolo Merong and the Japanese Colonialization, Utod Vero, The Ati Poetry, and Ati Virtues. The Ati people possessed cultural patterns and threads embedded in their narratives, reflecting their distinct features and characteristics, folkways, beliefs, and practices. The following themes are embedded in the Ati oral narratives: danger and valor, life and survival, feasts and celebration, faith and devotion, and resilience and heroism.

Danger and valor. Ati people's life is coupled with risk or danger. When they go to the forests to hunt for the monitor lizards as food for their families, unpredictable danger like snakes, mountain cliffs are present Their livelihood, like charcoal making, is also dangerous, for getting burned is possible. *"Nakaagi gani ikam nakasugata ki anipi. Pagsulod yamin ki yungib paglagas yamin ki itok."* (We also

once encountered a poisonous snake when we entered the cave chasing a lizard. We courageously speared the snake's head until we killed it.)

Since life is survival for them, they show bravery or valor in facing danger. Their ancient elders also established valor, especially during the war, despite the life and death situation as captives of the Japanese. *Kon kay suldado ki Pilipino igsugata ki Hapon, ig utdan dayi ki ulo."* (If the Japanese encountered Filipino soldiers along the way, they behead them.)

Life and survival. *"Haruson ikam makahamingin." (We hardly eat.) "Ki sangka adlaw, mayad ikam makahamangan ki sangka beses, ki panyapon ni."* (In a day, we hardly eat, and if we do, just one meal in the evening.) For the Ati, life is a survival since they look for food to eat each day. They are nomads with uncertain means to feed their children. Necessities and like food and secure shelter are their ardent desires. Life is surviving the day's needs for these people who experience extreme poverty.
 "Igsaylo saylo ikam pangeti ki haramanganon, makahimingin tingob imaw ki yami tamaanak. Kai iti ighalin halin ki sangka lugar." (We, Ati people, constantly move so there is no definite place where you can find us; we do not farm, we look for food, and take care of our children.)

Feasts and celebration. *"Bag- ong tuig ki ini ata, simbolo ki yamin tradisyon."* (New Year reveals our tradition, symbolizing our beliefs or conviction.). Ati people do feast, and their most special occasion is New Year. This celebration is meaningful for them, symbolizing their forgiving culture and looking forward to a better year.

Faith and devotion. *"Kato kauna tini iri igpati ki Ginoo. Tini iri kamaan kon kiara idugok kay kalag. Tini iri igpati ki kalag."* (Long ago, the Atis do not believe that there is a God. They do not know where the souls go, and in the first place, they do not even believe in souls and having one.) Ati culture depicts more of beliefs and practices grounded in superstitions. Their ancient elders knew no God. With time, they learned to acknowledge the existence of God. Still, they practice their elders' beliefs, especially in indigenous healing, burial, and courtship. Their songs reveal love and compassion. They reflect happy, sad, hopeful, and love emotions,*"Palangga ta gid ika labaw sa mutya."* (Your crystal tears are all that I care.); *"Ki tagsa kasakit may kaipay gina."* (For this is a true passion, not ensnared.)

Resilience and heroism. The Ati people show flexibility or resilience in facing their arduous tasks like charcoal making and exotic food hunting, preparation for calamity, and interpersonal with the non-ethnic group. They are known for their humility and meekness; despite the racial discrimination they encounter or offensive name-calling. *"Igpabay an nalang yamin kay panghikay daya, igkadura gini ki urihe Tini lang yamin pagsapaka Pinaka abibi ini pagtorok daya ki yamin."* (We ignore it, and it stops. We do not let it get to our heads. They think lowly of us.) They feel proud of their race having people they look up to who influence their faith in God and the bravery of their forefathers or ancient elders during the war. *"Ginsaksihan gid ni Merong kon miya kay pagmatay ki Pilipino ilabi kay mga bisaya."* (Merong had witnessed how the Japanese killed the Filipinos with his two naked eyes. Despite being unschooled and physically unique, they feel proud of their race who first settled in the land. Their close family bond contributes to this resilience.

Folk literature is a vital part of the oral society which illumines man's life's aspects -moral, spiritual, cultural, social, ethical, traditional, and even educational where people evolve. The folk stories especially that of the indigenous groups reveal their lives, their way of thinking, feelings, and behaving common to the group, interwoven in their educational, political, social, economic and spiritual life (Gavino, 2016).

For the learners, folk literature shapes their identity and characteristics (Stavrou, 2015). Folk stories reveal different characteristics and ways of life of the ancient people or ancestors, which the present generation may reflect on. Their oral traditions contain life learning stories which have impact on the learners' expressions of language and culture which promotes the sense of identity and reveal the origin of their historical and spiritual relationships (Liebenberg, Ikeda, & Wood, 2015).

Students may learn more about the earliest ethnic groups if the oral traditions are embedded in the curriculum which educational institutions strive to promote. Salim (2017) stressed that by embedding in the curriculum materials that preserve the richness of the people's culture, language, and literature increases the students' knowledge of the culture or the indigenous way of life, attitudes, beliefs and values of the minority groups.

In this regard, curriculum planners need to design instructional materials that incorporate IPS culture and language. The learners will have a better competence in the language being learned or even acquired once certain culture is part of the teaching material (Gultom, 2016).

Jorolan-Quintero (2018) emphasized that teaching oral traditions can be considerable potential as classroom instructional materials in education. Indigenous literature texts by the natives makes knowledge of indigenous language and culture should be available to basic education learners, as well as to the general public. In connection with the researched-based output on the collected Ati narratives, their stories may serve as sources not just of entertainment but also insights on their beliefs, practices, and folkways, principles, and virtues as indigenous peoples. Offorma (2016) emphasized that culture is an essential factor that reflects what people do, feel, and believe. It is, therefore, essential to embed in the curriculum materials and promote and preserve the richness of the Ati culture, language, and literature.

This promotes and realizes the primary role of education which is to transmit the IPs cultural heritage among the next generation of the society, to preserve their stories that reflect their language and folkways. The instructional materials should be well-designed and culturally familiar, reinforced with rich local culture of the IPs. Mahardika (2018) pointed out that culturally familiar materials are beneficial for the students' learning process. Inserting IPs' local culture in teaching facilitates success in learning and creates a deep understanding and awareness of one's own local culture to be promoted in global communication (Margana, 2009).

The dissemination of indigenous literature texts makes knowledge of indigenous language and culture available to basic education learners, as well as to the general public. Jorolan-Quintero (2018) found the considerable potential of oral traditions as instructional tools in basic education. Therefore, there is a need to revitalize the Ati language as a component of culture. The loss of or disconnection from language implies disruption of cultural connection. People's philosophy and culture are embedded in their language and given expression (Liebenberg, Ikeda, & Wood, 2015).

Lavrenteva and Orland-Barak (2015) stressed that language use is guided by one's awareness of culture in which the communication takes place; hence, they should acquire essential socio-cultural orientational knowledge' or 'master common rules of inter-personal communication in the given cultural environment. Clariza (2019) stressed that there is a need to preserve the experiences and memory as records of the IP's history and way of life. Losing them also means losing the Filipino collective history. The preservation of indigenous knowledge requires restoring the stature and respect that the indigenous peoples had lost through the centuries of colonization.

IPs children, as the young generation, need to sustain and preserve their ethnic culture and community, and that includes their history and the people their elders appreciate and so that they could pass down the traditions to the next young generation (Kola et al. in Petrola & colleagues, 2020). Educational institutions have the crucial role in the preservation, especially revitalizing the use of indigenous language and making local culture a part of the spoken and written interaction among the learners. This can be made possible if the Ati or any other indigenous groups' culture is integrated in a well-designed instructional material.

CONCLUSIONS

Based on the findings, the study concluded that the folk literature of the Ati in Camanggahan Guimbal is precious and genuine, as reflected in their narratives. Their culture is unique, which at the current time is still practiced by them. Their stories are unique and inspiring that can leave feelings of empathy towards their race. The themes reflect their fundamental nature as brave and resilient despite the danger and hardships of life. They show humility, despite the discrimination they encounter. Their virtues speak of daily living that every person should practice. Learning about their culture will enhance appreciation of their race and their contribution to indigenous healing, leading to more health and wellness discoveries. Hence, the Ati people deserve respect and honor.

Remarkably, studying folk literature can enrich human understanding and widen the horizon toward improvement in life as these oral genres can explain various educational values and functions. Accordingly, Ati folk literature must serve as supplementary material in Literature Teaching, even in Anthropology and Sociology. Preservation of the Ati culture, including and language, through this material, will contribute to indigenous knowledge. In implementing the K-12 curriculum vis-à-vis Mother Tongue-Based Multilingual Education (MTB-MLE), the results of this study may be potential reading materials. The compiled literature will function as instructional materials to prepare lessons and exercises for the Ati learners of English without losing their cultural identity. The Ati-culture narratives can help inculcate the local folks' minds and heart the emulating behaviors and valuable virtues for daily living. Oral literature is significant because they serve as an instrument of cultural education. Ati culture narratives are significant for they embody the history, cultural values, philosophy, and beliefs of the people.

RECOMMENDATIONS

Based on the findings and conclusions, the researcher offers the following recommendations: Literature teachers in the Kinaray-a or Hiligaynon speaking communities should enrich the curriculum guide/syllabi in literature with kinaray-a, Hiligaynon, or Ati Folk Literatures. This way, learning literature becomes enjoyable, exciting, thought-provoking, and meaningful, and values are drawn from them will likewise be imparted. The Ilonggo people, particularly the students, teachers of literature, should embrace the collection, translation, and even analyses of Ati folk narratives to determine its usefulness and 127 effectiveness in literature teaching in the elementary, secondary, tertiary, and even the graduate levels. People should avoid prejudices, discriminations, and racism with them. With the leadership of the NCIP, the government shall ensure that the indigenous people can exercise their rights. Moreover, educational institutions should enhance community services to the Ati communities to know their needs and struggles. In this regard, further studies are explored on Ati indigenous knowledge and local practices to create concrete plans and government policies that will further improve the lives of the Ati people

REFERENCES

Bai, L. & Qin, J. (2018). A Study of negative language transfer in college students' writing from cultural perspective. Theory *and Practice in Language Studies*, *8*(3), 306-313, DOI: http://dx.doi.org/10.17507/tpls.0803.05.

Balilla, V.S. et al. (2013). Indigenous aeta Magbukún self-identity, sociopolitical structures, and self-determination at the local level in the Philippines. *Journal of Anthropology*. Retrieved from https://doi.org/10.1155/2013/391878.

Camargo-Borges, C. & Rasera, E. F. (2013). *Social constructionism in the context of organization development: Dialogue, imagination, and co-creation as resources of change.* Retrieved from https://journals.sagepub.com/doi/10.1177/2158244013487540.

Chu, A, (2018, February 11). *The symbiotic relationship between language and culture*. Retrieved from https://medium.com/linguistics-3c-winter-2018/the-symbiotic-relationship-between-language-and-culture-33d9428a2efc.

Clariza, M. E. (2019). Sacred texts and symbols: An indigenous Filipino perspective on reading. *The International Journal of Information, Diversity, & Inclusion*, *3*(2), 2574-3430.https://doi.org/10.33137/ijidi.v3i2.32593.

Doupnik, T. S., & Richter, M. (2003). Interpretation of uncertainty expressions. *Accounting, Organizations and Society*, *28*(1), 15–35. doi:10.1016/s0361-3682(02)00010-7.

Gavino, Z.C. (2016). The folklore of the Igorots in Tabuk, Kalinga and their folklore, songs, and dances. *International Journal of Advanced Research Management and Social Sciences*. http://www.garph.co.uk/IJARMSS/Mar2016/6.pdf.

Gultom, E. (2016). Incorporating culture into foreign language curriculum and materials. *The journal of English literacy education, 3*(1). https://ejournal.unsri.ac.id/index.php/jenglish/article/view/2971/1571.

Hermes, M., Bang, M. & Marin, A. (2012). Designing indigenous language revitalization. *Harvard Educational Review*, *82*, 381-402. http:/10.17763/haer.82.3.q8117w861241871j.

Jiang, W. (2000). The relationship between culture and language. *ELT Journal*, *54*(4), 328–334. doi:10.1093/elt/54.4.328.

Khatib, M., Tabari, B. H., & Mohammadi, M. J. (2016). Tracing native culture in Iranian students' academic writing: Focus on acknowledgements. *International Journal of English Language and Literature Studies*, *5*(1), 46–54. doi:10.18488/journal.23/2016.5.1/23.1.46.54.

IGWIA (2019, January 28). International Year of Indigenous Languages. Retrieved from https://www.iwgia.org/en/news/3302-year-of-indigenous-languages.html.

Jorolan-Quintero, G. (2018). Oral traditions: An aid to implementation of mother tongue-based multilingual education in the Philippines' basic education programme. *International Review of Education*. *64*. 10.1007/s11159-018-9743-9.

Kleres, J. (2010). Emotions and narrative analysis: A methodological approach. *Journal for the Theory of Social Behaviour, 41*(2), 182–202. doi:10.1111/j.1468-5914.2010. 00451.x.

Krings, M. (2017, May 31). *Relating curriculum to culture key in educating English language learners with disabilities, researchers argue*. Retrieved from https://news.ku.edu/2017/05/12/relating-curriculum culture-key-educating-english-language-learners-disabilities.

LaPier, R. R. (2018, October 11). *Indigenous languages are disappearing – and it could impact our perception of the world.* https://www.independent.co.uk/arts- entertainment/indigenous language-native-american-under-threat-culture-history-environment-a8578691.html.

Lavrenteva, E. & Orland, B. (2015). The treatment of culture in the foreign language curriculum: An analysis of national curriculum documents. *Journal of Curriculum Studies*. https://doi.org/ 10.1080/00220272.2015.1056233.

Liebenberg L., Ikeda J., Wood M. (2015). It's just part of my culture: Understanding language and land in the resilience processes of aboriginal youth. Theron L., Liebenberg L., Ungar M. (eds) *Youth Resilience and Culture. Cross-Cultural Advancements in Positive Psychology,* 11. Springer, DordrechtStudy.

Mahardika, G. A.W. (2018). Incorporating local culture in English teaching material for undergraduate Students. *SHS Web of Conferences 42*, 00080 https://doi.org/10.1051/shsconf/20184200080. Retrieved from https://www.shs conferences.org/articles/shsconf/pdf/2018 /03/shsconf_gctale2018_00080.pdf.

Margana, M. (2009). Integrating local culture into English teaching and learning process. *The 62nd TEFLIN International Conference Proceedings.* https://doi.org 10.23917/kls.v21i2.4381https://www.researchgate.net/publication/266889194_.

Offorma, G. C. (2016). Integrating components of culture in curriculum planning. *International Journal of Curriculum and Instruction 8*(1), 1–8. https://org ijci.wcci international.org/index.php/IJCI/article/download/18/24.

Petrola, J. P., Ledesma, V. C. J., Del Rosario, K. E., Isidro, R. (2020). The will to self-determination: Understanding the life of Ati people in Aklan. Retrieved from http://doi.org10.31838/jcr.07.11.35. http://www.jcreview. com/fulltext/35_v1.pdf.

Salim, S. K. (2017). Teaching language and teaching culture. *8th International Visible Conference on Educational Studies & Applied Linguistics.* https://doi.org/10.23918/vesal2017.a34.

https://www.researchgate.net/publication/322811826_Teaching_Language_and_Teaching_ Culture.

Salvaleon, R. G. (2018). Mamanwa Tud-om: Mimesis of ethnic realities. *The Normal Lights*, *2*(2), 244 – 265. http://po.pnuresearchportal.org/ejournal/index. php/normal lights/article/view/1010/368.

Stavrou, E. P. (2015). Determining the cultural identity of a child through folk literature. *American Journal of Educational Research*, *3*(4), 527-534.

Vaismoradi, M., Turunen, H., Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study, *Nursing and Health Sciences*, *15*, 398–405.

Assessing the Correlation between Demographics and Teacher Leadership of Teachers in Philippine Catholic Schools

Joel M. Bual[1] and Dennis V. Madrigal[2]

[1]University of Negros Occidental-Recoletos, Bacolod City, Philippines (*joelmaguadbual@gmail.com*)
[2]University of Negros Occidental-Recoletos, Bacolod City, Philippines (*dennis_madrigal@yahoo.com*)

ABSTRACT

Teachers are leaders, and their leadership is essential in school success. However, most do not view themselves as leaders due to the hierarchical leadership structure that focuses on principals while the teachers follow their directives. Thus, this study assessed the extent of teacher leadership of Catholic school teachers in Antique, Philippines, in terms of association, professional learning, assessment, instruction, community, and policy. Likewise, it correlated the teachers' age, sex, employment status, educational attainment, and professional status with their leadership. Utilizing a descriptive-correlational design, 155 teachers determined through stratified sampling responded in the study. It employed a standardized teacher leadership scale with the interpretations: 1-very poor extent, 2-poor extent, 3-great extent, and 4-very great extent. In analyzing the data, it utilized Mean, Standard Deviation, and Spearman Rank Correlation. Generally, teacher leadership is practiced to a great extent, with the community as the highest and policy and professional learning as the lowest. With this, the Catholic school teachers demonstrate leadership in all aspects. However, improvement is encouraged with the teachers' involvement in decision-making and professional development. Meanwhile, there was no relationship between demographics and leadership. Correspondingly, they should not primarily use these demographics as criteria in designating them to lead. In conclusion, when these schools mobilize their teachers, they widen their range of leadership. Hence, providing a supportive environment and leadership opportunities are essential to boost their skills and view themselves as leaders.

Keywords: Educational management, Teacher leadership, Antique Catholic schools, Descriptive-correlational, Philippines

INTRODUCTION

The teachers, by nature, are leaders, and their leadership is vital in school improvement and success (Xie et al., 2020). Further, this natural leadership is not limited to classroom instructions only but extensively to the school and the community in general (Helterbran, 2016; Cosenza, 2015; Frost & Durrant, 2003; Wenner & Campbell, 2017; Poekert et al., 2016; Mansor et al., 2018). As teacher leaders, they are in the unique position to create and influence change among their learners, colleagues, and the constituents of the society (Beycioglu & Aslan, 2010; Mangin & Stoelinga, 2010). Also, educational institutions see this leadership as a complete answer to the growing demands of 21st-century educational reforms (Abbas, 2012; Lumpkin, 2016). With this, the potential sources of leadership are the teachers in sustaining the institutional success since most principals nowadays find it difficult to perform their complex administrative duties and responsibilities (Xie, 2008; Angelle & De Hart, 2011; Aliakbari & Sadeghi, 2014). Hence, if effectively and adequately tapped, the educational objectives of these institutions are guaranteed (Consenza, 2015).

However, most teachers do not perceive themselves as leaders because they believe they are confined to classrooms only and that leadership is for principals (Kilinc, 2014; 2016; Oracion, 2014). Correspondingly, the traditional hierarchical leadership structure that focuses on principals while teachers follow directives strongly affects their disposition towards leadership (Alegado, 2018). With this, they are unrecognized to be at play in operation. Hence, this has not been formally introduced and actualized in the educational setting and remained an ideal concept only (Oracion, 2014).

Meanwhile, the changing educational landscape and curriculum in the Philippines pose a challenge in the leadership of teachers (Cabatbat & Carrera, 2019). Aside from these, they are expected to prepare lessons, settle students' discipline issues, and attend professional seminars and training for compliance (Trinidad, 2020). With these challenges, the teachers' disposition towards their profession is also affected, which compromises their non-involvement in the school-wide leadership (Alegado, 2018; Oracion, 2014).

In Philippine Catholic schools, the teachers face a changing climate due to the educational reforms that demand heavy teaching work (Jorilla & Bual, 2020). Also, their exodus to other schools resulting in hiring new and unqualified instructors even affects the teacher competence and performance (Roberto & Madrigal, 2018). Hence, the exercise of teacher leadership is compromised (Oracion, 2014).

There were conducted studies on teacher leadership abroad. In America (Nwokorie-Anajemba, 2011; Xie, 2008; Cosenza, 2015; Angelle & De Hart, 2011; Wenner & Campbell, 2017; Alger, 2008), in Europe (Rupsiene & Skarbaliene, 2010; Poekert et al., 2016; Poekert, 2012), in South Africa (Grant et al., 2010), and in Asia (Kilinc, 2014; Aliakbari & Sadeghi, 2014; Mansor et al., 2018; Parlar et al., 2017; Xie et al., 2020; Koosha et al., 2015). In the Philippines, there were studies conducted on teacher leadership: Australian assisted research (Beasley & Butler, 2002), study on master teacher leadership in Malaysia and Philippines (Bush et al., 2020), and qualitative researches among public schools (Alegado, 2018; Oracion, 2014). Given the available studies, there has been a dearth of literature on teacher leadership, especially in Philippine Catholic schools. This is the research gap which this study would like to fill in.

Thus, this study assessed the extent of teacher leadership among Catholic Schools in Antique, Philippines, in the areas of association, professional learning, assessment, instruction, community, and policy when taken as a whole and grouped according to their age, sex, employment status, educational attainment, and professional status. Likewise, this also correlated the demographics with the teacher leadership assessment. Lastly, the findings of this study may serve as a reference in improving the wide-scale of leadership among Catholic schools vis-à-vis their success in offering the quality of Catholic education.

FRAMEWORK OF THE STUDY

The study perceived that the demographics of the teachers do not influence their practice of leadership. It was anchored on the theory of distributed leadership. This principle believes that organizational leaders can share leadership with the members regardless of their statuses or positions. Also, this claims that organizational success highly depends on the interactive play of the leader, the followers, and the environment. In other words, regardless of the member's profile, as long as these three elements collaboratively play, the organizational objectives are guaranteed (Thorpe et al., 2011). This concept is not administrative but participatory since leadership is everybody's responsibility (Mayrowetz, 2008). In Catholic schools of Antique, the sharing of leadership between the administrators and the teachers is essential in materializing the institutions' educational objectives. However, this collaborative leadership should be coupled with the availability of a healthy and supportive environment for members to excellently perform their respective leadership duties and responsibilities (Spillane et al., 2008)

METHODOLOGY

The study utilized a quantitative research design, particularly the descriptive-correlational approach. This design assessed teacher leadership among Catholic schools of Antique, Philippines, during the academic year 2020-2021. It also correlated the teachers' demographics with the teacher leadership assessment. Accordingly, 155 Catholic school teachers determined through stratified sampling responded in the study.

In gathering the data, a standardized teacher leadership questionnaire developed by Xie et al. (2020) was used. This questionnaire consisted of 32 items spread across 5 areas namely: association, professional learning, assessment, instruction, community, and policy. It was rated using the scoring interpretations of 1-very poor extent, 2-poor extent, 3-great extent, and 4-very great extent.

For the validity of the scale, the goodness of fit was evaluated by Xie et al. (2020) using Chi-Square Statistic ($\chi^2/df=<2$), Comparative Fit Index (CFI=>0.95), Tucker-Lewis Index (TLI=>0.95), Standardized Root Mean Square Residual (SRMR=<0.08), and Root Mean Square Error of Approximation (RMSEA=<0.06). The results yielded 1.77 for Chi-Square Statistic, 0.95 for both CFI and TLI, 0.037 for SRMR, and 0.055 for RMSEA, which demonstrated an acceptable fit to the data. Regarding the reliability, Xie et al. (2020) employed Cronbach's Alpha and yielded an overall reliable result of 0.98. Meanwhile, to fit in the Philippine context, the instrument was reliability tested again to teachers who were not part of the actual respondents using Cronbach Alpha and yielded a reliable result of 0.97.

In analyzing the data, the study used Mean and Standard Deviation to determine the extent of teacher leadership. Using the Kolmogorov-Smirnov and Shapiro Wilk Test, the normality test results showed that the data for teacher leadership [KS=0.053, p=.002] [SW=.984, p=.000] are not normally distributed. Hence, it justified the use of Spearman Rank Correlation in correlating the demographics with the teacher leadership assessment.

RESULTS AND DISCUSSION

Extent of Teacher Leadership

Teacher leadership is defined as the manifestation of sharing of leadership among administrators and teachers in promoting a wide-scale of leading towards school success (Berg et al., 2014). It is also a skill of influencing in many aspects the colleagues and students to go beyond their classrooms in the performance of their duties and responsibilities (Xie et al., 2020). Table 1 presents the teacher leadership of the Catholic schools in Antique. As a whole (M=3.03, SD=0.56), the teacher leadership was rated great extent. All domains were rated great extent, with the community (M=3.16, SD=0.62) as the highest and policy (M=2.96, SD=0.65) and professional learning (M=2.95, SD=0.64) as the lowest.

The overall rating indicates that Catholic schools of Antique practice teacher leadership. The administrators also share their leadership with their teachers (Berg et al., 2014). Further, the teachers influence their learners, co-teachers, and the community in their responsibilities (Xie et al., 2020). In Oracion (2014), the teachers' competence influences their teacher leadership practice. With this, the great extent result is affected by the high teacher competence rating among these Catholic schools of Antique in the study of Jorilla and Bual (2020). Thus, this implies hiring competent teachers to guarantee quality instruction and successful teacher leadership (Oracion, 2014).

However, to exercise teacher leadership to the greatest extent, these Catholic schools should continuously improve in all leadership areas (Berg et al., 2014). The common reason that impedes exceptional teacher leadership is due to the hierarchical structure which focuses on principals (Oracion, 2014). Most teachers do not view themselves as leaders. They believe that leadership is for administrators and they belong to classrooms only (Alegado, 2018). Thus, to exceptionally mobilize them, the schools should embrace a participatory leadership approach (Kilinc, 2014; De Villiers & Pretorious, 2011). It also implies the need for these Catholic schools to provide their teachers with leadership opportunities to boost their skills and sustainably view themselves as leaders (Oracion, 2014).

Teachers are leaders not only inside the classrooms or schools but also in the community (Xie et al., 2020; Grant et al., 2010). They have the embedded duties to interact with the public to increase the schools' collaborative partnership with these stakeholders to ensure the institutional success (Bual &

Madrigal, 2018). Additionally, they are also encouraged to become role model in influencing other teachers to do the same (Berg et al., 2014). Regarding community as the highest-rated domain, it indicates that the Antique Catholic teachers highly perform leadership in reaching out to the public and encourages their colleagues to follow (Xie et al., 2020). The teachers' collaborative efforts in reaching out to the community to suffice the Catholic schools' needs amid the pandemic highly influenced the high assessment of this domain (Boyle et al., 2020). In support, Grant et al. (2010) perceived that the teachers by nature are community leaders. This natural leadership expects them to establish linkages with the public to sustain the schools' needs (Berg et al., 2014). Thus, this implies that the Catholic schools should provide more opportunities for teachers to reach out to the community to ensure sustainable community leadership and strong school linkages (Bual & Madrigal, 2018; Banusing & Bual, 2020).

Meanwhile, as leaders of professional learning, the teachers are expected to be governed by research-based instruction to ensure the quality of teaching and learning (Xie et al., 2020). Additionally, they are also expected to advance continuing teacher education to sustainably exercise leadership particularly in this domain (Berg et al., 2014). Accordingly, the professional learning rating signifies that the Antique Catholic schools should improve more on providing their teachers with opportunities for continuous development (Xie et al., 2020). In Roberto and Madrigal (2018) and Jorilla and Bual (2020), these studies revealed that among all the areas of teaching competence of Antique Catholic teachers, their personal growth and professional development aspect is the highest. The deviating result of these two studies with the current research is attributed to the incorporation of research in the teacher leadership scale, which is absent in Roberto and Madrigal (2018) and Jorilla and Bual (2020).

Demographically, among Antique Catholic teachers, few have master's degrees with research writing experiences. For Berg et al. (2014), research-based teaching should govern the teachers' instruction to ensure the students' quality learning. However, in Ulla et al. (2017), few Filipino teachers engage in research due to heavy teaching loads, poor writing skills, and inadequacy of school support. Most do graduate schooling and research for salary and promotions only. Thus, these imply schools' encouragement and support for teachers' continuous education to make them embrace research and perform leadership (Jorilla & Bual, 2020).

Teachers are also leaders in terms of decision-making and policy implementation (Xie et al., 2020). Alegado (2018) believes that teacher leadership in this aspect involves influence and mobilization of teachers and colleagues to participate in the policymaking of the schools to increase institutional improvement and success. The policy rating indicates that these Catholic schools should also provide their teachers more opportunities to be involved in school operation and decision-making (Xie et al., 2020). Correspondingly, this is attributed to teachers' inadequate involvement opportunities since decisions are usually made at the administrative level, and they only follow directives (Grant et al., 2010). Meanwhile, they should be involved in school decisions since successful implementations require their participation (Harris & Jones, 2019). Hence, this implies that these schools should recognize their teachers' involvement and efforts in the policy and decision-making to guarantee active participation and leadership practice (Berg et al., 2014).

Regarding the rating of those with master's degrees in association, assessment, and community, the teachers' education influences these leadership aspects. In support, Alger (2008) perceives that as the teacher education rises, their engagement also increases. Similarly, Rupsiene and Skarbaliene (2010) argue that those who participate in professional upgrading perform leadership than those not attending. Thus, these imply that these schools should continuously establish sustainable teacher education to develop their leadership behavior and engagement (Alger, 2008).

Table 1.1: Extent of Teacher Leadership

Variable	Teacher Leadership			Association			Professional Learning		
	M	SD	Int	M	SD	Int	M	SD	Int
Age									
Young	3.05	0.56	GE	3.07	0.64	GE	2.96	0.61	GE
Old	3.02	0.56	GE	3.07	0.66	GE	2.94	0.67	GE
Sex									
Male	2.98	0.57	GE	3.03	0.66	GE	2.89	0.66	GE
Female	3.07	0.55	GE	3.10	0.64	GE	2.99	0.62	GE
Employment Status									
Probationary	3.01	0.56	GE	3.03	0.67	GE	2.91	0.62	GE
Permanent	3.06	0.56	GE	3.12	0.61	GE	3.00	0.66	GE
Educ. Attainment									
Bachelor's	3.01	0.55	GE	3.04	0.64	GE	2.92	0.62	GE
Master's	3.26	0.55	GE	3.32	0.65	VGE	3.19	0.74	GE
Professional Status									
Licensed	3.04	0.57	GE	3.08	0.65	GE	2.96	0.64	GE
Non-licensed	3.00	0.47	GE	2.97	0.57	GE	2.89	0.62	GE
Whole	*3.03*	*0.56*	*GE*	*3.07*	*0.64*	*GE*	*2.95*	*0.64*	*GE*

Note: GE=Great Extent, VGE=Very Great Extent

Table 1.2: Extent of Teacher Leadership

Variable	Assessment			Instruction			Community			Policy		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Age												
Young	3.09	0.61	GE	3.03	0.60	GE	3.19	0.59	GE	3.02	0.65	GE
Old	3.15	0.57	GE	2.98	0.63	GE	3.13	0.66	GE	2.90	0.65	GE
Sex												
Male	3.06	0.60	GE	2.91	0.61	GE	3.18	0.60	GE	2.87	0.69	GE
Female	3.17	0.58	GE	3.07	0.61	GE	3.14	0.64	GE	3.02	0.61	GE
Employment Status												
Probationary	3.10	0.61	GE	2.99	0.62	GE	3.16	0.61	GE	2.96	0.63	GE
Permanent	3.15	0.57	GE	3.02	0.62	GE	3.15	0.65	GE	2.96	0.67	GE
Educ. Attainment												
Bachelor's	3.09	0.59	GE	2.98	0.62	GE	3.13	0.63	GE	2.95	0.63	GE
Master's	3.40	0.51	VGE	3.23	0.51	GE	3.38	0.56	VGE	3.07	0.75	GE
Professional Status												
Licensed	3.11	0.60	GE	3.00	0.62	GE	3.16	0.65	GE	2.97	0.66	GE
Non-licensed	3.21	0.52	GE	3.02	0.58	GE	3.13	0.42	GE	2.88	0.57	GE
Whole	*3.13*	*0.59*	*GE*	*3.01*	*0.61*	*GE*	*3.16*	*0.62*	*GE*	*2.96*	*0.65*	*GE*

Note: GE=Great Extent, VGE=Very Great Extent

Relationship between the Demographics and Teacher Leadership

Table 2 presents the relationship between the demographics and the teacher leadership assessment using Spearman rank correlation. The findings showed no significant relationship between age [$\rho(153)=-0.020$, $p=0.808$], sex [$\rho(153)=0.076$, $p=0.350$], employment status [$\rho(153)=0.036$, $p=0.657$], educational attainment [$\rho(153)=0.140$, $p=0.082$], professional status [$\rho(153)=-0.028$, $p=0.730$] and the teacher leadership. Hence, the null hypothesis is accepted.

The no correlation result indicates that these demographics do not necessarily or primarily affect the leadership practice of Antique Catholic teachers as supported by the literature (Aliakbari & Sadeghi, 2014; Rupsiene & Skarbaliene, 2010; Alger, 2008; Grant et al., 2010; Emira, 2010). The result also reveals that irrespective of demographics, all teachers have the potentials to lead. Meaning, these schools should not primarily use these demographics as criteria in designating teachers to leadership (Aliakbari & Sadeghi, 2014). However, given the results, adverse association is found on the aspects of

age and professional status. Hence, these signify the need for Catholic schools to provide developmental guideline and opportunities for teacher improvement in terms of their qualifications whether young or seasoned to effectively perform and exercise teacher leadership in these institutions (Roberto & Madrigal, 2018).

Meanwhile, other factors influence successful teacher leadership among Catholic schools. Nguyen et al. (2019) perceived that the environment, structures, principal leadership, and relationships strongly affect the teacher leadership practice. In the Philippines, Oracion (2014) believes that the teachers' leadership background, competence, motivations, principal support, and environment strongly impact their exercise of leadership. With these findings and with reference to the demographics used, the potent criterion for teacher leadership is environmental and not demographical (Nguyen et al., 2019). These imply the need for these Catholic schools to provide their teachers with a healthy environment to elicit successful teacher leadership practice (Oracion, 2014). However, with the limitations of this paper, further studies are encouraged correlating other variables to validate this claim such as length of service, job designation and responsibilities, role perceptions, and other demographics.

Table 2: Relationship between the demographics and teacher leadership

Variable	ρ	df	p
Age	-0.020	153	0.808
Sex	0.076	153	0.350
Employment Status	0.036	153	0.657
Educational Attainment	0.140	153	0.082
Professional Status	-0.028	153	0.730

Note: correlation is significant at $p \leq 0.05$

The no correlation between the teachers' demographics with the teacher leadership validates the veracity of the distributed leadership theory (Spillane et al., 2008). Indeed, the performance and practice of teacher leadership are not primarily influenced by their profile but by the availability of a healthy and supportive environment (Thorpe et al., 2011). The collaborative relationship between the administrators and the teachers towards school success manifests in this positive environment (Spillane et al., 2008). Meaning, the practice of leadership among teachers depends on the support of the administrators to the principle of a participatory and shared leadership along with the provision of a healthy Catholic school environment (Thorpe et al., 2011). Thus, this finding implies that the Catholic school administrators should trust this democratic approach to ensure a school-wide leadership towards attaining the educational objectives (Mayrowetz, 2008). Also, they are encouraged to unreservedly provide a healthy and supportive environment for their teachers to mobilize them to participate, perform, and lead (Spillane et al., 2008).

CONCLUSIONS

The Catholic schools of Antique, Philippines, effectively achieve their educational objectives when they widen their range of leadership by embracing a participatory approach. Moreover, this approach is guaranteed when these schools excellently mobilize their teachers to participate, perform and lead. It also implies that for these teachers to participate in this approach, the Catholic schools are encouraged to provide them with varied leadership opportunities to boost their skills and view themselves as leaders. However, this can be done when their involvement and efforts are sustainably recognized and acknowledged. Additionally, it signifies the need for these schools to ensure the competence of their teachers through continuing professional education to guarantee their engagement in the wide-scale of leadership practice. Lastly, the findings encourage Antique Catholic schools to exhaust all means of providing their teachers with a healthy and supportive environment to perform their leadership duties effectively and responsibilities without reservations. Hence, when these teachers view themselves as leaders and unreservedly participate in the shared leadership, the Catholic schools assure the educational objectives and the success and quality of Catholic education.

RECOMMENDATIONS

It recommends that the administrators advance a participatory approach through delegation of leadership responsibilities to create a sustainable culture of shared leadership among leaders and teachers of Catholic schools in Antique. They should also do an assessment and plan how to continuously improve the school environment to support the teachers in performing their leadership responsibilities. Additionally, they are encouraged to hire competent and qualified teachers and provide them with varied professional development opportunities and support for graduate schooling to exercise leadership engagement effectively. Meanwhile, the teachers improve themselves through continuing education to excellently participate in the wide-scale of Catholic school leadership. Lastly, future researchers conduct further teacher leadership studies employing other variables to validate the claims of this study.

REFERENCES

Abbas, S. N. (2012). Teacher leadership and educational reforms in the UAE. *Global Journal of Management and Business Research*, *12*(22).

Alger, G. (2008). Transformational leadership practices of teacher leaders. *Academic Leadership: The Online Journal*, *6*(2), 19.

Alegado, P. J. E. (2018). The challenges of teacher leadership in the Philippines as experienced and perceived by teachers. *International Journal of Education and Research*, *6*(6), 291-302.

Aliakbari, M. & Sadeghi, A. (2014). Iranian teachers' perceptions of teacher leadership practices in schools. *Educational Management Administration & Leadership*, *42*(4), 576-592. https://doi.org/10.1177/1741143213510500

Angelle, P. S. & De Hart, C. A. (2011). Teacher perceptions of teacher leadership: Examining differences by experience, degree, and position. *Nassp Bulletin*, *95*(2), 141-160. https://doi.org/10.1177/0192636511415397

Banusing, R. O. & Bual, J. M. (2020). The quality of Catholic education of diocesan schools in the province of Antique. *Philippine Social Science Journal*, *3*(2), 35-36. https://doi.org/10.52006/main.v3i2.150

Beasley, W. & Butler, J. (2002). Teacher leadership in science education reform: Learning from Australian-led best practice in the Philippines. *Australian Science Teachers Journal*, *48*(4), 36.

Berg, J. H., Carver, C. L., & Mangin, M. M. (2014). Teacher leader model standards: Implications for preparation, policy, and practice. *Journal of Research on Leadership Education*, *9*(2), 195-217. https://doi.org/10.1177/1942775113507714

Beycioglu, K. & Aslan, B. (2010). Teacher leadership scale: A validity and reliability study. *Elementary Education Online*, *9*(2).

Boyle, M., Donahue, G., Donoghue, M., Faber, D. A., Jones, F., Ray-Timoney, J., Tesche, B., & Uhl, T. D. (2020). Witness to hope: Catholic schools respond to COVID-19. *Journal of Catholic Education*, *23* (1). http://dx.doi.org/10.15365/joce.2302062020

Bual, J. & Madrigal, D. (2018). The quality of Catholic education in a diocesan school relative to the Philippine Catholic school standards. *Philippine Social Science Journal*, *1*(1), 41-53. https://doi.org/10.52006/main.v1i1.11

Bush, T., Glover, D., Ng, A. Y. M., & Romero, M. J. (2020). Master teachers as teacher leaders: Evidence from Malaysia and the Philippines. *International Studies in Educational Administration*, *43*(2).

Cabatbat, Z., A. & Carrera, B. (2019). School climate and its effect on the work performance of senior high school teachers in Pangasinan, Philippines. *ASEAN Multidisciplinary Research Journal*, *2*(1), 1-19.

Cosenza, M. N. (2015). Defining teacher leadership: Affirming the teacher leader model standards. *Issues in Teacher Education*, *24*(2), 79-99.

De Villiers, E. & Pretorius, S. G. (2011). Democracy in schools: are educators ready for teacher leadership? *South African Journal of Education*, *31*(4), 574-589. https://doi/10.15700/saje.v31n4a453

Emira, M. (2010). Leading to decide or deciding to lead? Understanding the relationship between teacher leadership and decision making. *Educational Management Administration and Leadership*, *38*(5), 591-612. https://doi.org/10.1177/1741143210373738

Frost, D. & Durrant, J. (2003). Teacher leadership: Rationale, strategy, and impact. *School Leadership & Management*, *23*(2), 173-186. https://doi.org/10.1080/1363243032000091940

Grant, C., Gardner, K., Kajee, F., Moodley, R., & Somaroo, S. (2010). Teacher leadership: A survey analysis of KwaZulu-Natal teachers' perceptions. *South African Journal of Education*, *30*(3). https://doi/10.15700/saje.v30n3a362

Harris, A., & Jones, M. (2019). Teacher leadership and educational change. *School Leadership and Management*, *39*(2), 123-126. https://doi.org/10.1080/13632434.2019.1574964

Helterbran, V. R. (2016). Teacher leadership: Overcoming "I am just a teacher" syndrome. *Counterpoints*, 466, 114-120. https://doi.org/10.3726/978-1-4539-1799-2/31

Jorilla, C. D. & Bual, J. M. (2020). Demographics as a variable in assessing the teaching competence of teachers in Catholic schools. *Philippine Social Science Journal*, *3*(2), 33-34. https://doi.org/10.52006/main.v3i2.145

Kilinç, A. Ç. (2014). Examining the relationship between teacher leadership and school climate. *Educational Sciences: Theory and Practice*, *14*(5), 1729-1742. https://doi.org/10.12738/estp.2014.5.2159

Koosha, M., Liaghat, F., & Sadeghdaghighi, A. (2015). Analysis of Iranian EFL teachers' leadership in english language institutes. *Theory and Practice in Language Studies*, *5*(1), 201-207. https://doi.org/10.17507/tpls.0501.27

Lumpkin, A. (2016). Key characteristics of teacher leaders in schools. *Administrative Issues Journal: Connecting Education, Practice, and Research*, *4*(2), 14.

Mangin, M. M. & Stoelinga, S. R. (2010). Instructional teacher leadership in action. *Journal of Cases in Educational Leadership*, *13*(2), 1-4. https://doi.org/10.1177/1555458910372664

Mansor, M., Yunus, J. N., & Yuet, F. K. C. (2018). Validity and reliability of the teacher leadership inventory in Malaysian educational context. *International Association for Development of the Information Society*. https://doi.org/10.6007/ijarped/v7-i3/4566

Mayrowetz, D. (2008). Making sense of distributed leadership: Exploring the multiple usages of the concept in the field. *Educational Administration Quarterly*, *44*(3), 424-435. https://doi.org/10.1177/0013161X07309480

Nguyen, D., Harris, A., & Ng, D. (2019). A review of the empirical research on teacher leadership (2003–2017). *Journal of Educational Administration*. https://doi.org/10.1108/JEA-02-2018-0023

Nwokorie-Anajemba, D. U. (2011). Current practices for teacher leadership development within Christian schools. *Journal of Applied Christian Leadership*, *5*(1), 111-112.

Oracion, C. C. (2014). *Teacher leadership in public schools in the Philippines* (Doctoral dissertation, UCL Institute of Education).

Parlar, H., Cansoy, R., & Kılınç, A. Ç. (2017). Examining the relationship between teacher leadership culture and teacher professionalism: Quantitative study. *Journal of Education and Training Studies*, *5*(8), 13-25. https://doi.org/10.11114/jets.v5i8.2499

Poekert, P. E. (2012). Teacher leadership and professional development: Examining links between two concepts central to school improvement. *Professional Development in Education*, *38*(2), 169-188. https://doi.org/10.1080/19415257.2012.657824

Poekert, P., Alexandrou, A., & Shannon, D. (2016). How teachers become leaders: An internationally validated theoretical model of teacher leadership development. *Research in Post-Compulsory Education*, *21*(4), 307-329. https://doi.org/10.1080/13596748.2016.1226559

Roberto, J. & Madrigal, D. (2018). Teacher quality in the light of the Philippine professional standards for teachers. *Philippine Social Science Journal*, *1*(1), 67-80. https://doi.org/10.52006/main.v1i1.13

Rupšienė, L. & Skarbalienė, A. (2010). The characteristics of teacher leadership. *Tiltai*, (4), 67-76.

Spillane, J. P., Camburn, E. M., Pustejovsky, J., Pareja, A. S., & Lewis, G. (2008). Taking a distributed perspective. *Journal of Educational Administration*, *46*(2), 189. https://doi.org/10.1108/09578230810863262

Thorpe, R., Gold, J., & Lawler, J. (2011). Locating distributed leadership. *International Journal of Management Reviews*, *13*(3), 239-250. https://doi.org/10.1111/j.1468-2370.2011.00303.x

Trinidad, J. E. (2020). Material resources, school climate, and achievement variations in the Philippines: Insights from PISA 2018. *International Journal of Educational Development*, *75*, 102174. https://doi.org/10.1016/j.ijedudev.2020.102174

Ulla, M. B., Barrera, K. I. B., & Acompanado, M. M. (2017). Philippine classroom teachers as researchers: Teachers' perceptions, motivations, and challenges. *Australian Journal of Teacher Education*, *42*(11), 4. http://doi:10.14221/ajte.2017v42n11.4

Wenner, J. A. & Campbell, T. (2017). The theoretical and empirical basis of teacher leadership: A review of the literature. *Review of Educational Research*, *87*(1), 134-171. https://doi.org/10.3102/0034654316653478

Xie, D. (2008). *A study of teacher leadership and its relationship with school climate in American public schools: Findings from SASS 2003–2004*. Western Michigan University.

Xie, C., Song, P., & Hu, H. (2020). Measuring teacher leadership in different domains of practice: development and validation of the teacher leadership scale. *The Asia-Pacific Education Researcher*, 1-11. https://doi.org/10.1007/s40299-020-00527-9

Self-Efficacy and Work Commitment of the Private Senior High School Teachers in Time of Pandemic

Medania T. Malagsic[1]
Marisa B. Petalla[2]
Araceli D. Doromal[3]

[1]*St. Therese-MTC Colleges, Iloilo City (*medaniamalagsic@yahoo.com*)*
[2]*University of Negros Occidental-Recoletos, Bacolod City (marshe112582@gmail.com)*
[3]*University of Negros Occidental-Recoletos, Bacolod City (araceli_doromal@yahoo.com)*

ABSTRACT

Self–efficacy is known to be vitally essential in teachers' commitment to their work. With the paradigm shift of the teaching and learning process brought about by the transformation of the Philippine education system, teachers' self-efficacy and commitment have been put to the test. Several challenges confronted the teachers, creating heightened stress and anxiety with the onset of the COVID-19 pandemic affecting the teaching and learning process. This has created a situation where usually efficacious teachers may not feel efficacious now (Haverback, 2020). This study aimed to determine teachers' self-efficacy and commitment, their relationship, and challenges. Using the descriptive-correlational approaches, the study utilized 319 participants composed of principals and teachers and selected senior high school students utilizing stratified random sampling. Researcher-made questionnaires were utilized to collect the needed data for both the self-efficacy and commitment. In data analyses, mean, standard deviation, frequency count, rank, percentage distribution, and Pearson Product Moment correlation were employed. The findings revealed that the level of self-efficacy of the private senior high school teachers in a time of pandemic is very high, with student engagement area as the highest and classroom management as the lowest. On the one hand, teachers' overall degree of work commitment is exceptionally committed with the commitment to the profession and commitment to the school as the highest and commitment to the teaching and learning as the lowest. Meanwhile, the findings reveal a significant relationship between self-efficacy and work commitment. Relative to the challenges, teachers' top self-efficacy issue is the absence of direct teaching-learning interactions. In terms of commitment, the top identified challenge is teachers' challenges in balancing work with other responsibilities. The findings of the study provided baseline information in the formulation of the Human Resource Faculty Development Plan for the private senior high schools incorporating the different areas and domains of self-efficacy and work commitment.

Keywords: Self-efficacy, Work commitment, Senior high school teachers, Quantitative research, Philippine education during the pandemic

INTRODUCTION

Self-efficacy, as perceived by the global literature, is a belief that an individual thinks, acts, and feels (Haverback & Mee, 2015). It is also all about one's belief in his abilities as it pertains to dealing with various situations that impact and can play a significant role in his life, not only how he feels about himself but also how successful he might be (Riopel, 2020). In teaching, teachers' self-efficacy positively impacts their behavior towards their profession (Skaalvik & Skaalvik, 2007).

Further, self–efficacy is vitally essential in teachers' commitment to their work (Zeb & Nawaz, 2016). Commitment, as defined, refers to an employee's willingness to work positively in an organization and his continuance to work for it (Abdullah, 2011). In the school system, dedicated and committed teachers play a vital role in achieving educational goals and objectives because they are the core implementers of teaching and learning. Teachers' multi-dimensional tasks as facilitators, role models, guides, and parents cannot be completely carried out without a high level of commitment, enthusiasm, love, sacrifice, and affection to students, schools, and teaching (Akinwale & Okotoni, 2019).

Moreso, it is perceived that teachers in private and public schools who are highlycommitted can perform better, are likely to stay on the job, and have a full of excitement to contribute to school success rather than uncommitted colleagues (Akinwale & Okotoni, 2019). Significantly, teachers' perception of programs helpful to their roles and practices, social environment, and the teachers' connections with the parents greatly influence their commitments at work. Thus, such programs must be receptive to the teachers' values to create the teachers' critical teaching perspectives to work with more commitment (Mannix & Pommier, 2011).

However, teachers are confronted with adjusting to the paradigm shift of the teaching and learning procedure brought about by the transformation of the Philippine system, affecting their self-efficacy, which is essential for preserving and boostingteachers' commitment at work (Lee et al., 2019). Again, several challenges confronted the teachers, creating heightened stress and anxiety with the onset of the COVID-19 pandemic affecting the teaching and learning process. This has created a situation where usually efficacious teachers may not feel efficacious now (Haverback, 2020). This pandemic has reshaped its educational system, affecting its teaching workforce's livelihood and commitment (Magsambol, 2020).

Several studies on self-efficacy and work commitment are conducted in the Philippines (Usop et al., 2013; Mart, 2013; Hurter, 2008; Zeb & Nawaz, 2016; Klassen & Chui, 2014; Almutairi,2020). However, there has been limited local literature on self-efficacy and work commitment during the pandemic, especially in private schools, specifically in a progressing city in the Philippines. Thus, this study is conducted to fill the gap in global and local literature.

The study aimed to assess the level of self-efficacy of private senior high school teachers in the areas of student engagement, instructional strategies, and classroom management as assessed by administrators, teachers, and students, when taken as a whole and when grouped according to the Demographics of teachers in terms of age, sex, length of service and educational attainment during the School Year 2020-2021. It also assessed the teachers' degree of work commitment relative to the domains of teachers' commitment to the teaching profession, teachers' commitment to school, and teachers' commitment to teaching/learning when taken as a whole and grouped according to the demographics. Further, it also sought to identify the teachers' different challenges in self-efficacyand work commitment in the pandemic.

FRAMEWORK OF THE STUDY

This study theorizes that teachers' self-efficacy influences one's commitment to work. It posits that the higher the self-efficacy towards work, the higher is work commitment. This study is anchored on Albert Bandura's Social Cognitive Self-Efficacy Theory (1977). It emphasizes that people's beliefs in their efficacy influence everything they do: how they think, motivate themselves, and behave. This is a person's beliefs on how they determine how well one can execute a plan of action to succeed in one particular situation (Bandura, 1977). Further, the teacher's commitment can be linked to the research undertaken into organizational commitment by Mowday et al. (1979) and Allen and Meyer (1991). Mowday et al. (1979) emphasized commitment as a firm belief in and acceptance and agreement of the organization's aims and values, enthusiasm to exercise substantial effort on behalf of the organization, and a strong passion for renewing membership in the organization (Gökyer, 2018). Further, this conception of teacher commitment discusses this relationship as a reference to certain dimensions. These dimensions or centers are external to the teachers themselves and refer to a commitment to school or organization, to students, to career continuance, to the professional knowledge base, and to the teaching profession (Crosswell, 2006). Thus, in this study, it can be assumed that teacher's commitment can be described in terms of commitment to school, commitment to the profession, and commitment to teaching/learning. An employee may be committed to the profession because of one of the above single mental states or a combination of two or even three of them (Butucha, 2012). This descriptive correlational study also explored the possible connection between the two constructs the self-efficacy and work commitment of teachers. Further, it also looked

into the different challenges of teachers in terms of self-efficacy and work commitment during the pandemic. Thus, in the context of this study, teachers who have strong, positive beliefs about their capabilities and efficacy are likely to persist and be committed to the teaching profession. Those who are highly capable but do not believe they are capable are likely to leave or not committed to the profession even though they have a vast knowledge base and are highly skilled. Additionally, teachers should have confidence, determination, and perseverance in overcoming obstacles to achieve goals, especially in these changes in the educational paradigm due to the pandemic.

METHODS

This study employed the quantitative research design, particularly the descriptive-correlational approaches (Creswell & Creswell, 2017). The descriptive approach particularly described the level of self-efficacy and degree of work commitment. The correlational approach determined the relationship between self-efficacy and work commitment. The study respondents were the whole population of the private administrators, Grade 12 teachers, and grade 12 Senior High School students of the private secondary schools for the school year 2020-2021. The students were proportionally determined using the random sampling technique, and samples were determined using the Raosoft calculator. Further, students were under the sampled teachers.

The study utilized the researcher-made survey questionnaires for both self-efficacy and work commitment. To assess the level of self-efficacy of private senior high school teachers in the 1st district of Iloilo, the teacher's self-efficacy scales were in the light of these three domains: efficacy in student engagement, efficacy in instructional strategies, efficacy in classroom management. To assess the degree of work commitment of teachers in the private schools in the 1st district of Iloilo, the researcher-made survey questionnaire was utilized, namely, Teachers' Commitment to the Teaching Profession, Commitment to School, Teacher's Commitment to Teaching/Learning. Meanwhile, the questionnaires were subjected to reliability and validity tests. This was validated by the panel of experts and used content validity ratio (CVR) to calculate each item by employing Lawshe's (1975) method. All items are valid or significant with the CVR= .75. Moreover, it was subjected to Cronbach's Alpha using SPSS. The students' results yielded the following results: self-efficacy .967, work commitment .947, and .973 for self-efficacy and work commitment. While for the teachers' results were: self-efficacy .965, work commitment .852, and .973 for self-efficacy and work commitment.Descriptive- correlational analyses were employed in analyzing the data. The descriptive analysis determined the level of self-efficacy, degree of work commitment, and the teachers' challenges, particularly Mean, Standard Deviation, Percentage Distribution, Rank, and Frequency Count. Pearson Product Moment was used to determine if there exists a relationship between self-efficacy and work commitment. Meanwhile, the used of Shapiro Wilk test tools to determine the test of normality. Test results showed that the data for self-efficacy [SW= p= .158] and work commitment [SW=p=.49] are normally distributed.

RESULTS AND DISCUSSIONS

Level of Self-Efficacy of Private Senior High School Teachers

Table 1 presents the level of self-efficacy of the private senior high school teachers at the time of the pandemic. As a whole, the level of self-efficacy (M=3.33, SD= 0.26) is very high, with the area of student engagement (M= 3.38, D =0.28) as the highest and classroom management (M= 3.30, SD= 0.28) as the lowest in terms of the mean rating. The overall very high self-efficacy rating indicates that teachers are exceptionally confident with certainty that they can increase their performance, particularly on their student engagement, instructional strategies, and classroom management. The data revealed that the private senior high school teacher's self-efficacy in a time of pandemic is exceptionally confident. This very high rating of self-efficacy could be attributed to the self-determination and positive outlook of the private senior high school teachers for the success of the teaching-learning process even in time of the pandemic. Further, this is implies with a positive outlook in the teaching-learning process also increase their confidence.Teachers take the needed response to protect them at work during the

pandemic (Baloran, 2020). Moreso, Santi et al. (2020) concluded that teachers feeling of self-efficacy generates interest, profound involvement, and a strong commitment to carrying out the planned activities (Santi et al., 2020).

The area of student engagement has the highest rating since maintaining student engagement in a pandemic is a top priority of the schools. Thus, the implication of this is that teachers saturated their efforts to connect with the students and their families because the sudden shift of the educational paradigm can leave some students disoriented and unmoored from the schools. Research has shown that teachers can strategize and establish their instruction to positively influence student self-efficacy and, in turn, on the learning process in the classroom and student engagement (Linnenbrink & Pintrich, 2003). However, in classroom management, teachers have to strengthen the use of the virtual classroom and look for a better strategy. More and more educators and professors are being required to teach their students using the online platform. Specifically, this refers to virtual classroom management. Many teachers join the profession without adequate preparation in classroom management and continue to encounter challenges during their careers (Simonsen et al., 2013).

Significant results specific to demographics can be found on sex where male teachers obtained a very high level of self-efficacy as a whole (M=3.45) compared to females who only obtained a high level (M=3.25). This shows that male teachers were perceived to be more self-efficacious than female teachers. This indicates that male teachers in private schools are confident to teach students using flexible learning, modular, or online approaches or uses varied learning styles in the areas of instructional strategies. This contradicts Ahmad et al.'s (2015) and Tabak's (2003) studies on the sense of teacher efficacy between males and females, claiming that female teachers have better self-efficacy skills than male teachers. Female teachers were found better and had a higher sense of self-efficacy beliefs to influence the subscales of teacher self-efficacy like instructional strategies, student engagement, and classroom management.

Moreover, specific to educational attainment, teachers with Bachelor's degree were found to have a very high level of self-efficacy (M=3.40) compared to Master's degree holders who only obtained a high level (M=3.22). This indicates that those with a bachelor's degree feel more confident in their ability to teach successfully through a virtual class in this time of the pandemic. Further, teachers in private schools continue attending an online webinar to become fully equipped with the latest skills to adapt to the new normal even without a master's degree. This is in contradiction to the study of Judge et al. (2007), indicating that education equips employees with the necessary skills and a pertinent professional identity and, thus, with a higher level of self-confidence. Thus, manage their classroom properly than the teachers with low qualifications.

Table 1: Level of Self-Efficacy of Private Senior High School Teachers

Demographics	AREAS											
	Student Engagement			Instructional Strategies			Classroom Management			As a Whole		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Age												
Younger	3.38	0.30	VH	3.31	0.28	VH	3.33	0.28	VH	3.34	0.27	VH
Older	3.37	0.24	VH	3.33	0.27	VH	3.24	0.28	H	3.31	0.24	VH
Sex												
Male	3.46	0.32	VH	3.44	0.29	VH	3.47	0.27	VH	3.45	0.27	VH
Female	3.32	0.24	VH	3.24	0.22	H	3.19	0.23	H	3.25	0.21	H
Length of Service												
Shorter	3.40	0.30	VH	3.33	0.29	VH	3.36	0.29	VH	3.54	0.18	VH

Demographics	AREAS											
	Student Engagement			Instructional Strategies			Classroom Management			As a Whole		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Longer	3.32	0.22	VH	3.28	0.23	VH	3.16	0.21	VH	3.26	0.20	VH
Educational Attainment												
Bachelor's Degree	3.45	0.24	VH	3.39	0.27	VH	3.35	0.26	VH	3.40	0.24	VH
With MA Units	3.25	0.30	H	3.20	0.22	H	3.21	0.29	H	3.22	0.26	H
As a Whole	**3.38**	**0.28**	**VH**	**3.32**	**0.27**	**VH**	**3.30**	**0.28**	**VH**	**3.33**	**0.26**	**VH**

Note: VH= Very High, H=High

Degree of Commitment of the Private Senior High School Teachers

Table 2 presents the degree of work commitment of the private senior high school teachers at the time of the pandemic. As a whole, the degree of work commitment is very high (M=3.50, SD=0.16), which means that teachers are exceptionally committed. All domains were very high, with the commitment to the profession (M=3.51, SD=0.16) and commitment to school (M=3.51, SD=0.21) higher than the commitment to teaching/learning (M=3.47, SD=0.20). The overall rating indicates that the teacher's commitment is very high, which means that teacher's work commitments are exceptionally committed to working positively in the school with enthusiasm, love, sacrifice, and affection for students, schools, and teaching. This indicates that despite the pandemic, teachers in private schools maintained a strong commitment to delivering quality education for students. On the other hand, teachers with a low degree of commitment seem more confused, threatened to be questioned, cannot maintain tasks, and feel difficulty in countering student affairs (Shahzad, 2017).

Further, the areas of commitment to the profession were the highest rating. This is the indication that teachers in the private schools are still devoted to their profession and can adopt the various innovative method of teaching, taking into consideration how best to learn and bring about effective learning, although we are facing uncertainty in this time of the pandemic. This finding supports the findings of many similar studies in the literature (Butucha, 2013; Celep et al., 2004; Çelik & Ekinci, 2012). On the other hand, the area of commitment to the school is also the highest rating. It indicates that teachers have a higher commitment to their respective schools and activities in their schools despite the pandemics.

It was further revealed that teachers have an emotional attachment to their schools. Mart (2018) concluded that teachers with a high level of commitment would be more loyal to schools where they work. Additionally, the areas of commitment to teaching/learning got a very high rating but with the lowest mean among the three areas. This means that teachers have encountered some challenges in the teaching-learning process because they have to prepare a plan to become effective, which adds to their workloads. Teacher commitment is essential to high-quality teaching. It includes a commitment to the school, students, career continuation, professional knowledge base, and teaching profession (Crosswell & Elliott, 2004).

Table 2: Degree of Commitment of Private Senior High School Teachers

Demographics	DOMAINS											
	Commitment to Profession			Commitment to School			Commitment to teaching/learning			As a Whole		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Age												

	DOMAINS											
Demo graphics	Commitment to Profession			Commitment to School			Commitment to teaching/learning			**As a Whole**		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Younger	3.53	0.18	VH	3.57	0.20	VH	3.51	0.21	VH	3.53	0.17	VH
Older	3.48	0.12	VH	3.39	0.17	VH	3.37	0.17	VH	3.41	0.10	VH
Sex												
Male	3.47	0.18	VH	3.53	0.19	VH	3.53	0.16	VH	3.51	0.15	VH
Female	3.54	0.14	VH	3.50	0.22	VH	3.42	0.22	VH	3.49	0.17	VH
Length of Service												
Shorter	3.54	0.18	VH	3.58	0.19	VH	3.51	0.21	VH	3.54	0.16	VH
Longer	3.46	0.12	VH	3.36	0.17	VH	3.38	0.16	VH	3.40	0.10	VH
Educational Attainment												
Bachelor's Degree	3.56	0.16	VH	3.60	0.18	VH	3.52	0.17	VH	3.56	0.20	VH
With MA Units	3.44	0.14	VH	3.37	0.19	VH	3.38	0.23	VH	3.40	0.17	VH
As a Whole	**3.51**	**0.16**	**VH**	**3.51**	**0.21**	**VH**	**3.47**	**0.20**	**VH**	**3.50**	**0.16**	**VH**

Note: VH= Very High, H=High

Relationship between the Self-Efficacy and Work Commitment

Table 3 presents the relationship between the self-efficacy and work commitment of the private senior high school teachers at the time of the pandemic. The results have shown that the teacher' self-efficacy perceptions increase, so does their work commitment. Thus, teachers with strong, extensive self-beliefs in the institution will lead to increased motivation and develop work commitment even in times of the pandemic. Teachers with beliefs in their capabilities and approach difficult tasks as challenges to be overcome rather than as threats to be avoided, confidence in effectively handle the tasks, obligations, and challenges related to their professional activity, well-being in the working environment, thus, this efficacious outlook will lead to maintaining a strong commitment to their work. If the employees trust the organization and self-efficacy, it will give a good sign where the productivity of the work is high and low turnover (Agu, 2019).

This finding confirms the past researches that have shown a favorable relationship between self-efficacy and organizational commitment (Klassen, 2010; Caprara et al., 2003). Thus, it can be said that as teachers' self-efficacy perceptions increase, so does their professional commitment. Further, this also corresponds with the findings of Zeb and Nawaz (2016). They found that self-efficacy has a positive relationship with members of academic staff's organizational commitment. Additionally, Baloran and Hernan (2020) conducted research that reveals correlation results that link between crisis self-efficacy and the work commitment of teachers amid pandemics. This is a good indication that teachers are responsive to the changing world around them. Also, this study vividly emphasized the importance of teachers' work commitment during the COVID-19 pandemic.

Additionally, it is a clear picture established on the self-efficacy of work employees who deem themselves capable of managing crises resulting in maintaining and supporting work commitment. Also, this study vividly emphasized the importance of teachers' work commitment during the COVID-19 pandemic. Moreso, private school teachers in the time of pandemic are open-minded in recalibrating

the teaching strategies, especially on how they divide their time between teaching, engaging with students, and administrative tasks (Barron et al., 2021).

Table 3: Relationship between Self-Efficacy and Work Commitment

Variables	r	df	p
self-efficacy vs. work commitment	0.436	46	0.002

*Note:*the correlation is significant when p<0.05*

Challenges on Self-Efficacy Encountered by Teachers

Table 4 presents the challenges on self-efficacy encountered by the private senior high school teachers at the time of the pandemic. The top self-efficacy issues are teachers are no more direct teaching-learning interactions and lively classroom discussions, not seeing nor hearing real-time reactions or processes from students, and too difficult to check students' behavior. The least challenges are teachers are not proficient in computer knowledge and skills, have no confidence in teaching virtually and have difficulty meeting individual needs. The transition to the modular or online teaching platform due to COVID-19 brings about several challenges from both the teachers' and the students' perspectives. In terms of teachers' no more direct teaching-learning interactions and lively classroom discussions, teachers have to shift to the digital approach or modular approach way of delivering lessons. Online learning in a crisis is the best option for private schools to continue providing excellent education in times of crisis. This challenge was associated with separating teachers and their students instead of conventional classroom teaching (Moore, 2014). The separation leads to difficulty for teachers in their ability to communicate effectively with students and restricts them from generalizing the teaching ability developed in the physical classroom into the online contexts (Putri et al., 2020).

Further, one also of the top challenges of the teachers is not able to see nor hear real-time reactions or processes from the student. Teachers give lessons online but are not able to keep a check on the students. In the study conducted by Keown et al. (2021), the challenges teachers encounter are expressing that they missed their students, their desire to interact with them face-to-face instead of in a virtual setting and the challenge of overcoming communication barriers to enable consistent communication. On the other hand, one of the least challenges to self-efficacy is that teachers are not proficient in computer knowledge and skills. Teachers experienced a digital gap when they moved their classes online due to the pandemic. Thus, technological needs are ever-changing in education. As with any change, teachers who teach online must remain updated on the technological changes related to the online platform. Thus, professors will always need to constantly gain insight through quality professional development to implement the most updated technology available (McBrien et al., 2009).

Table 4: Challenges on Self-Efficacy Encountered by Teachers

Rank	Challenges	f	%
1	No more direct teaching-learning interactions and lively classroom discussions.	452	8.46
2	Not being able to see nor hear real-time reactions or processes from students.	450	8.43
3	Challenging to check students' behavior.	449	8.41
4	Difficulty controlling class attendance and discipline.	447	8.37
5	Losing tangible and timely opportunities to communicate with students.	424	7.94
6	Cannot measure students' needs to ensure success in learning.	421	7.88
7	Difficult to motivate struggling learners (ex. students who may not have reliable Internet access).	418	7.83

Rank	Challenges	f	%
8	Not all parents can sit and work with their children.	411	8.82
9	Difficult to intervene with those who are having trouble.	389	7.28
10	Difficult to organize effective group discussions	385	7.21
11	Insufficient technical support.	368	6.89
12	Not proficient in computer knowledge and skills.	240	4.49
13	No confidence in teaching virtually.	231	4.33
14	Too difficult to meet individual needs.	169	3.16

Challenges on Work Commitment Encountered by Teachers

Table 5 presents the challenges on work commitment encountered by the private senior high school teachers at the time of the pandemic. The top work commitment issues are personal challenges. They struggle to balance work with other responsibilities, stress due to economic uncertainty, and difficulty taking responsibility virtually. The least issues on the work commitment are lowered attempt to leave the profession, low participation and influence on school policy, and the pandemic situation has added to the workload. In terms of the difficulty of balancing work with other responsibilities, it indicates that teachers' work has been added.

The study revealed that the urgent move to online mode of learning caused by the recent Covid-19 pandemic has added to the stresses and workloads experienced by university faculty and staff who were already struggling to balance teaching, research, and service obligations, not to mention the work-life balance (Houlden & Veletsianos, 2020). Further, as to teachers' stress due to economic uncertainty, in this pandemic, the learners, teachers, and parents go through a great deal of anxiety. Due to the low number of enrolment of the private schools, teachers' salaries were also affected. Some schools have to force teachers to work in a skeletal force, and some are no work, no pay. They may have improved family or financial obligations and are likely to be stressed out about the health conditions and security of their loved ones and themselves (Bozkurt, 2020).

As to difficulty taking responsibility virtually, teachers challenge the continuation of teaching and learning. Learners have abruptly demanded to undertake and improve their learning and become digitally savvy. Parents have had to morph into double roles as parent-educators. Additionally, teachers have a work overload because they have to shift between prepared videos and PowerPoint lessons and entertaining live teaching via Google Classroom, Zoom, Microsoft Teams, and others. They need to develop lesson plans and adapted worksheets, assessment sheets, and other materials (Kundu, 2020). On the other hand, one of the least challenges encountered is that teachers attempted to leave their profession. Therefore, only a few of the teachers encountered the feeling of leaving the profession in this time of the pandemic. It simply shows that lots of teachers are still committed to their teaching profession. Lastly, as too low participation and influence on school policy, this data shows that some teachers do not have participated in the strategic planning and making of the policies and procedures. It appeared that teachers' participation in decision processes is important for the improvement and innovation of education. Their participation in school policy and teachers' orientations towards their work is related (Jongmans et al., 2004).

Table 5: Challenges on Work Commitment Encountered by Teachers

Rank	Challenges	f	%
1	Struggled to balance work with other responsibilities.	528	12.23
2	Stress due to economic uncertainty.	497	11.51
3	Difficult to take responsibility virtually.	496	11.48
4	Lowered salary due to low enrolment	452	10.47
5	Poor in the performance evaluation.	414	9.58
6	Difficult to balance many obligations.	383	8.87

Rank	Challenges	f	%
7	The sense of success in teaching dropped substantially.	367	8.50
8	No deep concern and commitment towards the school.	344	7.97
9	Attempt to leave the profession.	316	7.32
10	Low participation and influence on school policy.	285	6.60
11	The pandemic situation has added to the workload.	236	5.46

CONCLUSION

Teachers in the private schools had a very high self-efficacy and very high work commitment in a time of the pandemic. This study provides a big picture of the current status of private senior high school teachers. With their very high level of self-efficacy, teachers also have a very high commitment to their current institution. It is evident that teachers gave extraordinary time for learning despite these overwhelming feelings brought by the pandemic and uplift themselves to easily adapt to these abrupt changes of the paradigm shift of education. However, despite its very high-level results, teachers still have challenges about their self-efficacy and work commitment. With this, the private school also considers the different challenges of teachers with regards to their self-efficacy and work commitment to be addressed. Through the high level of the virtual classroom management skills of the teachers in this time of the pandemic creates better interactivity in online or modular classes to enhance the success class rate and to provide opportunities for students to think critically, connect with their classmates, and be motivated about learning again. Moreso, the findings of the study provided baseline information in the formulation of the Human Resource Faculty Development Plan for the Private senior high schools incorporated are areas on student engagement, instructional strategies, and classroom management, commitment to the profession, commitment to teaching/ learning, and commitment to the school.

It is recommended, therefore, that private schools must sustain teachers' self-efficacy and work commitment because teachers are motivated and very committed to getting students back in the time of the pandemic. Private schools may also provide education for teachers' well-being by giving time for unwinding and relaxation, counseling units, and other activities to divert teachers from the stressful work. Meanwhile, teachers may continue being more optimistic, efficacious, and more committed because this will become the new normal for education. Future researchers may conduct a qualitative study on the self-efficacy and work commitment of the teachers in the time of pandemic to validate this current study's claims.

REFERENCES

Abdullah, A. (2011). Evaluation of Allen & Meyer's Organizational Commitment Scale: A Cross-Cultural Application in Pakistan. *Journal of Education & Vocational Research.*

Agu, O.L. (2019). Work Engagement, Organizational Commitment, Self-Efficacy, and Organizational Growth: A Literature Review. *Journal of Information and Knowledge Management.*

Ahmad, R., Khan, S., & Rehman, S. (2015). A comparative study to investigate the sense of teacher efficacy between male and female teachers. *Asian Journal of Management Sciences and Education, 4(2), 29-35.*

Akinwale, A. S., & Okotoni, C. A. (2019). Assessment of job commitment of secondaryschool teachers in Osun State, Nigeria. *: International Journal of Social Sciences.*

Almutairi, Yousef. (2020). Leadership Self-Efficacy and Organizational Commitment of Faculty Members: Higher Education. *Administrative Sciences.* 10. 66. 10.3390/admsci10030066.

Baloran E.T., & Hernan, J.T. (2020). *Crises Self-Efficacy and Work Commitment of Education Workers among Public Schools during COVID-19 Pandemic.*

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York, NY: W.H. Freeman Company.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewood Cliffs, NJ: Prentice-Hall.

Barron et al., (2021). The changing role of teachers and technologies amidst the COVID 19 pandemic: key findings from a cross-country study. E*published on Education for Global Development.*

Bozkurt, F. (2020). Teacher Coandidates' Views on Self and Peer Assessment as a Tool For Student Development. *Australian Journal of Teacher Education, 45*(1).

Butucha, K. G. (2013). Teachers' Perceived Commitment as Measured by Age, Gender, and School Type. *Greener Journal of Educational Research.* 3 (8), 363-372.

Caprara, G. V., Barbaranelli, C., Borgogni, L., & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology.*

Celep, C. (1998). Organizational Commitment of Teachers in Educational Organizations. *Journal of Education and science.*

Celik & Ekenci, Ö. (2012). The Relationship Between Illegal Behavior and Organizational Commitment of Secondary School Teachers. *Graduate thesis,* Necmettin Erbakan University Educational Sciences Institute.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches.* Sage publication.

Crosswell, L., & Elliot, R. (2004) Committed Teachers, Passionate Teachers: The Dimension of Passion Associated with Teacher Commitment and Engagement. *Australian Association for Research in Education*

Gökyer, N. (2018). Organizational Commitment of High School Teachers. *Journal of Education and Training Studies.*

Gurbuzturk, O., & Sad, S. N. (2009). Student teachers' beliefs about teaching and their sense of self-efficacy: A descriptive and comparative analysis. *Inonu University Journal of the Faculty of Education,* 10(3), pp. 201-226.

Haverback, H.R (2020). Middle-Level Teachers Quarantine Teach, and Increase Self-efficacy Beliefs: Using Theory to Build Practice during COVID-19. *Middle Grades Review.*

Haverback, H.R., & Mee, M. (2015). Reading and teaching in an urban middle school: Preservice teachers' self-efficacy beliefs and field-based experiences. Middle Grades Research Journal, 10(1), 17–3

Houlden, S., & Veletsianos, G. (2020). Coronavirus pushes universities to switch to online classes – but are they ready? *The Conversation*, 12 March.

Hurter, N. (2008). The role of self-efficacy in employee commitment. Unpublished master thesis, University

Jongmans, C et al. (2004). Teachers' participation in school policy: Nature, extent, and orientation. *The Journal of Agricultural Education and Extension.*

Keown, Stacey. (2021). Real-Time Responses: Front Line Educators' View to the Challenges the Pandemic has Posed on Students and Faculty. *Scholarly Open Access Repository.*

Klassen, R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review.*

Klassen, R. M. (2010).Teacher Stress: The Mediating Role of Collective Efficacy Beliefs. *Taylor The Journal Educational Research.*

Kundu, P. (2020). Indian education can't go online-only 8% of homes with young members have a computer with net.

Lee, O., et al. (2010). Goal orientation and organizational commitment: Individual difference predictors of job performance. *International Journal of Organizational Analysis*. 18. 129-150.

Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading & Writing Quarterly: Overcoming Learning Difficulties.* American Psychological Association. *19*(2), 119–137.

Magsambol, B. (2020). Fast Facts: DepEd's Distance Learning. Pasig, PH: Rappler.

Mannix, P. N., Mc., & Pommier, J . (2011). The Influence of Professional Factors in Determining Primary School Teachers Commitment to Health Promotion. Published by Oxford University Press.

Mart, T.C., (2013). A Passionate Teacher: Teacher Commitment and Dedication to Student Learning *International Journal of Academic Research in Progressive Education and Development January 2013, Vol. 2(1), 226-348.*

Mart, C. (2018). Commitment to School and Students. *Researchagate.*

McBrien, J., & Rui, C. & Jones, P. (2009). Virtual Spaces: Employing a Synchronous Online Classroom to Facilitate Student Engagement in Online Learning. *International Review of Research in Open and Distance Learning.*

Meyer, J., & Allen, N. 1991. A three-component conceptualization of organizational commitment. Human Resource Management Review, 1: 64-98.*Scientific Research.*

Moore, K. D. (2014). Effective Instructional Strategies: From Theory to Practice. *SAGE Publications.*

Mowday, R.T., et al. (1979). The measurement of organizational commitment. *Science Direct Journals and books.*224-227

Putri, R. S. et al. (2020). Impact of the COVID-19 pandemic on online home learning: An explorative study of primary schools in Indonesia. *International Journal of Advanced Science and Technology,* 29, 4809–4818.

Riopel, L. (2020, October 30). Fifteen most interesting self-compassion research findings. *Positive Psychology.*

Santi, E., & Gorghiu, G. & Pribeanu, C. (2020). Teachers' Perceived Self-Efficacy for Mobile Teaching and Learning. *ReseachGate12. 157-166. 10.18662/rrem.*

Shahzad, K. S. (2017). Impact of Teacher Self-Efficacy on Secondary School Students' Academic Achievement. *Journal of Education and Educational Development.*

Skaalvik, E., & Skaalvik, S. (2007). Dimensions of Teacher Self-Efficacy and Relations with Strain Factors, Perceived Collective Teacher Efficacy, andTeacher Burnout. *Journal of Educational Psychology.*

Simonsen, B., et al. (2013). Teacher self-monitoring to increase specific praise rates. *Journal of Positive Behavior Interventions,* 15, 3–13

Tabak, R. S., Akyildiz, N., & Yildiz, S. (2003). Teachers' self-efficacy perception levels and environment awareness. Egitim Arastirmalari, 10, pp.134-145.

Usop, A., et al. (2013). The Significant Relationship between Work Performance and Job Satisfaction in the Philippines. *International Journal of Human Resource Management and Research* (IJHRMR). 3. 9-16.

Zeb, S., & Nawaz, A. (2016). Impacts of Self-Efficacy on Organizational Commitment. West, P. (2014). Teacher Quality Variables and Efficacy for Teaching Minority Students. *NCPEA Education Leadership Review of Doctoral Research*, Vol. 1,No. 1.

Assessing Stakeholders' Satisfaction of a Catholic University Graduate School in the Philippines

Maria Cecilia J. Genovate[1] and Dennis V. Madrigal[2]

[1]University of Negros Occidental-Recoletos, Bacolod City, Philippines (msmariceljg@gmail.com)
[2]University of Negros Occidental-Recoletos, Bacolod City, Philippines (dennis_madrigal@yahoo.com)

ABSTRACT

Students around the world pursue graduate education for their professional development, career promotions, and lifelong learning. Seen as an investment, universities faced challenges with rising expectations and industry competitiveness on factors influencing satisfaction to improve graduate school service quality. The paper aims to assess and compare the level of stakeholders' satisfaction of a Catholic University Graduate School in the Philippines using the 7Ps of a marketing framework, including the product, price, place, promotion, people, process, and physical evidence. The study applied the quantitative research design using a descriptive and comparative approach. The respondents were the 270 graduate school students, faculty members, and alumni determined using the simple random sampling method. A researcher-made questionnaire was used to gather data. Percentage, mean, and standard deviation were used for the descriptive analysis. Meanwhile, the Mann-Whitney U-test was used to determine the significant differences in the level of satisfaction when the stakeholders are grouped according to their designation, academic programs, average monthly income, and employer. The findings showed that the overall level of satisfaction of the stakeholders of a graduate school in terms of the 7Ps of the marketing mix is high, with the product as the highest rating and price as the lowest. A significant difference was found in the level of satisfaction of the stakeholders when they are grouped according to the designation, academic program, family's average monthly income, and employment. The findings showed that the graduate school in the Catholic university offered good quality graduate education, has qualified and competent professors, has an accessible location, and has effective policies and procedures that exceed the expectations of the stakeholders.

Keywords: Stakeholder satisfaction, Graduate education, Marketing Mix, Descriptive-Comparative, Philippines

INTRODUCTION

To acquire professional development and career promotions, graduates pursue graduate education and earn master's or doctoral degrees (Ertem & Gokalp, 2019). For this and other reasons, many students around the world have opted to continue postgraduate studies. Specifically, since 2000, college graduates aged 25 and above with the highest degree of a master's has increased to 21 million. Likewise, doctoral degree holders have increased significantly to 4.5 million (Census Bureau's Educational Attainment in the United States, 2018).

Asia accounts for nearly one-half of the world's higher education enrollment, leading to a rise in graduate education, masterate, and doctorate (Sharma, 2014). Predominantly, the UNESCO Institute for Statistics (2011) estimates that more than 60,000 students from east and south Asia are pursuing master's and doctor's degrees abroad.

In the Philippines, the Commission on Higher Education's (CHED) statistical data on higher education for postgraduate level enrollment for the academic year 2017-2018 showed a total of 241,501, an increase of 14% from the previous year. Of the 2,299 higher education institutions (HEIs) that offer master's programs, 378 are private institutions, while the rest account for state universities and colleges (SUCs). This increasing trend relates to the country's aspirations for the years 2017-2022 in its development plan as published by the National Economic Development Authority, which includes

education reforms to boost enrollment levels and improve the quality of higher education. Furthermore, improvements in the number of higher education faculty holding master's and doctoral degrees rise from 38.87% and 11.09% in 2010 to 40.34% and 12.62% in 2015 (Macha et al., 2018).

Although many studies were directed towards the stakeholders' expectations and perceptions and their satisfaction, the concentration is on the students (Chawla & Sharma, 2014). Therefore, this research will give importance to the stakeholders, both internal and external, to determine their overall satisfaction in the different areas covered by the study with the quality of the graduate education of this academic institution which is an essential component of the education quality assurance system (Chevalier, 2014; Humburg et al., 2013).

The paper aims to assess the level of stakeholders' satisfaction of a Catholic University Graduate School in the Philippines using the 7Ps of a marketing framework, including the product, price, place, promotion, people, process, and physical evidence. The findings of the study served as a basis for a proposed marketing plan that will increase enrollment in its graduate programs and improve the delivery of quality support services and assurance initiatives, including reviewing the current system, setting priorities, and planning and allocating future resources for the delivery of graduate and postgraduate programs.

FRAMEWORK OF THE STUDY

The paper theorized that different perceptions of individual stakeholder's expectations and experiences may result in either satisfaction or dissatisfaction. This is anchored to the Expectancy-Disconfirmation Paradigm (EDP), which was developed to rationalize customer decision-making (Oliver 1997) and considered the most reassuring theoretical framework for the value judgment of customer satisfaction.

Researchers have used the Expectation Disconfirmation Theory (EDT) to describe customers' satisfaction and repurchase intentions in the field of marketing (Diehl & Poynor, 2018). EDT justifies the process through which consumers establish their level of satisfaction based on their expectations. The design implies that there are forms of expectations about the foreseen performance when consumers acquire these goods and services; thus, the expectation level becomes a standard in contrast to the product being assessed. The outcomes are compared against expectations when these products and services have been received and utilized (Mattila & O'Neill, 2003). If the result provides something equal to that of the expectation, then confirmation materializes. However, given a disparity between these expectations and outcomes, disconfirmation happens. Hence, a positive confirmation will result in satisfaction, while negative disconfirmation will cause dissatisfaction (Schwarz & Zhu, 2015).

The stakeholders' level of satisfaction can be viewed as the outcome of their experiences when they first entered the university and compared with their actual encounters. At the same time, they were associated with the university in terms of the quality of education that they have received, the amount of fees that they have paid, the people and the procedures that they have come across, the convenience of the university's location, the advertisements that the institution had provided, and the facilities that they have used. All of these occurrences may confirm or not their anticipations that will lead to either satisfaction or dissatisfaction.

METHODOLOGY

This study applied the quantitative research design using the descriptive and comparative approach. The design was used to supply information about the degree of satisfaction of individuals regarding the product, price, place, promotion, people, process, and physical evidence of a graduate school. Specifically, the descriptive-comparative research approach was used to assess the level of satisfaction of the graduate school's stakeholders when they are grouped according to the designation, academic program, average monthly income, and employer.

The respondents of this study were 270 graduate school students, faculty members, and alumni of a university in a highly urbanized city in the Visayas. They were based on the official enrollment and teaching loads, respectively, for the Academic Year 2019-2020 and were determined using the simple random sampling method. The alumni were taken from the last three years (2017-2019) based on the university's registrar office list. They were identified using the simple random sampling method. Their involvement as students, professors, and alumni in the graduate school was considered an essential variable in determining the level of satisfaction of the stakeholders in terms of the 7 Ps of the marketing mix.

A researcher-made questionnaire was constructed based on the study of Malabanan and Legaspi (2017) and the Customer Satisfaction Survey Questionnaire (for Students) of a university in Bacolod City. It is composed of two parts. Part 1 is for the demographic profile of the respondents, while Part 2 is the questionnaire proper, consisting of 41-item Likert type benchmarks for assessing the level of satisfaction of a graduate school's stakeholders in terms of the 7 Ps of marketing. The questionnaire was subjected to content validity and obtained an average score of 4.8 and was interpreted excellent using the criteria evaluation by Goods and Scates. It was validated by five (5) jury members who are experts in marketing. The questionnaire went through a pilot test to thirty (30) randomly selected graduate school faculty, student, and alumni who did not participate in the actual survey to check the internal consistency of the questionnaire. Using Cronbach's alpha, the reliability statistics resulted in 0.970, which means the questionnaire was reliable.

Descriptive and comparative data analyses were used to analyze and interpret the data on the level of satisfaction of a graduate school's stakeholders in terms of the 7 Ps of marketing and how the demographics of the assessors are associated with their level of satisfaction. Percentage, mean, and standard deviation were used for the descriptive analysis. Meanwhile, the Mann-Whitney U-test was utilized to determine the significant differences in the level of satisfaction when the stakeholders are grouped according to their designation, academic programs, average monthly income, and employer.

RESULTS AND DISCUSSION

Stakeholders' level of satisfaction

Tables 1A and 1B shows that the overall assessment of the level of satisfaction as evaluated by the graduate school's stakeholders is highly satisfactory (M=3.34, SD=0.46) in terms of the 7 Ps of the marketing mix. The results indicate that the stakeholders are highly satisfied with the graduate school's product, price, place, promotion, people, process, and physical evidence.

Product ranked first (M=3.59, SD=0.43). This signifies that stakeholders are highly satisfied with the graduate school's curriculum considering it relevant and responsive to the needs and designed for the students to achieve professional growth. The stakeholders are highly satisfied with the choice of areas of specialization, which is substantial to cater to the students' demands in their respective degrees, the total number of credit units for the academic degree, which is considerable, and the duration of the program, which is achievable. The respondents also consider the courses offered to be intended to develop the students' competence, character, and faith in God.

Second to product, the stakeholders are also highly satisfied with the place (M=3.52, SD=0.48). This indicates that the university's site is accessible and convenient to almost all public utility vehicles in the city. The respondents are highly satisfied that there are sufficient security and safety measures inside and outside the campus.

Ranking third among the 7 Ps of the marketing mix is people (M=3.44, SD=0.46). The participants are highly satisfied with the faculty members of the graduate school and the staff of the various offices in the university. They consider the graduate school faculty members competent in their field of specialization, manifesting the core values of love, Marian devotion, moral integrity, service, passion

for excellence, community life, justice, and peace; qualified for academic monitoring; and competent as research advisers. On the other hand, they find the staff of the Graduate School office, Accounting office, Registrar's office, Library, Clinic, Director of Student Affairs office, and Research and Development office competent, approachable, and accommodating.

Table 1A. Level of Stakeholder Satisfaction of the University Graduate School

Variable	Satisfaction			Product			Price			Place		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Designation												
Internal	3.42	0.41	HS	3.62	0.44	HS	3.19	0.61	Sa	3.61	0.42	HS
External	3.11	0.50	Sa	3.48	0.40	HS	2.88	0.64	Sa	3.30	0.55	HS
Academic Program												
Master's	3.30	0.47	HS	3.56	0.45	HS	3.06	0.64	Sa	3.49	0.48	HS
Doctoral	3.50	0.34	HS	3.72	0.33	HS	3.29	0.54	HS	3.65	0.45	HS
Family's Average Monthly Income												
Lower	3.30	0.47	HS	3.55	0.45	HS	3.07	0.63	Sa	3.49	0.49	HS
Higher	3.42	0.41	HS	3.67	0.39	HS	3.18	0.63	Sa	3.60	0.46	HS
Employer												
Private	3.26	0.48	HS	3.53	0.46	HS	3.06	0.65	Sa	3.50	0.50	HS
Government	3.48	0.37	HS	3.69	0.37	HS	3.21	0.59	Sa	3.57	0.44	HS
As a Whole	3.34	0.46	HS	3.59	0.43	HS	3.11	0.63	Sa	3.52	0.48	HS

Table 1B. Level of Stakeholder Satisfaction of the University Graduate School

Variable	Promotion			People			Process			Physical Evidence		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Designation												
Internal	3.35	0.60	HS	3.50	0.45	HS	3.34	0.50	HS	3.22	0.63	Sa
External	2.79	0.87	Sa	3.27	0.44	HS	2.94	0.66	Sa	2.85	0.77	Sa
Academic Program												
Master's	3.15	0.74	Sa	3.40	0.47	HS	3.19	0.59	Sa	3.09	0.71	Sa
Doctoral	3.40	0.62	HS	3.59	0.37	HS	3.42	0.45	HS	3.26	0.59	HS
Family's Average Monthly Income												
Lower	3.17	0.75	Sa	3.39	0.46	HS	3.19	0.59	Sa	3.10	0.71	Sa
Higher	3.25	0.66	HS	3.53	0.44	HS	3.34	0.52	HS	3.18	0.64	Sa
Employer												
Private	3.10	0.76	Sa	3.38	0.47	HS	3.14	0.60	Sa	3.03	0.73	Sa
Government	3.39	0.62	HS	3.55	0.41	HS	3.42	0.48	HS	3.31	0.59	HS
As a Whole	3.20	0.72	Sa	3.44	0.46	HS	3.24	0.58	Sa	3.12	0.69	Sa

Price ranked the least (M=3.11, SD=0.63). The stakeholders are only satisfied with the tuition and miscellaneous fees charged by the university. For the respondents, these fees are not quite affordable and reasonable; the payment schedule for these fees is not equitable.

The results relate to the study of Gaelic (2012) that graduate students, along with their career choice, will decide that the program or curriculum is their priority; thus, creating a program that takes into consideration students' needs will lead to students' and companies' satisfaction (Enache, 2011).
On the other hand, respondents are also highly satisfied with the place's accessibility; a study showed that stakeholders tend to worry about the distance in choosing an institute (Gajic, 2012). The majority responded that the university is the right place for them, situated at the center of business locality. Finally, stakeholders are highly satisfied with the people; these include all the university staff that interact. This is supported by the study of Mahajan and Golahit (2017) that services provided by the people on the academic and administrative support make a huge difference in customer satisfaction.

Consequently, as depicted in Table 1, stakeholders are only satisfied with the price, promotion, process, and physical evidence. In general, the pricing strategy of colleges and universities should be lower and cheaper than what other competitors are offering as it is critical in the day-to-day operations (Ivy, 2008), although price sometimes is proportionate to the high quality of the product.

As a result, the major goal of all higher institutions is geared towards the satisfaction of its stakeholders (Temizer & Turkyilmaz, 2012), and this knowledge can be used to develop strategies (Hanssen & Solvoll, 2015), leading to a stronger competitive position (Memon & Salleh, 2014).

Difference in the level of satisfaction

Mann Whitney U test was used to determine the significant difference in the level of satisfaction of the stakeholders of a graduate school in terms of product, price, place, promotion, people, process, and physical evidence as assessed by stakeholders when they are grouped according to the designation, academic program, monthly income, and employer.

There is significant difference in the level of satisfaction [U=4557.00, p=0.000] of the stakeholders in terms of product [U=5457.00, p=0.000], price [U=5316.00, p=0.000], place [U=4837.50, p=0.000], promotion [U=4446.00, p=0.000], people [U=5147.50, p=0.000], process [U=4580.00, p=0.000], and physical evidence [U=5447.00, p=0.000] when they are grouped according to designation.

The internal stakeholders are more satisfied with the 7 Ps of the marketing mix than the external stakeholders. Academic services, administrative services, and the institution's employees' appearance showed a strong association with students' satisfaction and retention in the private educational institution. This revealed that the students were more satisfied with the services provided by the institution rather than by its building and classroom design (Azam, 2018).

There is significant difference in the level of satisfaction [U=4392.00, p=0.008] of the stakeholders in terms of product [U=4543.50, p=0.000], price [U=4716.50, p=0.037], place [U=4790.00, p=0.049], promotion [U=4643.00, p=0.027], people [U=4403.50, p=0.008], and process [U=4493.50, p=0.013] when they are grouped according to academic program. There is no significant difference in the level of satisfaction of the stakeholders in terms of physical evidence [U=5041.50, p=0.162] when they are grouped according to academic program.

Stakeholders in the doctoral degree program are more satisfied in terms of the product, price, place, promotion, people, and process than those in the master's degree program. Most of the students currently enrolled in the doctoral degree program had completed their master's degree in the same graduate school. Satisfied students remain loyal to the institution; thus, they give back in tangible and intangible forms. They recommend their alma mater and propagate the institution's image by word of mouth and return to study for other degrees (Panda, Pandey, Bennett, & Tian, 2019).

Table 2. Difference in the Level of Satisfaction of the Stakeholders
of a Graduate School when they are grouped according to Designation

Variable	Designation		U	p
	Internal	External		
Satisfaction	3.42 (0.41)	3.11 (0.50)	4557.00*	0.000
Product	3.62 (0.44)	3.48 (0.40)	5457.00*	0.003
Price	3.19 (0.61)	2.88 (0.64)	5316.00*	0.001
Place	3.61 (0.42)	3.30 (0.55)	4837.50*	0.000
Promotion	3.35 (0.60)	2.79 (0.87)	4446.00*	0.000
People	3.50 (0.45)	3.27 (0.44)	5147.50*	0.000
Process	3.34 (0.50)	2.94 (0.66)	4580.00*	0.000

| | | 3.22 | 2.85 | 5103.00* | 0.000 |
| Physical Evidence | | (0.63) | (0.77) | | |

There is significant difference in the level of satisfaction [U=4392.00, p=0.008] of the stakeholders in terms of product [U=4543.50, p=0.000], price [U=4716.50, p=0.037], place [U=4790.00, p=0.049], promotion [U=4643.00, p=0.027], people [U=4403.50, p=0.008], and process [U=4493.50, p=0.013 when they are grouped according to academic program. There is no significant difference in the level of satisfaction of the stakeholders in terms of physical evidence [U=5041.50, p=0.162] when they are grouped according to academic program.

Stakeholders who are in the doctoral degree program are more satisfied in terms of the product, price, place, promotion, people, and process than those in the master's degree program. Most of the students currently enrolled in the doctoral degree program had completed their master's degree in the same graduate school. Satisfied students remain loyal to the institution; thus, they gave back in tangible and intangible forms. They recommend their alma mater and propagate the institution's image by word of mouth and return to study for other degrees (Panda, Pandey, Bennett, & Tian, 2019).

Table 3. Difference in the Level of Satisfaction of the Stakeholders of a
Graduate School when they are grouped according to Academic Program

| Variable | Academic Program | | U | p |
	Master's	Doctoral		
Satisfaction	3.30	3.50	4392.00*	0.008
	(0.47)	(0.34)		
Product	3.56	3.72	4543.50*	0.016
	(0.45)	(0.33)		
Price	3.06	3.29	4716.50*	0.037
	(0.64)	(0.54)		
Place	3.49	3.65	4790.00*	0.049
	(0.48)	(0.45)		
Promotion	3.15	3.40	4643.00*	0.027
	(0.74)	(0.62)		
People	3.40	3.59	4403.50*	0.008
	(0.47)	(0.37)		
Process	3.19	3.42	4493.50*	0.013
	(0.59)	(0.45)		
Physical Evidence	3.09	3.26	5041.50	0.162
	(0.71)	(0.59)		

There is a significant difference in the level of satisfaction [U=6825.00, p=0.049] of the stakeholders in terms of product [U=6678.00, p=0.024] and people [U=6604.50, p=0.019] when they are grouped according to the family's average income. However, there is no significant difference in the level of satisfaction of the stakeholders in terms of price [U=733.50, p=0.248], place [U=6910.50, p=0.057], promotion [U=7720.00, p=0.626], and process [U=4493.50, p=0.013, and physical evidence [U=5041.50, p=0.162] when they are grouped according to family's average income.

Table 4. Difference in the Level of Satisfaction of the Stakeholders of a Graduate School when they are grouped according to Family's Average Monthly Income

Variable	Family's Average Monthly Income		U	p
	Lower	Higher		
Satisfaction	3.30 (0.47)	3.42 (0.41)	6825.00*	0.049
Product	3.55 (0.45)	3.67 (0.39)	6678.00*	0.024
Price	3.07 (0.63)	3.18 (0.63)	7333.50	0.248
Place	3.49 (0.49)	3.60 (0.46)	6910.50	0.057
Promotion	3.17 (0.75)	3.25 (0.66)	7720.00	0.626
People	3.39 (0.46)	3.53 (0.44)	6604.50*	0.019
Process	3.19 (0.59)	3.34 (0.52)	6873.00	0.059
Physical Evidence	3.10 (0.71)	3.18 (0.64)	7662.00	0.563

Note: *the difference is significant at p≤0.05

There is a significant difference in the level of satisfaction [U=6207.50, p=0.001] of the stakeholders in terms of product [U=6461.00, p=0.002], promotion [U=6527.50, p=0.003], people [U=6567.50, p=0.004], process [U=6050.00, p=0.000], and physical evidence [U=6446.00, p=0.002] when they are grouped according to employer. On the other hand, there is no significant difference in the level of satisfaction of the stakeholders in terms of price [U=7209.00, p=0.063] and place [U=7637.00, p=0.251] when they are grouped according to employer.

Employees in the public sector were more satisfied, and their sense of well-being and level of happiness were greater than those of the employees in the private sector (Singha & Raychoudhury, 2016).

Table 5. Difference in the Level of Satisfaction of the Stakeholders of a Graduate School when grouped according to Employer

Variable	Employer		U	p
	Private	Government		
Satisfaction	3.26 (0.48)	3.48 (0.37)	6207.50	0.001
Product	3.53 (0.46)	3.69 (0.37)	6461.00	0.002
Price	3.06 (0.65)	3.21 (0.59)	7209.00	0.063
Place	3.50 (0.50)	3.57 (0.44)	7637.00	0.251
Promotion	3.10 (0.76)	3.39 (0.62)	6527.50	0.003
People	3.38 (0.47)	3.55 (0.41)	6567.50	0.004
Process	3.14 (0.60)	3.42 (0.48)	6050.00	0.000

Physical Evidence	3.03 (0.73)	3.31 (0.59)	6446.00	0.002

<center>Note: *the difference is significant at p≤0.05</center>

Table 6 shows the reasons why students enroll in the graduate school. The quality of the graduate school education ranked first with 77.4% (n=270), teachers' competence ranked second with 54.4% (n=270), and Catholic values ranked third with 53.3% (n=270). This is an indication that the graduate school truly upholds the university's vision that is "committed to the integral formation of the human person with the passion for excellence and service to Church and Society" and its mission that "educates the mind and heart by providing the climate, the structure, and the means to develop the vocation, knowledge, skills, talents, and attitude of the community as permeated by the Gospel values for the service of humanity, love, and praise to the One God."

Table 6. Reasons why Students enroll in the Graduate School

Reasons	f	%	Rank
Quality of graduate school education	209	77.4	1
Teachers' competence	147	54.4	2
Catholic values	144	53.3	3
Research training	116	43.0	4
Facilities of the university	97	35.9	5
Friend's recommendation	83	30.7	6
Affordability of tuition and other fees	78	28.9	7
Other reasons	21	7.8	

Postgraduate students were highly satisfied with their university choice and the quality of its services, both academic and social activities. This proposes the need for more attention by the university administrators on the academic and non-academic services to its students (Sabatayeva, Saduov, Madiyarova, Jempeissova, Selezneva, Shtiller, & Fursova, 2017).

The overall result of the study signifies that the stakeholders are highly satisfied in terms of the 7 Ps of the marketing mix of the graduate school. This confirmed the theory that the expectation level of stakeholders becomes a standard in contrast with which the product and services were assessed. Hence, the outcomes are compared against expectations when these products and services have been received and used (Mattila & O'Neill, 2003). If the result provides something equal or greater than that of the expectation, then confirmation materializes and leads to satisfaction.

Furthermore, stakeholders who were satisfied with their experience in the institution proved to be loyal to the institution by their willingness to recommend and continue studying in the school. Thus, the university is to exert more effort by improving its facilities, send faculty members to trainings and conferences, and participate in the programs of various academic organization (Santos, 2015).

CONCLUSION

The level of satisfaction of the stakeholders of a graduate school in Bacolod City in terms of the 7 Ps of the marketing mix is highly satisfactory. The findings show that the graduate school in the university offers good quality education, has qualified and competent faculty members and office staff, has an accessible location, and effective university policies and procedures.

The significant difference in the level of stakeholders' satisfaction is influenced by their experiences of the graduate school's product, price, place, promotion, people, processes, and physical evidence. In delivering its services as expected by the stakeholders, it was confirmed that the graduate school provided quality education, which resulted in a high level of satisfaction to its stakeholders.

REFERENCES

Al-Sheeb, B., Hamouda, A. M., & Abdella, G. M. (2018). Investigating Determinants of Student Satisfaction in the First Year of College in a Public University in the State of Qatar. *Education Research International*, *2018*.

Ali, F., Zhou, Y., Hussain, K., Nair, P.K., & Ragavan, N.A. (2016). Does Higher Education Service Quality Affect Student Satisfaction, Image, and Loyalty? *Quality Assurance in Education*, *Vol. 24, No. 1*, pp. 70-94.

Aldridge, S., & Rowley, J. (1998). Measuring customer satisfaction in higher education. *Quality Assurance in Education*, *6*(4, pp. 197-204.

Alves, H., & Raposo, M. (2010). The influence of university image on student behaviour. *International Journal of Educational Management*, *24*(1), pp. 73-85.

Appleton-Knapp, S. L., & Krentler, K. A. (2006). Measuring student expectations and their effects on satisfaction: The importance of managing student expectations. *Journal of Marketing Education*, *28*(3), pp. 254-264.

Apuke, O. D. (2017). Quantitative Research Methods: A Synopsis Approach. *Kuwait Chapter of Arabian Journal of Business and Management Review*, *6*(11).

Arambewela, R., & Hall, J. (2013). The interactional effects of the internal and external university environment, and the influence of personal values, on satisfaction among international postgraduate students. *Studies in Higher Education*, *38*(7), pp. 972-988. https://doi.org/10.1080/03075079.2011.615916

Arambewela, R., & Hall, J. (2009). An empirical model of international student satisfaction. *Asia Pacific Journal of Marketing and Logistics*, *21*(4), pp. 555-569.

Arambewela, R., & Hall, J. (2008). A Model of Student Satisfaction: International Postgraduate Students from Asia. *European Advancces in Consumer Research*, *8, pp. 129-135*.

Athanassopoulos, A., Gounaris, S., & Stathakopoulos, V. (2001). Behavioural responses to customer satisfaction: an empirical study. *European Journal of Marketing*, *35*(5/6), pp. 687-707.

Azam, A. (2018). Service Quality Dimensions and Students' Satisfaction: A study of Saudi Arabian Private Higher Education Institutions. *European Online Journal of Natural and Social Sciences*, *7*(2), 275–284.

Bashir, R., Hassan A., Pasha, M. A., & Ahmed, S. (2013). Analysis of Internal and External Factors affecting Choice of Business Schools by Students. Institute of Business and Technology. *Journal of Management and Social Sciences, Volume 9, No. 2,* pp. 31-41.

Billups, F. D. (2008). Measuring College Student Satisfaction: A Multi- Year Study of the Factors Leading to Persistence. *Higher Education*.

Bonnema, J., & Van Der Waldt, D. L. R. (2008). Information and source preferences of a student market in higher education. *International Journal of Educational Management*, *22*(4), pp. 314-327.

Booms, B. & Bitner, M. J. (1981). Marketing Strategies and Organizational Structures for Service Firms. *Marketing of Services, James H. Donnelly and William R. George, eds. Chicago: American Marketing Association, 47-51*.

Boyd, Danah. (2017). Why Youth Heart Social Network Sites: The Role of Networked Publics in Teenage Social Life. *Berkman Center Research Publication*, *2007–16*.

Briggs, L. (2013). Factors Prospective Students Consider when Selecting an MBA Program. *Master's Thesis, University of South Florida*.

Bryant, J. & Bodfish, S. (2014). The Relationship of Student Satisfaction to Key Indicators for Colleges and Universities. *Noel-Levitz, Inc. 2014 National Research Report.* Retrieved from: https://eric.ed.gov/?id=ED570978

Butt, B. Z., & Rehman, K. U. (2010). A study examining the students satisfaction in higher education. *Procedia - Social and Behavioral Sciences*, *2*(2) pp. 5446-5450.

Çelik, A. K., Oktay, E., Özen, Ü., Karaaslan, A., & Yarbasi, I. Y. (2018). Assessing postgraduate students' satisfaction with quality of services at a Turkish university using alternate ordered response models. *Periodica Polytechnica Social and Management Sciences*, *26*(1), pp.87-101.

Cerreia-Vioglio, S., Maccheroni, F., Marinacci, M., & Montrucchio, L. (2011). Uncertainty averse preferences. *Journal of Economic Theory*, *146*(4), pp. 1275-1330.

Chaghari, M., Saffari, M., Ebadi, A., & Ameryoun, A. (2017). Empowering Education: A New Model for In-service Training of Nursing Staff. *Journal of Advances in Medical Education & Professionalism*, *5*(1), pp. 26-32.

Chevalier, A. (2014). Does higher education quality matter in the UK? *Research in Labor Economics*, *40*.

Chopra, R., Chawla, M., & Sharma, T. (2014). Service Quality in Higher Education : A Comparative Study of Management and Education Institutions. *NMIMS Management Review*, *24*(May 2014), pp. 59-72.

CIM:Uk. (2015). 7 Ps: A brief summary of marketing and how it works. *The Chartered Institute Of Marketing*.

Cohen-Vogel, L., Feng, L., & Osborne-Lampkin, L. (2013). Seniority Provisions in Collective Bargaining Agreements and the "Teacher Quality Gap." *Educational Evaluation and Policy Analysis*, *35*(3), pp. 324-343.

Dawes, J. (2006). Interpretation of brand penetration figures that are reported by sub-groups. *Journal of Targeting, Measurement and Analysis for Marketing*, *14*(2), pp. 173-183.

de Jager, J., & Gbadamosi, G. (2013). Predicting students' satisfaction through service quality in higher education. *International Journal of Management Education*, *11*(3), pp. 107-118.

DeShields, O. W., Kara, A., & Kaynak, E. (2005). Determinants of business student satisfaction and retention in higher education: Applying Herzberg's two-factor theory. *International Journal of Educational Management*, *19*(2), pp. 128-139.

Diehl, K., & Poynor, C. (2010). Great expectations?! Assortment size, expectations, and satisfaction. *Journal of Marketing Research*, *47*(2).

Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. *Quality Assurance in Education*, *14*(3), pp. 251-267.

Ekinci, Y., & Sirakaya, E. (2009). An examination of the antecedents and consequences of customer satisfaction. In *Consumer psychology of tourism, hospitality and leisure, pp.190*.

Elliott, K. M., & Shin, D. (2002). Student Satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, *24*(2), pp. 97-109.

Enache, I.-C. (2011). Marketing Higher Education Using the 7 Ps Framework. *Bulletin of the Transylvania University of Brasov. Series V: Economic Sciences*, *4*(1), pp. 23-30.

Encio, H. A., Fernan, R., Refozar, G., & Laguador, J. M. (2018). Impact of Master in Business Administration Program to its Graduates' Job Performance. In *Asia Pacific Journal of Academic Research in Social Sciences* (Vol. 3), pp. 51-60.

Erichsen, E. A., Bolliger, D. U., & Halupa, C. (2014). Student satisfaction with graduate supervision in doctoral programs primarily delivered in distance education settings. *Studies in Higher Education*, *39*(2), pp. 321-338.

Ertem, H. Y., & Gokalp, G. (2019). Role of Personal and Organizational Factors on Student Attrition From Graduate Education: A Mixed-Model Research. *Journal of College Student Retention: Research, Theory and Practice*.

Farahmandian, S., Minavand, H., & Afshardost, M. (2013). Perceived Service Quality and Student Satisfaction in Higher Education. *Journal of Business Management*, *Volume 12, Issue 4,* pp. 65-74.

Gajic, J. (2012). Importance of marketing mix in higher education institutions. *Singidunum Journal of Applied Sciences*, *9*(1), pp. 29-41.

Gordon, N. (2016). Increasing Targeting, Flexibility, and Transparency in Title I of the ESEA. *The Hamilton Project*.

Gordon, N. & Reber, S. (2015). The Quest for a Targeted and Effective Title I ESEA: Challenges in Designing and Implementing Fiscal Compliance Rules. *The Russell Sage Foundation Journal of the Social Sciences, 1,* pp. 129-147.

Grimmelikhuijsen, S., & Porumbescu, G. A. (2017). Reconsidering the expectancy disconfirmation model. Three experimental replications. *Public Management Review*, *19*(9), pp. 1272-1292.

Guo, J., Parker, P. D., Marsh, H. W., & Morin, A. J. S. (2015). Achievement, motivation, and educational choices: A longitudinal study of expectancy and value using a multiplicative perspective. *Developmental Psychology*, *51*(8), pp. 1163-1176.

Haines, G. H., Howard, J. A., & Sheth, J. N. (1970). The Theory of Buyer Behavior. *Journal of the American Statistical Association*, *65*(331).

Hanssen, T. E. S., & Solvoll, G. (2015). The importance of university facilities for student satisfaction at a Norwegian University. *Facilities*, *33*(13–14), pp. 744-759.

Hatcher, L., Kryter, K., Prus, J. S., & Fitzgerald, V. (1992). Predicting College Student Satisfaction, Commitment, and Attrition from Investment Model Constructs. *Journal of Applied Social Psychology*, *22*(16), pp. 1273-1296.

Helgesen, Ø. (2008). Marketing for higher education: A relationship marketing approach. *Journal of Marketing for Higher Education*, *18*(1), pp. 50-78.

Helgesen, Ø., & Nesset, E. (2007). What accounts for students' loyalty? Some field study evidence. In *International Journal of Educational Management* (Vol. 21, Issue 2), pp. 126-143.

Higher Education in Asia - Expanding Out, Expanding Up: The rise of graduate education and university research. (2014). In *Higher Education in Asia - Expanding Out, Expanding Up: The rise of graduate education and university research*.

Humburg, M., van der Veleden, R., & Verhagen, A. (2013). The Employability of Higher Education Graduates: The Employers' Perspective. *Publications Office of the European Union.*

Ibrahim, M. Z., Rahman, M. N. A., & Yasin, R. M. (2014). Determining factors of students' satisfaction with Malaysian skills training institutes. *International Education Studies*, *7*(6), pp. 9-24.

Ijaz, A., Irfan, S., Shahbaz, S., Awan, M., & Sabir, M. (2011). An empirical model of student satisfaction: Case of Pakistani public sector business schools. *Journal of Quality and Technology Management*, *7*(2) pp. 91-114.

Islam, M. A., Jalali, A. R., & Ku Ariffin, K. H. (2011). SERVICE SATISFACTION: THE CASE OF A HIGHER LEARNING INSTITUTION IN MALAYSIA. *International Education Studies*, *4*(1), pp. 182-192.

Išoraitė, M. (2016). MARKETING MIX THEORETICAL ASPECTS. *International Journal of Research -GRANTHAALAYAH*, *4*(6), pp. 25-37.

Ivanka, A. H., Suzana, M., & Sanja Raspor (2009). *Consumer Satisfaction Measurement in Hotel Industry: Content Analysis Study*. p.3.

Ivy, J. (2008). A new higher education marketing mix: The 7Ps for MBA marketing. *International Journal of Educational Management*, *22*(4), pp. 288-299.

James, R. (2002). Students' changing expectations of higher education and the consequences of mismatches with reality. *Responding to Student Expectations*, *September*.

Jurkowitsch, S., Vignali, C., & Kaufmann, H.-R. (2006). A student satisfaction model for Austrian higher education providers considering aspects of marketing communications. *Innovative Marketing*, *2*(3), pp. 9-21.

Kaplan, R. S., & Norton, D. P. (2001). Transforming the Balanced Scorecard from Performance Measurement to Strategic Management: Part I. *Accounting Horizons*, *15*(1), pp. 87-104.

Kärnä, S., & Julin, P. (2015). A framework for measuring student and staff satisfaction with university campus facilities. *Quality Assurance in Education*, *23*(1), pp. 47-61.

Khoso, A. A., Kazi, Abdul, S., Ahmedani, M. M., Muner, A., & Daudpota, M. U. (2016) Analysis of Internal and External Factors affecting the Selection Process of University (Public-Private). *International Multidisciplinary Research and Development, Volume 3, Issue 7,* July 2016, pp. 218-225.

Khosravi, A. A., Poushaneh, K., Roozegar, A., & Sohrabifard, N. (2013). Determination of Factors Affecting Student Satisfaction of Islamic Azad University. *Procedia - Social and Behavioral Sciences*, *84*.

Khosravi, A. & Hussin, A. (2013) (2016). Customer Knowledge Management: Development Stages and Challenges and Using Knowledge Management to improve Customer Relationship Management: A Systematic Literature Review. *Journal of Theoretical & Applied Information Technology. Journal of Soft Computing and Decision Support Systems 3(1),* pp. 36-43.

Kotler, P., & Armstrong, G. (2018). Principles of Marketing 17th Global Edition. In *Pearson Education Limited*.

Kotler, Ph. & Fox, K. (1995). Strategic Marketing for Educational Institutions. *New Jersey,* pp. 41-44. Prentice-Hall.

Kuo, Y.-C. (2010). Interaction, internet self-efficacy, and self-regulated learning as predictors of student satisfaction in distance education courses. *UMI Dissertation Publishing*.

Laurer, L. D. (2006). Advancing Higher Education in Uncertain Times. Retrieved from http://www2.university [Downloaded: 2006- 12-6].

Lin, L. (1999). "Consumer Product Classification, Innovation Type and New Product Marketing Strategy." *National Cheng-Chi University Department of Business Administration of PhD Thesis.*

Lovelock, C., Wirtz, J., & Chew, P. (2011). 2nd Edition. *Essentials of Services Marketing.* Singapore: Prentice-Hall. Google Scholar.

Macha, Wilson; Mackie, Christopher and Maganizer, Jessica – WENR (2018). Education System Profiles, Education in the Philippines. Wenr.wes.org/2018/03/education-in-the-philippines

Mahajan, Pranay & Golahit, S. B. (2017). *Incorporating 11 Ps of Service Marketing Mix and its Impact on the Development of Technical Education, Volume 20, Issue 2,* pp. 6-10.

Malabanan, D. S. & Legaspi, O. M. (2017). The Student Services in De La Salle University – Dasmarinas as Perceived by Its Students. *Proceedings of the 17th Annual Conference of the South East Asian Association for Institutional Research (pp. 429-436). PSB Academy, Singapore.*

Mattila, A. S., & O'Neill, J. W. (2003). Relationships between Hotel Room Pricing, Occupancy, and Guest Satisfaction: A Longitudinal Case of a Midscale Hotel in the United States. *Journal of Hospitality and Tourism Research*, *27*(3), pp. 328-341.

McCarthy, E. J. & Perreault, W. D. (2005). Essentials of Marketing Learning Aid – 10th Edition. Richard D. Irwin, Inc.

Memon, M. A., Salleh, R., Rosli Baharom, M. N., & Harun, H. (2014). Factors influencing the satisfaction of international postgraduate students in the Malaysian context-A literature review and a proposed model. *International Education Studies*, *7*(11), pp. 76-82.

Meñez, N. (2014). Tracer Study of the Masters in Business Administration (MBA) Graduates from 2008-2012. *Asia Pacific Journal of Education, Arts And*, *1*(1), pp. 14-18.

Morgeson, F. V., & Petrescu, C. (2011). Do they all perform alike? an examination of perceived performance, citizen satisfaction and trust with US federal agencies. *International Review of Administrative Sciences*, *77*(3), pp. 451-479.

Negricea, C. I., Edu, T., & Avram, E. M. (2014). Establishing Influence of Specific Academic Quality on Student Satisfaction. *Procedia - Social and Behavioral Sciences*, *116, pp. 4430-4435*.

Newman, M. D., & Petrosko, J. M. (2011). Predictors of Alumni Association Membership. *Research in Higher Education*, *52*(7), pp. 738-759. Ng, P. T. (2015). What is quality education? How can it be achieved? The perspectives of school middle leaders in Singapore. *Educational Assessment, Evaluation and Accountability*, *27*(4). https://doi.org/10.1007/s11092-015-9223-8

Nicholls, J., Harris, J., Morgan, E., Clarke, K., & Sims, D. (1995). Marketing higher education: The MBA experience. *International Journal of Educational Management*, *9*(2), pp. 8-31.

Ofreneo, M. A. (2014). A Profile of Graduate Education Programs in the Philippines. *Philippine Institute for Development Studies*. ISSN 1656-5266. No. 2014-06.

Olander, F. (1979) Consumer Satisfaction: A Sceptic's view. *Aarhus Denmark*.

Oliver, R. L. (1997). Satisfaction: A Behavioral Perspective on the Consumer. In *McGraw-Hill series*.

Oliver, R. (1980). Theoretical Bases of Consumer Satisfaction Research: Review, Critique, and Future Directions. In C. Lamb & P. Dunne (Eds), *Theoretical Developments in Marketing, pp.206-210*. Chicago: American Marketing Association.

Panda, S., Pandey, S. C., Bennett, A., & Tian, X. (2019). University brand image as competitive advantage: a two-country study. *International Journal of Educational Management*, *33*(2), 234–251.

Pathmini, M., Wijewardena, W., Gamage, C., & Gamini, L. (2014). Impact of Service Quality on Students' Satisfaction in Newly Estab lished Public Sector Universities in Sri Lanka: Study Based on The Faculty of Management Studies. *Journal of Management Matters*, *1*(1), pp. 51-64.

Petrick, J. F. (2004). The roles of quality, value and satisfaction in predicting cruise passengers' behavioral intentions. *Journal of Travel Research*, *42*(4), pp. 397-407.

Poister, T. H., & Thomas, J. C. (2011). The effect of expectations and expectancy confirmation/disconfirmation on motorists' satisfaction with state highways. *Journal of Public Administration Research and Theory*, *21*(4), pp. 601-617.

Professional Academy. (2018). *Marketing Theories – The Marketing Mix – From 4 Ps to 7 Ps*. Professional Academy.

Ramachandran, N. T. (2010). Marketing framework in higher education: Addressing aspirations of students beyond conventional tenets of selling products. *International Journal of Educational Management*, *24*(6), pp. 544-556.

Ravindran, S. D., & Kalpana, M. (2012). Student's Expectation, Perception and Satisfaction towards the Management Educational Institutions. *Procedia Economics and Finance*, *2, pp. 401-410*.

Roch, C. H., & Poister, T. H. (2006). Citizens, accountability, and service satisfaction: The influence of expectations. *Urban Affairs Review*, *41*(3), pp. 292-308.

Rudd, D. (2008). Expanding Marketing Principles For The Sale Of Higher Education. *Contemporary Issues In Education Research – Third Quarter*, *1*(3).

Sabatayeva, B., Saduov, A., Madiyarova, E., Jempeissova, G., Selezneva, I., Shtiller, M., & Fursova, T. (2018). International students' satisfaction with university services: The case of postgraduate students from central Asia. *Espacios*, *39*(9), 4.

Santos, L. (2015). Perceived Image of De la Salle Lipa, Satisfaction and Loyalty of Students. *South East Asian Association for Institutional Research 2015, pp. 288-299*.

Sarrico, C. S., & Alves, A. A. (2016). Academic staff quality in higher education: an empirical analysis of Portuguese public administration education. *Higher Education*, *71*(2).

Schüller, D., Chlebovský, V., Doubravský, K., & Chalupský, V. (2014). The conceptual scheme for managing university stakeholders' satisfaction. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, *62*(4), pp. 1385-1393. https://doi.org/10.11118/actaun201462040719

Schwarz, C., & Zhu, Z. (2015). The impact of student expectations in using instructional tools on student engagement: A look through the expectation disconfirmation theory lens. *Journal of Information Systems Education*, *26*(1), 47-58.

Sharma, Y. (2014). Rise of postgraduate education fuels Asia's economies. *UNESCO University World News*.

Shirazi, M. (2017). Student satisfaction analysis and its factors (2014 to 2016). *Education*, *7*(4), pp. 71-81. Retrieved from http://journal.sapub.org/edu

Singh, A., & Singla, L. (2018). Stakeholders Satisfaction regarding Service Quality in Higher Management Education. *International Journal of Management Studies*, *V*(3(6)).

Singha, P. & Raychoudhury, S. (2016). A comparative study on job satisfaction and related psychosocial variables in public sector employees and private sector employees of India. *International Journal of Education and Management Studies, Hisu Vol. 6(1), (Mar. 2016): 99-101*.

Soedijati, E. K., & Pratminingsih, S. A. (2011). The impacts of marketing mix on students choice of university study case of private university in bandung, Indonesia. *2nd INTERNATIONAL CONFERENCE ON BUSINESS AND ECONOMIC RESEARCH (2nd ICBER 2011) PROCEEDING*.

Soetan, T. (2018). Trends in Higher Education Financing: Evidence of Dwindling Government Supports and a Case for the Aggressive Marketing of Higher Education Programs Using the 9 Ps of Marketing. *Journal of Marketing Management. Vol. 6, No. 2, pp. 34-43*.

Sojkin, B., Bartkowiak, P., & Skuza, A. (2012). Determinants of higher education choices and student satisfaction: The case of Poland. *Higher Education*, *63*(5), pp. 565-581

Spacey, J. (2018). What is Stakeholder Satisfaction? Simplicable. Retrieved from: https://simplicable.com/new/stakeholder-satisfaction

Starck, K., & Zadeh, S. (2013). Marketing within higher education institutions - A case study of two private Thai universities. *Higher Education*.

Sum, V., McCaskey, S. J., & Kyeyune, C. (2010). A survey research of satisfaction levels of graduate students enrolled in a nationally ranked top-10 program at a mid-western university. *Research in Higher Education Journal*, *7*.

Temizer, L., & Turkyilmaz, A. (2012). Implementation of Student Satisfaction Index Model in Higher Education Institutions. *Procedia - Social and Behavioral Sciences*, *46*, 3802–3806.

Ulewicz, R. (2017). The role of stakeholders in Quality Assurance in Higher Education. *28th Annual Conference on Distance Teaching & Learning*, *XI*(January).

Van Ryzin, G. G. (2013). An Experimental Test of the Expectancy-Disconfirmation Theory of Citizen Satisfaction. *Journal of Policy Analysis and Management*, *32*(3), 597–614.

Van Vliet, V. (2011). Service Marketing Mix (7 P's). Retrieved from ToolsHero:https://www.toolshero.com/marketing/service-marketing-mix-7ps/, Volume 28, Issue 4, 1 March 2002, pp. 515-532.

Weerasinghe, I. & Dedunu, H. (2017). University Staff, Image and Students' Satisfaction in Selected State Universities. *IOSR Journal of Business and Management*, *Vol. 19 No. 5,* pp. 34-37.

Weerasinghe, I. M. S., & Fernando, R. L. S. (2018). Critical factors affecting students' satisfaction with higher education in Sri Lanka. *Quality Assurance in Education*, *26*(1), 115–130.

Weerasinghe, I. M.S., Lalitha, S., & Fernando, R. (2017). Students' Satisfaction in Higher Education Literature Review. *American Journal of Educational Research*, *5*(5), 533–539.

Wiers-Jenssen, J., Stensaker, B., & Grøgaard, J. B. (2002). Student Satisfaction: Towards an empirical deconstruction of the concept. *International Journal of Phytoremediation*, *21*(1).

Wijesiri, B. M. (2016). Assessment of Factors Causing Student Satisfaction upon Service Delivery in the Newish Universities in Sri Lanka. *Wayamba Journal of Management*, *4*(2), 1–8.

Wilkins, S., & Balakrishnan, M. S. (2013). Assessing student satisfaction in transnational higher education. *International Journal of Educational Management*, *27*(2), 143–156.

Wilkins, S., & Huisman, J. (2011). International student destination choice: The influence of home campus experience on the decision to consider branch campuses. *Journal of Marketing for Higher Education*, *21*(1), 61–83.

Yi, Y. (1990). A Critical Review of Consumer Satisfaction. In *Review of Marketing* (pp. 68–123).

Yüksel, A., & Rimmington, M. (1998). Customer-satisfaction measurement: Performance counts. *Cornell Hotel and Restaurant Administration Quarterly*, *39*(6).

Multifaceted Diversity-Discrimination-Divide Disparities Dilemma and 20|20 Education

Teay Shawyun[1] and Somkiat Wattanasap[2]

[1]Suvarnnabhumi Vocation Institute of Technology
[2]MahaChulalongkorn University

ABSTRACT

Diversity is both a celebrated and controversial issue affecting human life and wellbeing notably in the education arena. It is a celebration when people and partisan parties recognize and respect the multifarious human diversity factors to assimilate them into an integrated society living, learning, and sharing in peace and prosperity. It is a controversy when these multifarious diversity chains and linkages are broken through discriminatory differences and divides leading to disharmonious disparities and potentially endangering sustenance and survival. HEIs or governing parties have strived to recognize and respect diversity in the education playgrounds through a set of myopic lens leading to a set of myopic policies that deal with a specific diversity variable as opposed to a multifaceted approach. This myopic approach has consistently been a "pretense" of actions that leaders and governing parties address diversity albeit on a specific diversity variable. To address this issue, this paper proposes to convene an academic discourse of (1) the contemporary Diversity and 20|20 Education; and (2) by re-looking at the diversity interplays with intermediating multifaceted diversity-discrimination-divide multifaceted variables of an often overlooked 4 human-systemic external personal-personifications, psycho-pretense, political-pretense, and power-posture dimensions and 20|20 Education. These interweaving and interlocking relationships across all these human-systemic based variables are discussed with 4 sets of the hypothesis that can lay the groundwork of future researches into the contemporary diversity factors that are complicated by the multifaceted relational variables effects. While there can be multifarious relationships across variables, coming up with a set of findings, implications and recommendations is still within the context of the realities of these operands within a set of unique societal constraints and accepted norms, of which this paper will not venture into due to the complexity of the human-systemic multifaceted factors.

Keywords: Contemporary Diversity and 20|20 Education Framework, human-systemic factors of personal-personifications, psycho-pretense, political-pretense, and power-posture dimensions

Self-Efficacy, Collective Teachers' Efficacy, Curricular Autonomy and Professional Commitment: A Path Analysis

Edcel E. Caratao[1], Noel S. Marañon[2], and Alberto A. Rico[3]

[1]Department of Education, Division of Cadiz and Doctor of Philosophy student in University of St. La Salle, Bacolod City, Philippines (edcel.caratao@gmail.com)
[2]Philippine Normal University Visayas, Cadiz City, Philippines (n.maranon26@gmail.com)
[3]Philippine Normal University Visayas, Cadiz City, Philippines (rico.aa@pnu.edu.ph)

ABSTRACT

This study determined teacher's self-efficacy, collective teachers' efficacy, curricular autonomy and professional commitment levels; examine the relationship of self-efficacy and collective teachers' efficacy; and analyze whether self-efficacy and collective teachers' efficacy are predictors of professional commitment when mediated by curricular autonomy. This was conducted to 268 teachers and 48 school administrators in one Schools Division in Northern Negros Occidental. The data-gathering tools used were the 1) Teacher's Self-Efficacy Scale 2) Collective Teachers' Efficacy Scale, 3) Curricular Autonomy Scale, and 4) Professional Commitment Scale. Mean and Standard Deviation were the descriptive statistics. To determine correlation, direct and indirect effects, a Path Analysis was utilized. The result showed that teacher's self-efficacy, collective teachers' efficacy, curricular autonomy and professional commitment levels were high. Notably, teacher's self-efficacy is significantly correlated with collective teachers' efficacy. Results revealed significant direct effects of teacher's self-efficacy on curricular autonomy and professional commitment, collective teachers' efficacy on curricular autonomy, and curricular autonomy on professional commitment. However, collective teacher's efficacy has no direct effect on professional commitment. Indirect effects of teacher's self-efficacy and collective teachers' efficacy on professional commitment were noted; hence, the mediational role of curricular autonomy was proven. Therefore, teacher's self-efficacy and collective efficacy are predictors of professional commitment as mediated by curricular autonomy. It is therefore recommended that teachers be given the highest degree of curricular autonomy to boost their professional commitment.

Keywords: Self-efficacy, Collective teachers' efficacy, Curricular autonomy, Professional Commitment and Path analysis

INTRODUCTION

For developing countries like the Philippines, quality education remains a sheer aspiration. The 2018 Program for International Student Assessment (PISA) results revealed that Philippines ranked at the bottom. In its official statement last December 2019 relative to PISA results, the Department of Education (DepEd) recognizes the urgency of addressing issues and gaps in attaining quality of basic education in the Philippines. This is also manifested in the deploring result of National Assessment Test given last 2017, which ranked the Schools Division being studied second to the last among the Divisions within the region. This may be attributed to observations among some public school teachers who seem to show lack of commitment to their work and often report to school unprepared.

Quality schools need teachers with powerful efficacy belief. These teachers can skillfully plan and organize new teaching strategies. In Zee and Koomen (2016), they noted that there are positive links with students' academic adjustment, patterns of teacher behavior and practices related to classroom quality, and factors underlying teachers' psychological well-being. Taken altogether, individual teacher self-efficacy turns out collective teachers' efficacy. Danohoo (2017) has shown that when teachers believe they are capable of developing students' critical thinking skills, creativity, and mastery of complex content, it really happens. Collective Teachers' Efficacy (CTE) refers to shared belief that through their collective action, teachers can positively influence student outcomes. Teachers' self-

efficacy and collective teachers' efficacy may have direct or indirect contribution to professional commitment especially when mediated by curricular autonomy.

Teachers' professional commitment has primary role in the school performance and in the quest for quality education. This variable involves teachers' focused engagement for students' success (Savas &Caracas, 2012). It is a crucial factor that contributes to students' achievement. Committed teachers, through effective learning environments, endeavor to increase students' learning potentials. Altun (2017) explores the role of teacher commitment in student achievement and the differences passionate teachers can do. He stresses the effects of passion on effective learning and teaching. Effective teaching depends on how curricular implementation is carried out either as full compliance or with curricular autonomy.

With that, Min (2017) found out that teachers are more likely to exercise autonomy to diversify curriculum when they are supported by their colleagues and principals, when given high level of collectivism, self-efficacy and curricular autonomy. Curricular autonomy has positive association with improvements in students' academic performance, teachers' professionalism and commitment to their teaching practices (L. M. Thien, N. A. Razak & T. Ramayah, 2014).

The interplay between teacher's self-efficacy, collective teachers' efficacy, curricular professional commitment and curricular autonomy was born out of the researchers' attempt to look into variables that seem to produce outcomes to achieve quality education. A study of Ware and Kitsantas (2007) in George Mason University in the US looked into the roles of teacher's self-efficacy and collective efficacy beliefs as predictors of professional commitment, but looking into the context of the Philippines, the researchers found this Western study to be limited in order to give a comprehensive picture of what is happening in our geographical location. This gap in literature in trying to find other factors that enhance professional commitment led the researcher to another Asian study in South Korea (Min, 2017) about the role of curricular autonomy in mediating the other variables that predict professional commitment that eventually affects quality of education. This being seen in an Asian and eastern context, the paper has led the researchers to incorporate the mediating role of this variable in the equation.

Furthermore, our extensive review of literature has revealed that there were no published articles on this topic done in the Philippines and therefore, it strengthened the justification that pursuing this topic could generate new knowledge in this area of inquiry.

Conceptual Framework of the Study

The conceptual framework of the study is presumably comprised of two main variables that are considered exogenous - self-efficacy and collective teachers' efficacy. Curricular autonomy is treated as mediator variable while professional commitment as endogenous.

Efficacy beliefs are very powerful guide for educators. Achurra & Villardón (2012) enunciate that beliefs are linked to behavior patterns that teachers show in the classroom. Remarkably, marked differences in the type of teaching, strategies and methodologies used by teachers with high efficacy beliefs. People who are aware that they can make a difference feel good, and therefore take initiatives. Teacher efficacy, as an important variable in teacher effectiveness, is consistently related to teacher behaviors and student outcomes.

In addition, schools with high performance in professional development integrate key dimensions that support and reinforce skill development and efficacy beliefs (Bray-Clark & Bates, 2003). Theoretically, teacher's self-efficacy is contributory to collective teachers' efficacy.

Collective teachers' efficacy builds on Bandura's (1997) self-efficacy formulation and the model of teacher efficacy by Tschannen-Moran et al. (1998). Collective teachers' efficacy is an emergent group-

level attribute, the product of interactive dynamics of the group members. As such, this emergent property is more than the sum of the individual attributes. It is "the groups' shared belief in its conjoint capabilities to organize and execute courses of action required to produce given levels of attainments" (Bandura, 1997). Collective teachers' efficacy is a way of conceptualizing the school's normative environment and its influence on both personal and organizational behavior. That is, teachers' beliefs about the faculty's capability to successfully educate students constitute a norm that influences school's actions and achievements. Given that collective teachers' efficacy shapes school's normative environment, there is a need to consider the influence of social norms on the behavior of group members (Goddard, Hoy & Hoy, 2000). Curricular implementation is facilitated well if teachers believe that they can do it all together.

Curricular autonomy, somehow, mediates self-efficacy beliefs and professional commitment. In Korea, while the demand for curriculum autonomy is very high, curriculum autonomy, as a policy measure, often receives little empathetic acceptance in schools. Various problems relate to content reorganization (regarding the policy of permitting schools to adjust classroom hours within 20% of respective subjects), credit transfers, evaluation (regarding the intensive course programs), as well as subject selection and time allocation. Furthermore, the perception that autonomy policies tend to result in conflicts between teachers, additional workload and increased teaching burden, continues to spread (Lee, 2014). In the Philippines, curricular autonomy is also perceived as limited. Teachers tend to find it difficult to wean themselves from the mandated national curriculum. They are limited in terms of planning their curriculum and in exercising autonomy in deciding what will happen in the classrooms. Somehow, this difficulty may have negative effect on professional commitment.

School is one of the most important organizations among all other social institutions. It is made up of teachers and employees with their respective level of performance. Teacher professional commitment is likewise dependent on the efficacy beliefs of these human resources. Anwar, et.al, (2016) stress that a committed teacher is an asset to the school and occupies a more important place in educational system because they are in charge of the future of the nation. Teachers are the main input source of any educational institution. Their adequate work and responsibility towards the institution makes it good or bad. Teachers aim is to be a change agent transforming light of knowledge and wisdom, imagination and enlightenment.

Remarkably, Ware and Kitsantas (2007) of George Mason University conducted a research study on Teacher and Collective Efficacy Beliefs as Predictors of Professional Commitment in the United States Department of Education last 2005 but did not include curricular autonomy as variable.

With these concepts, the researchers would want to test whether teacher's self-efficacy and collective teachers' efficacy are predictors of professional commitment as mediated by curricular autonomy due to the unavailability of research studies published on these constructs. The structural model is presented in Figure 1 as the conceptual framework of the study.
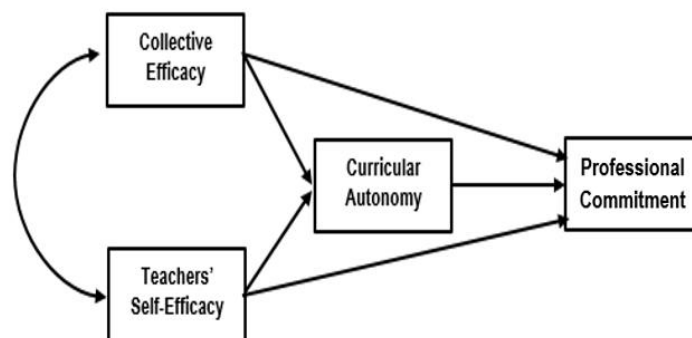
Figure 1.
The Hypothesized Model showing the Conceptual Framework of the Study

Statement of the Problem

1. Is there a significant relationship between teacher's self-efficacy and collective teacher efficacy?
2. Does each variable and constructs, namely: self-efficacy, collective efficacy and curricular autonomy make an independent contribution in professional commitment when all other variables are part of the path analysis model?
3. Does curricular autonomy have mediational role to professional commitment?

Statement of the Hypotheses

1. No significant correlation exists between teacher's self-efficacy and collective teacher efficacy.
2. There's no significant independent contribution of teacher's self-efficacy on professional commitment.
3. There's no significant independent contribution of collective teacher efficacy on professional commitment.
4. There's no significant independent contribution of teachers' self-efficacy on curricular autonomy.
5. There's no significant independent contribution of collective teacher efficacy on curricular autonomy.
6. There's no significant independent contribution of curricular autonomy on professional commitment.
7. There's no significant direct effect of teacher's self-efficacy on professional commitment.
8. There's no significant direct effect of collective teacher efficacy on professional commitment.
9. There's no significant indirect effect of teacher's self-efficacy on professional commitment through curricular autonomy.
10. There's no significant indirect effect of collective teacher efficacy on professional commitment through curricular autonomy.
11. There's no significant total effect of teacher self-efficacy on professional commitment.
12. There's no significant total effect of collective teacher efficacy on professional commitment.
13. Curricular autonomy doesn't have mediational role to professional commitment.

DATA AND METHODOLOGY

This study made use of the Descriptive-Correlational Design. The participants of this study were the public elementary school teachers and school administrators of fifty (50) public elementary schools of one Division in Northern Negros Occidental. However, only forty-eight (48) public elementary school administrators participated. Among 814 teachers of the participating schools 268 were determined as the sample size (32.9%). A stratified proportional random sampling was utilized because the population is distributed unevenly in schools within the seven (7) Districts.

The data for Teacher's Self-Efficacy was obtained through a 12-item Likert Scale developed by Tschannen-Moran and Woolfolk Hoy (1998). There are three efficacy factors: student engagement (items 2, 4, 7 & 11); instructional strategies (items 5, 9, 10 & 12), and classroom management (items 1, 3, 6 & 8). To obtain the total score, the mean of all items was calculated. High teacher self-efficacy is defined as greater than one standard deviation above the mean (M = 7) and low is one or more standard deviations below the mean (M. Tschannen-Moran, personal communication, May 21, 2007). This instrument has high degree of internal consistency; on student engagement (α=.81); instructional strategies (α=.86), and classroom management (α=.86)

Collective teacher efficacy was measured using the Collective Teacher Belief Scale (CTBS) by Tschannen-Moran and Barr (2004) to indicate a faculty's belief about its collective capability to influence student achievement. The scale contains two subscales: Instructional Strategies (IS) and Student Discipline (SD). Teachers were asked to rate items on a 9-point Likert scale with anchors at 1, 3, 5, 7, and 9, and ranging from "none at all" to "a great deal." The 12-items CTBS demonstrated very high degree of reliability. The instructional strategies subscale showed a reliability index of α=.96 and the student discipline subscale showed a reliability of α=.94.

The Curricular Autonomy Scale, developed by Mina Min (2017), was adapted. The researchers collected information about Desired Curricular Autonomy using a sixteen (16) item Desired Degree of Curricular Autonomy. Participants' responses ranged from "Very Low" to "Very High".

The Professional Commitment Scale (for school Teachers) was constructed by Lei Mee Thien et.al, (2011). This is a 13-item self-report that employed a nine-point continuum with anchors at 1 - None at All, 3 - Very Low, 5 - Some Degree, 7 - Quite A Bit, and 9 - A Great Deal with the respective scores / weights of 9, 7, 5, 3 and 1 for the positive statements and 1, 3, 5, 7 and 9 for the negative statements. This scale is divided in to four dimensions. The dimensions are: commitment to school with 3 items (1, 2, and 3); commitment to pupils with 3 items (4, 5, and 6); commitment to teaching with 3 items (7, 8, and 9); and commitment to profession with 4 items (10, 11, 12, and 13).

After establishing the reliability and validity of the instrument, the researchers sought permission from the Schools Division Superintendents. The instruments were administered to public elementary school teachers and school administrators. Notably, there was one hundred percent (100%) retrieval from teacher-participants and ninety-six percent (96%) from school administrators. The gathered data were encoded in Microsoft Excel and subjected to analysis using SPSS.

A Multiple Correlation was used to determine whether significant correlations exist among the variables. Multiple Correlation introduced by Yule (1897) as an extension of bivariate regression. The intent was to improve prediction over the bivariate case. Since then, there have been many applications, including: 1. Establishment of a prediction equation, 2. Selection of a subset of "predictors", 3. Analysis of variance, 4. Curve fitting, 5. Assessing mediation, 6. Assessing moderation, 7. Path analysis. Under Multiple Correlation three or more than three variables are studied.

To test hypotheses 1 to 13, Path analysis was used. Path Analysis is used to test the fit of a hypothetical model with your empirical data. It is used not only to assess relationship between two or more variables, but it enables you to build complex models built up from the research variables, and to test whether this is a valid (good fitting) model (Kenny, 2014).

The Independent Contribution of Each Variable and Constructs; Self-Efficacy, Collective Efficacy and Curricular Autonomy to Professional Commitment as Part of the Path Analysis Model

Table 1 shows that there is a significant correlation between collective efficacy and teachers' self-efficacy (r=.977; p=.000). Hypothesis 1 which states that "No significant correlation exists between collective efficacy and teacher's self-efficacy" is rejected.

Table 1. Significance of Correlation between Collective Efficacy and Teacher Self-Efficacy

| Paired Comparison			Estimate	p
Collective Efficacy	<-->	Teacher Efficacy	.977	.000

Figure 2 presents the test of independent contribution of Self-Efficacy, Collective Efficacy and Curricular Autonomy to Professional Commitment parts of the Hypothesized Model. Regression Weight Analysis in Table 2 shows that Teachers' Self-Efficacy has positive independent contribution to Professional Commitment (RW=.371, p=.015)). Hypothesis 2 which states that *"there's no significant contribution of teacher self-efficacy to professional commitment"* is **rejected**. Conclusively, teacher self-efficacy is a predictor of professional commitment.

When the contribution of collective teacher efficacy to professional commitment is analyzed, the model shows lower regression weight (RW=.213; p=.231). Analysis confirms that the contribution of collective teacher efficacy on professional commitment, even though positive, is not significant. Therefore, Hypothesis 3 which states that *"there's no significant contribution of collective teacher efficacy on professional commitment"* is **accepted**.

Hypothesis 4 states that "*there's no significant independent contribution of teacher self-efficacy on curricular autonomy*". The regression weight (RW=.408) has p-value of .000. Therefore, the hypothesis state in this regard is **rejected**.

The analysis of independent contribution of collective teacher efficacy on curricular autonomy showed significance (RW=.594; p=.000). Hypothesis 5 which states that "*there's no significant independent contribution of collective teacher efficacy on curricular autonomy*" is **rejected**.

The model also tested the independent contribution of curricular autonomy on professional commitment. The regression value (RW=.408) has p=value of .042 which is significant at 0.05. Hypothesis 6 which is stated in this regard is **rejected**.
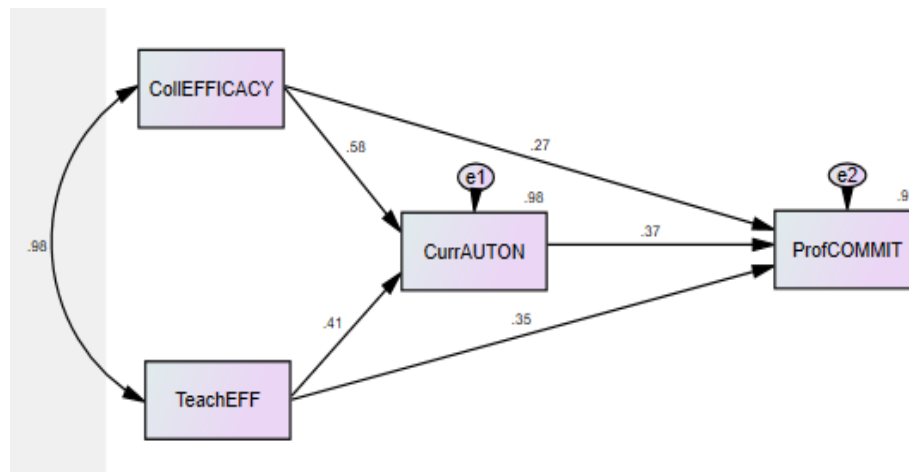
Figure 2
The Hypothesized Model

Table 2. Contributions of Variables and Constructs

Dependent		Independent	Estimate	P
Curricular Autonomy	<---	Collective Efficacy	.594	***
Curricular Autonomy	<---	Teacher Efficacy	.408	***
Professional Commitment	<---	Curricular Autonomy	.408	.042
Professional Commitment	<---	Teacher Efficacy	.371	.015
Professional Commitment	<---	Collective Efficacy	.213	.231

The hypothesized model (Figure 2) was subjected to model fit analysis. Fit indices were determined through SEM or Path Analysis. Table 3 presents these indices. The chi-square value (0.000) is interpreted as not good fit. It shows a saturated model. The goodness of fit value (1.000) reveals that the model in not fit. All other indices are equally manifestations of non-fit model. The Root Mean Squared Error of Approximation value (1.304) is greater than 0.05, therefore, the model is not fit.

The model fit issue in the hypothesized model is the line of contribution of collective teacher efficacy on professional commitment. The regression weight of 0.27 has p-value (p=0.107) is not significant; hence, a need for hypothesized model the modification by constraining the line connecting collective teacher efficacy and professional commitment (Figure 3).

Table 3. The Fit Indices, Estimates, and Interpretation in the Hypothesized Model

Fit Indices	Estimate	Interpretation
Chi Square	0.000	Saturated Model
Goodness of Fit	1.000	Not good fit
Adjusted Goodness of Fit	No value	Not good fit
Comparative Fit Index	1.000	Not good fit
Normal Fix Index	1.000	Not good fit
Tucker–Lewis Index	No value	Not good fit
Root Mean Squared Error of Approximation	1.304	Not good fit

Regression Analysis of the Fit Model

After the line of independent contribution of collective teacher efficacy to professional commitment was constrained, a new model presented (Figure 3). Notably, there was a slight increase in the regression weight of independent contribution of teacher self-efficacy to professional commitment.

As shown in Table 4, for the new model, teacher self-efficacy still remains to be a predictor of professional commitment; while collective teacher efficacy does not. Both collective teacher efficacy and teacher self-efficacy remain to have significant independent contributions to curricular autonomy. In the same vein, curricular autonomy is a predictor of professional commitment.
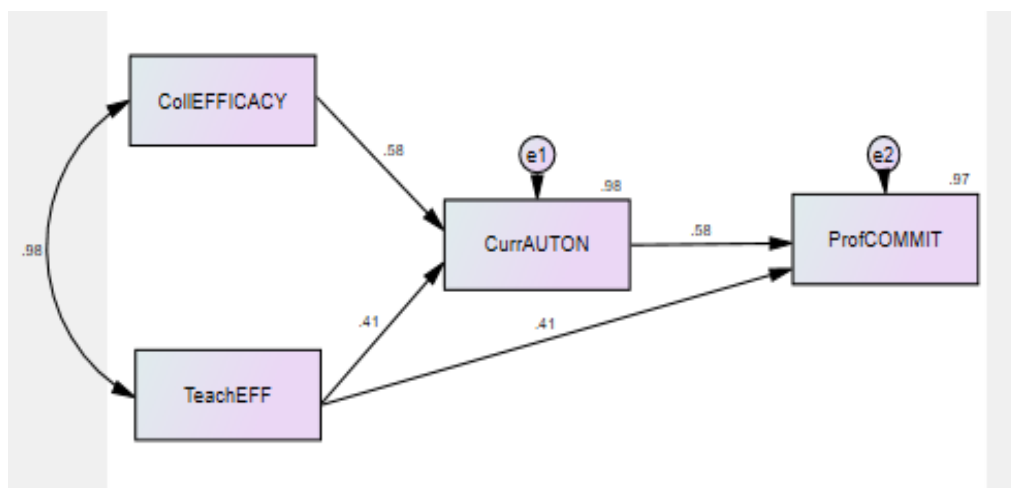
Figure 3
The Revised Model

The analysis of the indices to ensure that the new model has goodness of fit is presented in Table 4. The chi square value is 2.533 is less than 5.00, and it has a good fit. The Goodness of Fit (.974) proves satisfactory fit. The Adjusted Goodness of Fit (.928 shows satisfactory fit. The Comparative Fit Index (.997) exhibits satisfactory fit. The Normal Fix Index (.995) displays satisfactory fit. The Tucker-Lewis Index (.981) signifies satisfactory fit. In general, the Root Mean Squared Error of Approximation (.000) speaks that the model is a good fit.

This finding shows that teacher self-efficacy is a good predictor of professional commitment but results do not confirm that collective teacher efficacy contributes significantly to professional commitment. The model can be used to explain the factors that may increase or enhance commitment to the teaching profession.

Table 4. The Fit Indices, Estimates, and Interpretation in the Fit Model

Fit Indices	Estimate	Interpretation
Chi Square	2.533	Acceptable
Goodness of Fit	.974	Satisfactory fit

Adjusted Goodness of Fit	.928	Satisfactory fit
Comparative Fit Index	.997	Satisfactory fit
Normal Fix Index	.995	Satisfactory fit
Tucker–Lewis Index	.981	Satisfactory fit
Root Mean Squared Error of Approximation	0.000	Good fit

The mediational role of curricular autonomy to professional commitment

Table 5 presents the direct, indirect and total effects of teacher self-efficacy and collective teacher efficacy on professional commitment. The direct effect of teacher self-efficacy on professional commitment is revealed by the coefficient of .836, with a p-value of .006, which is significant at .05. Therefore, Hypothesis 7 which says that "*there's no significant direct effect of teacher self-efficacy on professional commitment*" is **rejected**. Similarly, the direct effect of collective teacher efficacy was analyzed. The result showed that the coefficient value 0.000. This reveals that collective teacher efficacy has no significant direct effect on professional commitment. Hypothesis 8 advanced in this regard is **accepted**.

The findings can be attributed to the study of Ware & Kitsantas (2007) that, teacher efficacy can affect teachers' instructional efforts in areas such as choice of activities, level of effort, and persistence with students (Tschannen-Moran & Hoy, 2001). In turn, teacher efficacy has direct influence to performance, commitment, and professional retention (Darling-Hammond, 2003; Tschannen-Moran & Hoy).

The indirect effect of teacher self-efficacy on professional commitment was also examined. The result revealed a coefficient of .650, its p-value is .006, which is significant at .05. Therefore, Hypothesis 9, which espouses "*there's no significant indirect effect of teacher self-efficacy on professional commitment*" is **rejected**.

Correspondingly, the indirect effect of collective teacher efficacy was analyzed. The result disclosed significance of indirect effect (r=.606; p=.006). Convincingly, this result uncovers that collective teacher efficacy has significant indirect effect on professional commitment. Hypothesis 10 which assumes that "*there's no significant indirect effect of collective teacher efficacy on professional commitment*" is **rejected**.

The total effect of teacher self-efficacy and collective teacher efficacy was also analyzed. In terms of total effect of teacher self-efficacy, the obtained coefficient is .995 with a p=.006. This p-value noted that the total effect is significant. Therefore, Hypothesis 11, which espouses, "*there's no significant total effect of teacher self-efficacy on professional commitment*" is **rejected**.

Congruently, the total effect of collective teacher efficacy was analyzed. The computed coefficient value is .605 with a p-value of .010. Noteworthy, collective teacher efficacy has significant total effect on professional commitment. Hypothesis 12 that posits, "*there's no significant total effect of collective teacher efficacy on professional commitment*" is **rejected**.

Ware & Kitsantas (2007) states that if teachers are self-efficacious, they will be more likely to plan appropriate activities that persist students who are having difficulties, and expend considerable effort to find appropriate teaching materials due to their curriculum autonomy.

Table 5. Direct, Indirect and Total Effects of Teacher Self-Efficacy and Collective Teacher Efficacy on Professional Commitment

Pairs	Direct Effect	Indirect Effect	Total Effect
• Teacher Self-Efficacy to Professional Commitment	**0.836** *(0.006)**	**0.650** *(0.004)**	**0.995** *(0.001)**
• Collective Teacher Efficacy to Professional Commitment	**0.000** *(----)*	**0.605** *(0.006)**	**0.605** *(0.010)**

* If p<=0.05, then reject H_o

This finding is taken into consideration. Most of the teachers may not have fully realized that they have some extent of curriculum autonomy when the Department of Education calls for contextualization of the national curriculum. The emphasis put on 'curriculum localization' within the general framework of the national curriculum is to take into account the characteristics of local communities and schools in sections related to educational contents and methods (UNESCO-IBE, 2014).

In Mina Min's study (2017), it was found out that teachers are more likely to exercise autonomy to diversify curriculum when they are supported by their colleagues and principals, giving them a high level of collectivism, self-efficacy and outcome expectancy in exercising curricular autonomy. In turn, the teachers will exhibit good job performance and probably remain committed to their work and profession because of their autonomy over curricula due to the freedom of contextualization (Mina Min, 2017).

Table 6. The Mediational Role of Curricular Autonomy

Pairs	Estimate	p-value
Teacher Self-Efficacy to Professional Commitment through Curricular Autonomy	0.650	0.004
Collective Efficacy to Professional Commitment through Curricular Autonomy	0.605	0.010

* If p<=0.05, then reject H_o

Lastly, personal or self-efficacy influences group and self-directedness but teachers' relationships with their principals, co-workers, and students influence their self-efficacy, collective efficacy (Ware & Kitsantas, 2007) and outcome expectancy in exercising curricular autonomy as well as their desired practices for diversifying curriculum (Mina Min, 2017) in order to achieve professional commitment (L. M. Thien, N. A. Razak & T. Ramayah, 2014).

CONCLUDING REMARKS

The findings confirm that there is significant positive correlation between teacher's self-efficacy and collective teacher efficacy and it is high. While their correlation is significant, the extent of covariation is very high. Of the two independent variables, only teacher efficacy has significant independent contribution to professional commitment; while collective teacher efficacy has none. However, both of them have significant independent contribution to curricular autonomy. Curricular autonomy has also significant independent contribution to professional commitment.

After subjecting the hypothesized model fit analysis, results showed that it is a saturated model. The non-significant independent contribution of collective teacher efficacy maybe has caused the goodness of fit issues on model fit. When the line directly pointing from collective teacher efficacy to professional commitment was removed from the hypothesized model, a new model emerged. The fit model was used to determine the direct, indirect and total effects of teacher self-efficacy and collective teacher efficacy on professional commitment. Both independent variables have significant indirect effect on professional commitment through curricular autonomy..

The significant indirect effects of teacher self-efficacy and collective teacher efficacy on professional commitment through curricular autonomy has confirmed that curricular autonomy has mediational role between the two independent variables and the dependent variable in this study.

All variables have significant independent contribution to professional commitment, except for collective teacher efficacy when they are parts of the path analysis model. This finding implies that professional commitment can be enhanced primarily, through teachers' efforts. Furthermore, the Curriculum and Instruction Division, Human Resource and Development, and school administrators must rethink of providing teachers with the highest degree of curricular autonomy.

The new model has acceptable goodness of fit. All other model fit standards are satisfied in this model. It can be a new framework for actions and decisions in schools which could be used to develop professional development efforts in the Department of Education.

The significant direct effect of teacher self-efficacy on professional commitment implies that professional commitment is highly personal in nature, generally dependent upon the efforts and motivation of teachers. Granting them a very high degree of curricular autonomy may help promote better outcomes.

There is significant indirect effect of teacher self-efficacy and collective teacher efficacy on professional commitment. This implies that curricular autonomy has mediational role among teacher self-efficacy and collective teacher efficacy and professional commitment. It further implies that when curricular autonomy is very high, professional commitment can also be enhanced.

Avery high teacher's self-efficacy must be taken advantage in facing the many challenges that happen in the present educational system. Teachers must be kept abreast with curricular changes, which have been formulated through the systematic reconstruction of knowledge based on societal and global needs.

Since instructional strategies and curriculum autonomy ranks the lowest, teachers need further trainings and realizations on the importance of the new approach to teaching especially on distance learning using online or modular instruction.

REFERENCES

Achurra, Cristina & Villardón, Lourdes. (2012). Teacher' Self-Efficacy and Student Learning. The European Journal of Social & Behavioural Sciences. 2. 366-383. 10.15405/FutureAcademy/ejsbs(2301-2218).2012.2.17.

Altun, Mustafa. The Effects of Teacher Commitment on Student Achievement: A Case Study in Iraq. International Journal of Academic Research in Business and Social Sciences. 2017, Vol. 7, No. 11

Anwar Ahmed Hussen , Sisay Awgichew W/Tegegn and Tamirat Zelalem Teshome Teachers Professional Commitment towards Students Learning, their Profession and the Community in Eastern Ethiopian Secondary Schools Journal of Teacher Education and Educators Volume/Cilt 5, December 6, 2016, 289-314

Bray-Clark, Nikki & Reid Bates. Self-Efficacy Beliefs and Teacher Effectiveness: Implications for Professional Development. The Professional Educator. Volume XXVI, Number 1, Fall 2003

Donohoo, J. (2017). *Collective efficacy: How educators' beliefs impact student learning.* Thousand Oaks, CA: Corwin.

Fleming Douglas. Autonomy and Agency in Curriculum Decision-Making: A Study of Instructors in a Canadian Adult Settlement ESL Program. Tesl Canada Journaula Revue Tesl Du Canada Vol. 16, No.1, Winter 1998

Goddard, R., Hoy, W., & Woolfolk Hoy, A. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. *American Educational Research Association*, *33*(3), 3-13.

Goddard, Roger & Hoy, Wayne & Hoy, Anita. (2000). Collective Teacher Efficacy: Its Meaning, Measure, and Impact on Student Achievement. American Educational Research Journal Summer. 37. 479-507. 10.3102/00028312037002479.

Ibrahim, Muhammad & Mohammad Iqbal. Teachers' Perceptions of Professional Commitment (Affective, Continuance and Normative Commitment) to Teaching Profession European Journal of Business and Management www.iiste.org ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol.7, No.10, 2015

Hattie, John. Teacher Efficacy: Why It Matters and How Administrators Can Help. https://education.cu-portland.edu/blog. 2018

Min, Mina. *South Korean Elementary School Teachers' Perceptions Of Professional Curricular Autonomy*. Indiana University. ProQuest Number:10604271, 2017

Ryan, RM, & Deci, EL. Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness. New York: The Guilford Press; 2017.

Shambaugh, Robert W., *"Teacher Self-efficacy, Collective Teacher Efficacy, Automatic Thoughts, States of Mind, and Stress in Elementary School Teachers"* (2008).PCOM Psychology Dissertations. Paper 126.

Thien, Lei Mee, Razak, Nordin Abd, & Ramayah, T. Validating Teacher Commitment Scale Using a Malaysian Sample. Sgo.sagepub.com. 2014

Ware, Herbert & Kitsantas, Anastasia. *Teacher and Collective Efficacy Beliefs as Predictors of Professional Commitment.* The Journal of Educational Research**.** *Copyright © 2007 Heldref Publications*
https://www.tandfonline.com/doi/abs/10.3200/JOER.100.5.303-310
https://www.jstor.org/stable/i27548189?refreqid=excelsior%3A6ea796cd2f1dc1d10ab6082fae59e166
https://eric.ed.gov/?id=EJ767719

Nie, Youyan, Lau, Shun & Liau, Albert K. The Teacher Efficacy Scale: A Reliability and Validity Study. Asia Pacific Journal of Education. 2012

Zee, Marjolein & Helma M. Y. Koomen. *Teacher Self-Efficacy and Its Effects on Classroom Processes, Student Academic Adjustment, and Teacher Well-Being: A Synthesis of 40 Years of Research. Review of Educational Research.* Volume: 86 issues: 4, page(s): 981-1015. Issue published: December 1, 2016

Understanding Mathematics Learning Continuance Intention: An Extension of ECM

Muhammad Abdullahi[1], Ahmad Fauzi Mohd Ayub[1, 2,] Tajularapin Sulaiman[2]

[1] *Institute for Mathematical Research, Universiti Putra Malaysia, Malaysia (107abdul@gmail.com)*
[2] *Faculty of Educational Studies, Universiti Putra Malaysia, Malaysia (afmy@upm.edu.my, tajulas.upm.edu.my)*

ABSTRACT

Students could enjoy, intend to continue or in opposite hate or intend to discontinue learning mathematics. However, the low desire of Nigerian students to accept mathematics as a course of study at tertiary institution of learning in Nigeria becomes an issue that requires urgent attention of stake holder in education industry. Based on the ECM, the study examines the effect of the ECM constructs and perceived enjoyment on continuance intention of learning mathematics in order to extent the scope of ECM of IS usage to the context of mathematics learning. A questionnaire was adapted from previously validated instrument for identifying factors that influence colleges of education (COE) mathematics students' continuance intention of studying mathematics. 339 final year mathematics students of COE in the northwest zone in Nigeria have completed the questionnaire. The findings revealed that the most important factor of the COE mathematics students' continuance intention is the believed of their usefulness of learning mathematics to their daily lives activities. Satisfaction, confirmation of expectation and perceived enjoyment in learning mathematics also influence students' intention to continue studying mathematics.

Keywords: Mathematics, Colleges of Education, Expectation confirmation model, Continuance, Intention, Partial Least Square (PLS).

INTRODUCTION

Mathematics learning is a continue process throughout one's life from childhood to adulthood due to its significant qualities and the development of individual's capability. The objective of teaching mathematics is to provide students with the mathematical knowledge and skills desired in everyday life to solve problems and develop plans based on a problem-solving approach. In recognition of its importance to the Nigerian Government, mathematics is a compulsory subject at primary and secondary school level in Nigeria, and a credit pass in the subject is pre-requisite for admission to study at Nigerian tertiary learning institutions (Federal Government of Nigeria, 2013). Colleges of Education (COEs) in Nigeria are higher institutions that are burdened with the duty of training pre – service teachers in diverse courses including mathematics. COEs awards Nigeria Certificate in Education (NCE) to their students after minimum of three-year satisfactory training. NCE teachers are trained to teach in pre – primary and primary schools and junior secondary schools for some few courses depending on the demand (Federal Government of Nigeria, 2013). The mission of colleges of education in Nigeria is to produce extremely interested and skilled NCE teachers worthy of character and learning through effective teaching, research, and public service for the Basic Education system (NCCE, 2012).

In Expectation Confirmation model (ECM), confirmation expectation refers to the degree to which users' expectations are satisfied, based on experience of using the technology (Joo, Park, & Kyoung, 2017). In this study we conceptualized confirmation of expectations as the level to which learners actual experience in learning mathematics matched his initial expectations about learning mathematics. Research conducted related to confirmation of expectation in learning mathematics are the study of Udousoro (2011) that explores perception and real learning challenges for students in mathematics in secondary school. The study includes 120 students' findings showed that 14 topics of mathematics at secondary school were classified as difficult based on interpretation of the students. Furthermore, a

significant relationship has been identified between perceived and actual learning difficulties. Other studies that revealed the significant influence of confirmation of expectations on satisfaction are study conducted by Joo et al, (2017) findings have shown that confirmation of expectations has a positive effect on satisfaction. Study by Junjie, (2017), among 435 participants in Mainland China, indicated that confirmation of expectations of the prior experience significantly influence satisfaction with prior learning experience. More so, the study carried out by Daneji, Ayub, and Khambari (2019) with the aim of exploring factors influencing the intention of the students to continue using MOOC. The result showed that satisfaction was affected significantly by confirmation of expectations.

Perceived usefulness is the degree to which users believe using the technology is useful, while perceived usefulness in learning mathematics is the extent to which learners believed that learning mathematics is important to their daily lives activities and future ambitions. On the research related to perceived usefulness in learning mathematics are study of Zogheib, Zogheib and Elsaheli (2015), Results suggest that perceived usefulness has a positive impact on behavioural intention to embrace and use technology resources in mathematics classroom. The study of Guo, Marsh, Parker, Morin and Yeung (2015) their results indicated that variable has shown that self-concept in mathematics learning is more important in educational outcomes for students with lower perceived usefulness in mathematics learning. In another study of Mohamed and Waheed's (2011) focused on attitudes of students, perceived usefulness towards mathematics and personal confidence in mathematics learning. Results indicated that students have positive perceived usefulness toward mathematics and personal interest in mathematics. Other researches that showed the influence of perceived usefulness on continuance intention to use MOOCS are Daneji et al (2019) where they report that the significant predictor of MOOC continuance intention was perceived usefulness. The study of Wu and Chen (2017) also showed that perceived usefulness had a major impact on the intention to continue using MOOCs. Furthermore, Study by Muqtadiroh, Herdiyanti, Wicaksono, and Usagawa, (2019) on perceived usefulness in using SHARE- ITS by lecturers, which proved that perceived usefulness has positively and significantly influenced lecturers' continuance intention in using SHARE-ITS. In addition, the findings of Daneji, Ayub, Jaafar, and Khambari (2018) established that the greatest significant contributor to students' continuance intention was perceived usefulness. Shiue & Hsu (2017) also confirmed that GBL's perceived usefulness was positively related to learners ' continued intention to use GBL.

Satisfaction is the positive emotional state resulting from the evaluation of using the technology. While satisfaction with learning mathematics refers to the students' perception of happiness and achievement in learning mathematics. Research conducted on the influence of satisfaction on continuance intention includes a study by Rahman, Zamri and Leong (2017) which presents a systematic review of 30 research papers published between 2005 and 2017 on the continuance intention towards learning technologies. The results of the review have shown that there is a significant relationship between satisfaction and intention to continue. In the context of e learning. Additionally, Bagci and Celik (2018) stated that continued intention to use web-based distance learning has been directly influenced by satisfaction. Furthermore, Shiue and Hsu (2017) noted that satisfaction with GBL was positively related to learners ' continued use of GBL; and Zogheib, et al (2015) also demonstrated that satisfaction had a positive influence on the student's intention to adopt and use technological tool in a mathematics classroom.

Perceived enjoyment in learning mathematics refers to as the fun and pleasure learners derived in mathematics learning (Davis, 1989; Oghuma, Libaque-saenz, Fan, & Chang, 2016). In this study perceived enjoyment in learning mathematics refers to as the fun and pleasure mathematics students derived in learning mathematics courses on its own right apart from anticipated benefit of studying mathematics. For the research related with perceived enjoyment of learning mathematics. The study by Venter and De Wet (2016) their study findings revealed that the constructs of fun, imagination, immersion, and sensation were the greatest significant constructs in the intention of continuous use. More so, in another study by Venter (2016) aimed at investigating perceived enjoyment of mobile mathematical learning game with 26 children aged 10 to 13 years from South Africa's province. Results revealed that interest, fantasy, and sensation construct were the most influential in term of perceived enjoyment in learning mathematics. In addition, studies related to the influence of perceived enjoyment

on continuance intention include the study of Huang (2019) showed that perceived enjoyment directly and significantly influenced the continuing intention to use educational computer games, the continuing intention to use mobile data service was found to be affect perceived enjoyment significantly (Kim, 2010). More so, the results, study by Joo et al (2017) revealed that perceived enjoyment had no significant impact on the continued intention to use digital textbooks; also, Lee (2010) stated that perceived enjoyment did not affect the continued intention of the students to use e-learning. Meanwhile, continuance intention to use refers to the intention to repurchase technology or continue service use (Bhattacherjee, 2001). In this study, continuance intention to study mathematics is refers to mathematics student's voluntary intention to continuously to study mathematics in extracurricular activities as well as in regular classes. Therefore, the main purpose of this study was to extend the ECM of IS continuance usage intention to mathematics learning domain and examined the fitness of the proposed model in mathematics learning continuance intention among others.

The study therefore, intends to explore factors that lead to pre-service mathematics teachers' continuance intention of learning mathematics. The rationale behind the study was that the government of Nigeria made mathematics compulsory subject to all students from primary to senior secondary school and a credit pass in the subject as pre-requisite requirement for getting admission to study must science courses and some Art and Humanity courses (Federal Government of Nigeria, 2013). However, majority of students in Nigeria are running away from studying mathematics and mathematics related courses More so, the low desire of Nigerian students to accept mathematics as a course of study at tertiary institution of learning in Nigeria becomes an issue that requires urgent attention of stake holder in education industry (Musa, Dauda and Attah, 2015). Despite the status of the subject as compulsory subject and must taught subject in both primary and secondary school curriculum in Nigeria (Federal Government of Nigeria, 2013). Based on this, the researchers felt that there is need to investigate influencing factors leading to continuance intention or other wise of studying mathematics by colleges of Education mathematics students of Nigeria. This research, would fill the current literature gap as it expands the application of the Expectancy Confirmation Model (ECM) from the IS domain to the area of mathematics learning continuant intention. It also used a model that combines ECM with other Expectation Value Theory (EVT) and Decomposed Theory Planned Behaviour (DTPB) constructs and empirically predicts the continuance intention model. As most of the studies that used ECM were on e - learning so, the current study empirically used ECM to the study of mathematics.

Research Model and Hypothesis
Based on the ECM model, the proposed model of this study includes all the ECM constructs with regards to continuance intention and addition of perceived enjoyment of studying mathematics by colleges of education mathematics students. Fig. 1 depicted the relationships between the variables of the study
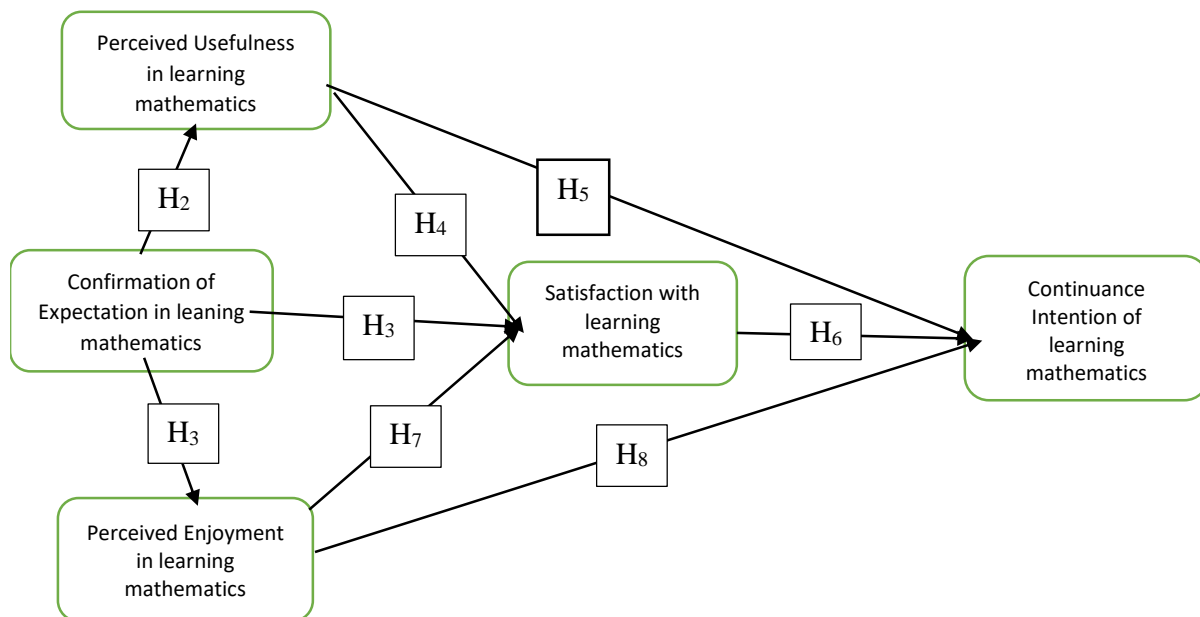
Figure 1: Proposed research model

Confirmation of Expectation

Confirmation denotes to the resemblance between the perceptions of IS usage and its actual performance of the users (Bhattacharjee, 2001). ECM theorizes that the degree of confirmation by IS consumers has a strong influence on their perceived usefulness and satisfaction with IS (Zhou, 2017). In the current study, confirmation of expectation defined as the extent to which the initial expectation of students about learning mathematics confirms their present experience of learning mathematics. Many studies have shown a clear strong relationship between users' expectation on their perceived usefulness and satisfaction (Joo et al, 2017; Junjie, 2017; Oghuma et al, 2016; Mobarhan, Bahru, Rahman, & Bahru 2015; Eveleth, Baker-eveleth, & Stone 2015; Stone & Baker-eveleth 2013; Bhattacharjee, 2001; Oliver, 1980). When students believe that learning of mathematics is very useful to their daily life's activities and that the actual learning experience of mathematics corresponds to or exceeds their initial expectations of learning mathematics, the confirmation that occurs leads to learners' satisfaction. (Oghuma et al., 2016). This is because the expected benefit of the learning mathematics by NCE mathematics are realized. Hence, NCE mathematics students will compare their real mathematics learning experience with their initial expectations of learning mathematics. They will be pleased with the mathematics learning if their assumption becomes true.

Therefore, the study hypothesized that

H₁: Confirmation of expectation has a significant influence on perceived usefulness in learning mathematics

H₂: Confirmation of expectation has a significant influence on perceived enjoyment in learning mathematics

H₃: Confirmation of expectation has a significant influence on satisfaction with learning mathematics

Perceived usefulness

Perceived Usefulness is described as "the extent to which persons are confident that using a specific technology can enhanced his or her work performance" (Davis, 1989). While perceived usefulness of learning mathematics was conceptualized as the degree to which students thinks that studying mathematics will be valuable to their future lives and everyday activities. In previous investigation, perceived usefulness was indicated to be a strong determining factor of the continuance intentions (Daneji et al, 2018; Wu & Chen, 2017; Junjie, 2017; Joo et al, 2017; Eveleth et al, 2015; Mobarhan et al, 2015). Also perceived usefulness showed strong influence on the users' satisfaction to use e- learning

(Almahamid & Rub, 2011; Bhattacharjee, 2001). Similar relationship was also found in numerous studies, electronic textbook (Joo et al, 2017; Stone & Baker Eveleth, 2013), Website usability (Eveleth et al, 2015) and MOOCs learning (Junjie, 2017). This means that if students feel that learning mathematics is very useful to them, they will be more pleased (satisfied) with it and will prefer to continue studying mathematics.

This study hypothesizes that:
H₄: Perceived usefulness has significant influence on satisfaction with learning mathematics
H₅: Perceived usefulness has significant influence on mathematics learning continuance Intention

Satisfaction
One of the vital principles in ECM is satisfaction. It's recognized as feedback of individual after utilizing an Information system. As regards to the ECM, the continuing intention of users to use IS was affected by their satisfaction with earlier experience and perceived usefulness of IS (Bhattacharjee, 2001). Satisfaction is one of ECM's important ideas. After using an IS it is known as the user response (Deneji et al, 2019). Regarding the ECM, the intention of persons to continue to use information system is influenced by the level of satisfaction with previous experience and perceived usefulness of IS (Bhattacharjee, 2001). Past studies have recognized the association between user satisfaction and their continuance intention of a particular IS (Junjie, 2017; Joo et al, 2017; Eveleth et al, 2015; Lee, 2010; Thong, Hong, & Tam, 2006). There is a likelihood that when students are contented with their mathematics learning experience their intention will be to continue studying mathematics.

This study hypothesizes that:
H₆: Satisfaction has a significant influence on continuance Intention of learning mathematics

Perceived Enjoyment
Perceived enjoyment is the extent to which executing a specified job is pleasant on its own right, apart from any likely performance consequences (Xu, Peak, & Prybutok, 2015). Perceived enjoyment is viewed as ''the degree to which an action of utilizing a particular technology is perceived to be pleasant on its own, apart from any anticipated reward because of working with the technology'' (Lee, 2010). Numerous researches have indicated that perceived enjoyment, was a major construct affecting continuance intention (Joo et al, 2017; Oghuma et al, 2016; Kim, 2010; Thong et al., 2006). Similarly, perceived enjoyment had a significant effect on individuals' satisfaction (Joo et al, 2017; Oghuma et al, 2016; Almahamid & Rub, 2011 and Min & Shenghua, 2007). Therefore, students with strong feelings of enjoyment in mathematics learning are expected to continue to study mathematics to any level. For the purpose of this study perceived enjoyment construct was added to ECM to emphasize the importance of motivation in learning mathematics and was described as learners' (students') perceptions on the extent to which curiosity, pleasure, and engagement was drawn after studying mathematics.
Based on the literature review, the following hypotheses were formulated

H₇: Perceived enjoyment has significant influence on satisfaction with learning mathematics
H₈: Perceived enjoyment has significant influence on mathematics learning continuance Intention

Continuance Intention
The continuance intention is the goal of the ECM model. The intention to continue the use of an information system is established (Bhattacharjee, 2001). The proposed ECM was based on the concept that continuance intention of studying mathematics would be determined by the satisfaction with learning mathematics and perceived usefulness in learning mathematics. More so, perceived usefulness in learning mathematics together with confirmation of expectations in learning mathematics influenced satisfaction with learning mathematics. When learners' start enjoying learning mathematics, psychological motivations can rise which may have an influence on the learners' decision of continuance learning mathematics. As such, an individual would probably have the intention to continue

studying mathematics if learning mathematics is appreciated by government and communities at all levels. Continuance intention of studying mathematics stand as the dependent variable of the current study as shown in Fig. 1.

The development of research hypotheses by the researchers was based on the extent of previous literature reviewed that are related to the studies on continuance intention. The basic assumptions used by the researchers in developing the research hypotheses are thus; The theoretical assumption that is the assumption on the suitability of ECM to the study of mathematics. After extant of literature reviewed the researchers realized that ECM that was originally developed for marketing domain by Oliver (1980) to judge customer satisfaction and re-purchase decision, but was extended and used by Bhattacharjee (2001) in the field of information system. Since then, many previous studies have been conducted using the ECM in different field of studies such as MOOC learning, electronic textbooks, web-based learning mobile instant messaging etc. Based on this the researchers assumed that ECM can also be used in mathematics learning. Another assumption of the researcher is on the participants themselves (pre-service mathematics teacher) who are in their final year of studies in tertiary colleges have attended lectures for four semesters and went for one semester compulsory teaching practice. Therefore, they have experience of teaching/learning mathematics both as students and as student teachers. The researcher assumed that at their level they must have made their mind of either continuing their education in mathematics or dropping it based on their experience.

The five factors identified and used in the current study are confirmation of expectation, perceived usefulness in learning mathematics, perceived enjoyment in learning mathematics, satisfaction with learning mathematics and continuance intention of learning mathematics. The selection and used of these constructs in this study is justified from the extant of literature related to studies on continuance intention as follows; Confirmation of expectation, perceived usefulness, satisfaction and continuance intention constructs are derived from fundamental theory of the current study that is Expectation Confirmation Model (ECM) by Bhattacherjee (2001). These constructs are also studied by many previous researchers that conducted their studies on continuance intention among others are Daneji et al. (2019), Bagci and Celik 2018, Junjie (2017), Jafari et al. (2017), Oghuma et al. (2016), Mobarhan and Rahman (2015), Stone and Baker-Eveleth (2013), Halilovic and Cicic (2013). All these previous literatures studied the direct effect of perceived usefulness and satisfaction on continuance intention and also the mediating effect of satisfaction in the relationship between perceived usefulness and confirmation of expectation on continuance intention. Therefore, based on the previous literature mentioned the researcher used these four constructs in the current study and investigated their extent of influence on the continued intention of studying mathematics among pre-service teachers of tertiary colleges in northwest, Nigeria.

On the construct of perceived enjoyment, the construct was derived from Expectancy Value Theory of Guo et al. 2015. The selection and used of perceived enjoyment in the current study was based on the previous studies that was conducted in the area of continuance intention. Among the previous literature that studied the influence of perceived enjoyment on continuance intention are Sharma, Hamari, Keshanwani & Tak (2020), Huang (2019), Nascimento (2018), Joo et al. (2017), Omotayo and Adeyemi (2016) and Thong et al. (2006). In addition to investigating the direct effect of perceived enjoyment on continuance intention the researchers that incorporated perceived enjoyment into ECM and studied the direct effect of perceived enjoyment on satisfaction are Huang (2019), Nascimento (2018), Joo et al. (2017) Thong et al. (2006). Based on the previous literature the researcher also added perceived enjoyment on ECM to study factors influencing continuant intention of studying mathematics among pre-service teachers in northwest, Nigeria.

RESEARCH METHOD

Population refers to the large group of people to whom a study is targeted for the purpose of generalization of findings (Fraenkel et al, 2016). Meanwhile, Creswell (2018) defined population as a group of elements or cases, whether individuals object or events conforming to similar criteria with the

same characteristics and to which researchers aim to generalize their findings from the research study. The population of this study is 2,761 NCE III mathematics pre-service teachers from 12 Colleges of Education (Tertiary Colleges). in the northwest geo–political zone, Nigeria. Therefore, the target population of this research study includes the NCE mathematics students (non- graduate mathematics students) from the Colleges of Education (Tertiary Colleges) in the Northwestern geo – political zone in Nigeria.

Sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population (Fraenkel et al, 2016). The use of an appropriate sampling technique is very important in the conduct of the inferential study. Additionally, sampling is a process by which a researcher selects individuals to participate in research (Fraenkel, et al. 2016). In this study, the researchers adopted the proportionate stratified random sampling techniques. Since the population of this study consists of NCE III mathematics pre-service teachers of 12 different colleges of education, naturally the selected students' characteristics are considered as the sample that would represent the entire colleges of education population, which could be generalized to all of them. The proportionate stratified random sampling taking process was applied to all colleges of education in the study area. In order to maximize resonance from each sample. Data were gathered from 339 final year NCE mathematics combination students (NCE III) of Tertiary colleges in northwest, Nigeria during 2019/2020 sessions. The demographic profile of the respondents is displayed in Table 1. There were 256 (75.5%) male and 83 (24.5%) female students in this research. In terms of respondents' age, majority of them 176 (51.9%) were between 21 to 23 years old, 97 (27.7%) were between 18 to 20 years old and 69 (20.4%) of them were above the age of 23.

Table 1. : Demographic profile of the respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	256	75.5
	Female	83	24.5
Age	18 – 20	97	27.7
	21 – 23	176	51.9
	Above 23	69	20.4

Measuring Instrument

A questionnaire survey was administered to collect relevant information from NCE mathematics combination students through personal visit to all the colleges and distributed the questionnaire to the randomly selected students who show interest to participate voluntarily and respond to the instrument. All measurement statements in the questionnaire were adapted from the previous studies. The questionnaire was adapted from different authors after written permission was granted by the original authors of the instruments. It was then given to expert for validation after amendments were made. A pilot test was conducted prior to the actual study and the Cronbach's alpha value of the pilot study revealed acceptable value of 0.813. The questions for confirmation of expectation, continuance intention and satisfaction are from Roca, Chiu and Martinez (2008) and Bhattacharjee (2001). Perceived enjoyment and usefulness came from Vadecandelaere, Speybroeck, vanlaar, De Fraine and Van Damme (2012). The instrument has of two segments. The first section consists of five questions with regards to the background information of the respondents with two closed ended questions (name of institution and gender) and three open ended questions such as age of the respondent, state of institution and respondents 'course of study. The second section consisted of 36 questions to measure the five constructs of the study. Four of the five variables in the second section of this questionnaire were rated using a 5-point Likert scale, labeled as 1 (strongly disagree), 2 (disagree), 3 (somewhat agree), 4 (agree) and 5 (strongly agree). Whereas the remaining one construct in the second section of this questionnaire was tested by five-point Likert scale labeled as1 (very dissatisfied), 2 (dissatisfied), 3 (somewhat satisfied), 4 (satisfied) and 5 (very satisfied).

DATA ANALYSIS AND RESULT

In analyzing the information, Partial Least Square (PLS - SEM) was employed to examine the relations stated in the proposed study model. A two-step technique was then adopted as suggested by Anderson and Gerbing (1988). First, the fitness and the construct validity of the proposed measurement model was evaluated by measuring the reliability, convergent, and discriminant validity. The next step done was examining the structural model to investigate the strength and the direction of the relationships hypothesized in the research model followed this. PLS - SEM was employed in this study because of its capability to evaluate a series of interrelationships among latent constructs together with in a model (Awang, 2015).

Analysis of the Measurement Model
Convergent validity is a set of indicators that gather to assess a single construct (Kline, 2015). Construct validity was evaluated based on the standards that the indicator's (construct's) estimated coefficient was significant on its recommended fundamental construct factor. The researchers evaluated the measurement model using the three criteria as recommended by Fornell and Larcker (1981), namely:

(1) All indicator factor loadings (k) should be significant and exceed 0.5 (Awang, 2015; Hair et al., 2017).
(2) Construct reliabilities (CR) of each construct should be greater than or equal to 0.7 (Byrne, 2013; Awang, 2015).
(3) Average variance extracted (AVE) by each construct should exceed the variance due to measurement error for the construct (e.g., AVE should exceed 0.5) (Fornell & Larcker, 1981; Awang, 2015).

The reliability of the data was measured by Cronbach's alpha to measure the internal consistency. Cronbach's alpha (α) values of each construct are showed and each of the Cronbach's alpha is above the recommended value 0.7 (Hair, Black, Babin, & Anderson, 2017). The result specifies that variables in this study have a high internal reliability. In addition, the composite reliabilities of constructs ranged from 0.911 to 0.974, and the Average Variance Extracted (AVE), values are between the ranges of 0.564 to 0.841, this was higher than the variance due to measurement error. Therefore, all the three criteria for convergent reliability and validity were satisfied. The item factor loading, the composite reliability (CR) of each construct and the average variance extracted (AVE) satisfied the recommended threshold values (refers Table 2).

Table 2: Construct Reliability & Validity

Variables	Cronbach's Alpha	Composite Reliability	AVE
Enjoyment	0.907	0.928	0.684
Expectation	0.969	0.974	0.841
Intention	0.887	0.911	0.564
Satisfaction	0.913	0.93	0.626
Usefulness	0.887	0.912	0.599

Discriminant validity evaluates the level to which a construct and its indicators is different from another construct and its indicators (Bagozzi, Yi, e t al., 1991). The correlation of indicators in any two variables in a model should be lower than the square root of the average variance extracted (AVE) of indicators within its variables (Fornell and Larcker. 1981). In another word, the square root of the variance extracted within the construct and its items should be higher than the correlations between the construct and any other construct in the model, satisfying Fornell and Larcker (1981) criteria for discriminant validity.

Table 3: Fornell and Lacker

Variables	Enjoyment	Expectation	Intention	Satisfaction	Usefulness
Enjoyment	**0.827**				
Expectation	0.189	**0.917**			
Intention	0.292	0.254	**0.751**		
Satisfaction	0.317	0.345	0.435	**0.791**	
Usefulness	0.200	0.182	0.446	0.331	**0.774**

Structural Model

When the measuring model is suitable, the next thing would be to test the validity of the structural model. The structural model is validated using various statistical methods like path coefficient (β), coefficient of determination (R^2), predictive relevance (Q^2) and effect size (f^2). The researchers then investigated the structural model to authenticate the hypotheses based on the path coefficients and coefficient of determination (R^2) values (Chin, 2010). The coefficient of determination (R^2) values was employed to measure the capability of the model to clarify the variance in the endogenous variable. The direct relationships were used to evaluate the statistical significance of the hypotheses. According to Chin (2010), the structural model describes a theoretical model with a collection of structural equations to evaluate the inner path model. In this analysis, the basic criteria used for evaluating the structural model among others were: path coefficient (β), coefficient of determination (R^2) for endogenous variable, (Henseler et al, 2014; Chin 2010; Tenenhaus, Vinzi, Chatelin & Lauro, 2005; Gotz et al. 2010). (Figure 2).
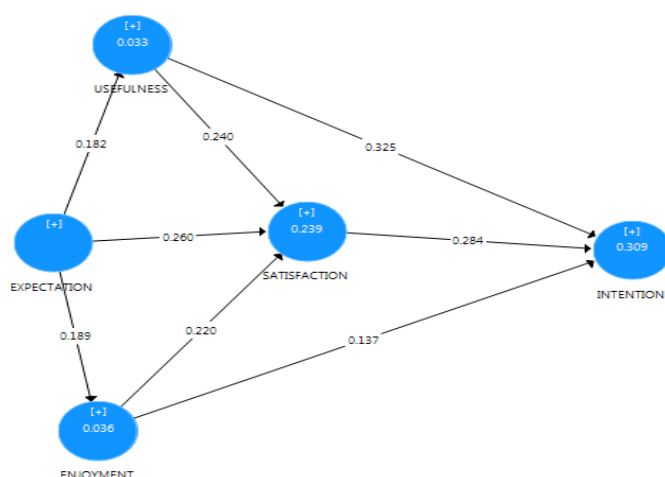

Figure 2: Structural model

The direct effects between the variables in the path model are shown in Figure 2. With regard to hypotheses H_1, H_2 and H_3, linked to the effect of confirmation of expectation on perceived usefulness, perceived enjoyment and satisfaction with learning mathematics, both hypotheses were supported. The path coefficient for confirmation of expectation on perceived usefulness was ($\beta = 0.182$, $T = 2.861$, $P < 0.05$), confirmation of expectation on perceived enjoyment was ($\beta = 0.189$, $T = 3.287$, $P < 0.05$) and confirmation of expectation on satisfaction was ($\beta = 0.26$, $T = 4.25$, $P < 0.05$). Concerning hypotheses H_4 and H_5, connected to the impact of perceived usefulness on satisfaction and continuance intention of learning mathematics both hypotheses were also supported. The path coefficient between perceived usefulness and satisfaction with learning mathematics was, ($\beta = 0.24$, $T = 3.471$, $P < 0.05$) and perceived usefulness and continuance intention was ($\beta = 0.24$, $T = 3.471$, $P < 0.05$). With regard to hypotheses H_6 relating to the effect of satisfaction with learning mathematics on continuance intention of learning mathematics was supported. The direct relationships between satisfaction with learning mathematics and continuance intention of learning mathematics was ($\beta = 0.284$, $T = 4.566$, $P < 0.05$). Lastly, the hypotheses H_7, and H_8 related to the effects of perceived enjoyment on satisfaction and continuance

intention of learning mathematics were all supported. The path coefficient between perceived enjoyment in learning mathematics and satisfaction with learning mathematics was ($\beta = 0.22$, $T = 3.698$, $P < 0.05$) and perceived enjoyment in learning mathematics and continuance intention of learning mathematics was ($\beta = 0.137$, $T = 2.677$, $P < 0.05$).The effects of perceived usefulness with learning mathematics on continuance intention of learning mathematics was higher than that of the remaining variables, the next to it was satisfaction with learning mathematics on continuance intention of learning mathematics However, the influence of perceived enjoyment did play a least significant part in affecting continuance intention of learning mathematics. (Refers table 4)

Table 4: Path Coefficient

V ariables	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values	Decision
Expectation -> usefulness	0.182	0.188	0.064	2.861	0.004	Significant
Expectation -> enjoyment	0.189	0.193	0.057	3.287	0.001	Significant
Expectation -> satisfaction	0.26	0.261	0.062	4.23	0.000	Significant
Usefulness -> satisfaction	0.24	0.243	0.069	3.471	0.001	Significant
Usefulness -> intention	0.325	0.328	0.061	5.29	0.00	Significant
Satisfaction -> intention	0.284	0.285	0.062	4.566	0.000	Significant
Enjoyment -> satisfaction	0.22	0.221	0.06	3.698	0.000	Significant
Enjoyment -> intention	0.137	0.137	0.051	2.697	0.007	Significant

DISCUSSION

In this study, researchers applied the concept of the ECM and perceived enjoyment to examine continuance intention of learning mathematics by mathematics students of colleges of education in the northern part of Nigeria (northwest in particular). First, the findings of this study exposed that perceived usefulness in learning mathematics is the major predictor of colleges of education mathematics students' continuance intention of learning mathematics, followed by satisfaction with learning mathematics. This finding is in line with the past studies (Daneji et al, 2018; Wu & Chen, 2017; Junjie, 2017; Joo et al, 2017; Eveleth et al, 2015; Mobarhan et al, 2015). Hence, perceived usefulness and satisfaction are the key constructs in explaining students' intention to continued studying mathematics

Secondly, the findings revealed that confirmation of expectations and perceived usefulness in learning mathematics of the COE mathematics students were main determinants of their satisfaction level with learning mathematics, and this confirmation of expectation of learning mathematics also had a significant effect on perceived usefulness in learning mathematics, as well as the important influence on satisfaction. Therefore, findings of this study strongly supported the ECM (Bhattacherjee, 2001). It is also in agreement with past studies (Daneji et al, 2019; Muqtadiroh et al, 2019; Joo et al, 2017; Junjie, 2017; Stone and Baker-Eveleth (2013).

Third, the findings of this study confirmed relationships between perceived enjoyment in learning mathematics and continuance intention to learn mathematics These findings are similar to those of other studies examining the influence of enjoyment on continuance intention (Huang 2019; Venter De-Wet, 2016; Venter (2016; Kim, 2010; Lee, 2010). R^2 value (Coefficient of Determination) is the most regularly applied measure for evaluating the structural model and the coefficient is a measure of the predictive accuracy of the model. The coefficient signifies the amount of variance in the dependent latent variable explained by all the independent variables linked to the dependent variable. The value of R^2 ranges between 0 to 1. The R^2 values of dependent variables are 0.239 for satisfaction and 0.309 for continuance intention. The model explains 23.9% of the variation in satisfaction with the influence of confirmation of expectations, perceived usefulness and perceived enjoyment being statistically significant this shows moderate level of acceptance (Cohen 1988). The value 23.9% represent the predictive accuracy of the influence of confirmation of expectation, perceived enjoyment and perceived usefulness in studying mathematics in improving NCE mathematics students' level of satisfaction

toward studying mathematics. Therefore, hypotheses 3, 4, and 7 (H_3, H_4, and H_7) are supported. Meaning that NCE mathematics students' satisfaction is influence by perceived usefulness, confirmation of expectation and perceived enjoyment. The implication of this finding is that mathematics students of colleges of education consider usefulness of mathematics more important in determining their satisfaction with studying mathematics, on their intention to continue to study mathematics. Compared to the confirmation of expectation and enjoyment they derived in studying mathematics. Finally, 30.9% of the variation in continuance intention was explained by perceived usefulness, perceived enjoyment, and satisfaction with learning mathematics, which are statistically significant. In another word, 30.9% stand for variance in the continuance intention of studying mathematics explained by the three hypotheses that are linked to it. Although the combined effect of the exogenous variables to the continuance intention of studying mathematics by NCE mathematics students is 30.9% it shows the moderate level of acceptance (Cohen, 1988). Therefore, hypotheses, H_5, H_6 and H_7 are supported.

For academic researchers, this study proposed a theoretical model to understand the factors affecting the continued mathematics learning intention. The current study has made efforts to establish a new model by introducing a new construct to the expectation confirmation model (ECM) and applying them into a new context. This method is likely to guarantee a stable development of the model. Therefore, the proposed model made a significant contribution to the volume of literature on the continuance intention. The current study has implications for future continuance intention research. Consequently, the results indicated that the combined model supports all the hypotheses and has moderate explanatory power, implying that the extended ECM offers a theoretical basis for explaining the continuance intention. This approach may provide an initial foundation for the further integration of other theoretical models. It is also anticipated that the current study may encourage other researchers to integrate these models into unified ones.

REFERENCES

Almahamid, S., & Rub, F. A. (2011). Factors that determine continuance intention to use e-learning system : an empirical investigation, *International Conference on Telecommunication Technology and Applications, proc. of CSIT* (5) 242–246. https://pdfs.semanticscholar.org/7724/b646f9e5ea2c3b2047cb0371d5ea824f3815.pdf.

Awang, Z., Wan Afthanorhan, W. M. A., & Asri, M. A. M. (2015). Parametric and non parametric approach in structural equation modeling (SEM): The application of bootstrapping. *Modern Applied Science*, *9*(9), 58–67 .https://doi.org/10.5539/mas.v9n9p58

Bagci, K., & Celik, H. E. (2018). Examination of factors affecting continuance intention to use web-based distance learning system via structural equation modelling. *Eurasian Journal of Educational Research*, *18*(78), 43-66.

Bhattacherjee, A. (2001). Understanding information systems continuance: an expectation-confirmation model. *MIS Quarterly*, *25*, 351–370.

Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.

Chin, W.W. (2010) How to Write Up and Report PLS Analyses. In: Esposito Vinzi, V., Chin, W.W., Henseler, J. and Wang, H., (Eds)., *Handbook of Partial Least Squares: Concepts, methods and applications* (pp. 655-690). Springer

Cohen, J. (1988) *Statistical Power Analysis for the Behavioral* Sciences *(2nd ed)*. L. Erlbaum Associates, Hillsdale

Daneji, A.,A., Ayub, A. F. M., Jaafar, W. M. W., & Khambari, M. N. M. (2018*). Influence of students' perceived ease of use , perceived usefulness and time spent towards students' continuance intention using MOOC among public university students* [paper presented]. Proceedings of the International Conference on Education in Muslim Society (ICEMS2017).

Daneji, A. A, Ayub, A. F. M., & Khambari, M. N. M. (2019). The effects of perceived usefulness, confirmation and satisfaction on continuance intention in using massive open online course (MOOC) *Knowledge management & e – learning, 11*(2), 201–214. http://doi.org/10.34105/j.kmel.2019.11.010

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3). 319-340.

Eveleth, D. M., Baker-eveleth, L. J., & Stone, R. W. (2015). Potential applicants' expectation-confirmation and intentions, *Computers in Human Behavior, 44*, 183–190. https://doi.org/10.1016/j.chb.2014.11.025

Fornell C. & Larcker, D. F (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50,

Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In M. Sarstedt, C.M. Ringle & J. Hair (Eds) *Handbook of partial least squares* (pg. 691-711). Springer

Guo, J., Marsh, H. W., Parker, P. D., Morin, A. J. S., & Yeung, A. S. (2015). Expectancy-value in mathematics, gender and socioeconomic background as predictors of achievement and aspirations: A multi-cohort study. *Learning and Individual Differences*, *37*, 161–168. https://doi.org/10.1016/j.lindif.2015.01.008

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd.ed). Sage

Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*(2), 107-123.

Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W. & Calantone, R. J. (2014). Common beliefs and reality about PLS: Comments on Rönkkö and Evermann (2013). *Organizational Research Methods*, *17*(2), 182-209.

Huang, Y. M. (2019). Exploring students' acceptance of educational computer games from the perspective of learning strategy. *Australasian Journal of Educational Technology*, *35*(3). 132-149.

Joo, Y. J., Park, S., & Shin, E. K. (2017). Students' expectation, satisfaction, and continuance intention to use digital textbooks. *Computers in Human Behavior*, *69*, 83–90. https://doi.org/10.1016/j.chb.2016.12.025

Junjie, Z. (2017). Exploring the factors affecting learners' continuance intention of MOOCs for online collaborative learning : An extended ECM perspective, *Australian Journal of Educational Technology*, *33*(5), 123–135.

Kim, B. (2010). An empirical investigation of mobile data service continuance : Incorporating the theory of planned behavior into the expectation – confirmation model. *Expert Systems With Applications*, *37*(10), 7033–7039. https://doi.org/10.1016/j.eswa.2010.03.015.

Kline, R. B. (2015). *Principles and practice of Structural Equation Modelling* (3rd. ed). The Guilford Press.

Lee, M. (2010). Explaining and predicting users' continuance intention toward e-learning : An extension of the expectation – confirmation model. *Computers & Education*, *54*(2), 506–516. https://doi.org/10.1016/j.compedu.2009.09.002

Mobarhan, R., & Rahman, A. A. (2015). *Understanding E-Portfolio Continuance Intention among Students: A Self-Determination Perspective* [paper presentation]. Proceeding of Pacific Asia Conference on Information System *PACIS*.

Mohamed, L., & Waheed, H. (2011). Secondary students' attitude towards mathematics in a selected school of Maldives. *International Journal of Humanities and Social Science*, *1*(15), 277-281.

Muqtadiroh, F. A., Herdiyanti, A., Wicaksono, I., & Usagawa, T. (2019 August). *Analysis of Factors Affecting Continuance Intention of E-Learning Adoption in Lecturers' Perspectives* [paper presentation]. Proceeding of *IOP Conference Series: Materials Science and Engineering. 588*(1) 12-22. IOP Publishing. https://doi.org/10.1088/1757-899X/588/1/012022

.Nigeria Certificate in Education (2012). *Minimum Standards for Sciences Federal Republic of Nigeria Minimum Standards for 2012 edition*. Abuja

Nneji, S. O., &Alio, B.(2017). Effects of use ofcomputer animations strategy on secondary school students' achievement and retention in algebra in Enugu state. *Abacus Journal of Mathematical Association of Nigeria, Mathematics Education Series*, *42*(1), 13–21.

Oghuma, A. P., Libaque-Saenz, C. F., Wong, S. F., & Chang, Y (2016). An expectation-confirmation

model of continuance intention to use mobile instant messaging. *Telematics and Informatics*, *33*(1), 34-47 .https://doi.org/10.1016/j.tele.2015.05.006

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, *17*, 460–469.

Rahman, M. N. A., Zamri, S. N. A. S., & Leong, K. E. (2017). A meta-analysis study of satisfaction and continuance intention to use educational technology. *International Journal of Academic Research in Business and Social Sciences*, *7*(4), 1059-1072.

Roca, J. C., Chiu, C. M., & Martínez, F. J. (2006). Understanding e-learning continuance intention: An extension of the Technology Acceptance Model. *International Journal of Human-computer Studies*, *64*(8), 683-696.

Shiue, Y. M., & Hsu, Y. C. (2017). Understanding factors that affecting continuance usage intention of game-based learning in the context of collaborative learning. *Eurasia Journal of Mathematics, Science and Technology Education*, *13*(10), 6445–6455. https://doi.org/10.12973/ejmste/77949

Stone, R. W., & Baker-Eveleth, L. (2013). Students' expectation, confirmation, and continuance intention to use electronic textbooks. *Computers in Human Behavior*, *29*(3), 984-990 .https://doi.org/10.1016/j.chb.2012.12.007

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, *48*(1), 159-205

Thong, J. Y., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, *64*(9), 799-810. https://doi.org/10.1016/j.ijhcs.2006.05.001

Udousoro, U. (2011). Perceived and actual learning difficulties of students in secondary school mathematics. *African Research Review*, *5*(5), 357–366. https://doi.org/10.4314/afrrev.v5i5.28

Vandecandelaere, M., Speybroeck, S., Vanlaar, G., De Fraine, B., & Van Damme, J. (2012). Learning environment and students' mathematics attitude. *Studies in Educational Evaluation*, *38*(3-4),107-120. https://doi.org/10.1016/j.stueduc.2012.09.001.

Venter, M. (2016). *Perceived enjoyment of mobile mathematical learning games* [paper presentation].. Proceedings of ISTE International conference on Mathematics, Science and Technology Education. 23-28 October 2016. Mopani Camp in Kruger National Park, Limpopo, South Africa. 112-119.

Venter, M., & De Wet, L. (2016, October). *Continuance use intention of primary school learners towards mobile mathematical applications* [paper presentation]. Proceedings of IEEE Frontiers in Education Conference (FIE), 1-9 https://doi.org/10.1109/FIE.2016.7757539

Wu, B., & Chen, X. (2017). Continuance intention to use MOOCs : Integrating the technology acceptance model (TAM) and task technology fit (TTF) model. *Computers in Human Behavior*, *67*, 221–232. https://doi.org/10.1016/j.chb.2016.10.028

Xu, C., Peak, D., & Prybutok, V. (2015). A customer value, satisfaction, and loyalty perspective of mobile application recommendations. *Decision Support Systems*, *79*, 171-183. https://doi.org/10.1016/j.dss.2015.08.008

Zheng, J., Li, S., & Zheng, Y. (2017). Students' technology acceptance, motivation and self-efficacy towards the e- Schoolbag: An Exploratory Study. *Int. J. Infonomics*, *10*(3), 1350-1358.

Zogheib, B., Rabaa'i, A., Zogheib, S., & Elsaheli, A. (2015). University student perceptions of technology use in mathematics learning. *Journal of Information Technology Education: Research, 14,* 417-438.

Pre-Service Teachers Perceptions to Outliers in Statistical Graphs

Norabiatul Adawiah binti Abd Wahid
Suzieleez Syrene binti Abdul Rahim
Sharifah Norul Akmar binti Syed Zamri

Universiti Malaya
norawahid@siswa.um.edu.my
suzieleez@um.edu.my
snorul@um.edu.my

ABSTRACT

Statistical graphs are often used by mass media to convey information to the community. Hence, it is a requirement for pupils in school to understand and apply various statistical skills to help them interpret the statistical graph. Teachers must play a very important role in ensuring that the student understands and able to interpret various types of statistical graphs by applying an appropriate statistical skill. However, an outlier in a set of data always gave some problems to the graph reader. An outlier can cause serious problems in statistical analyses. An outlier lies at an abnormal distance from other values in a random sample from a population. Therefore, this study looked at how prospective Mathematics teachers interpreted and build their perceptions towards an outlier in two types of statistical graphs by using an in-depth interview with all of the participants of this study. There were two types of statistical graphs used in this study, frequency table and a bar chart. Based on the findings obtained from this study, five prospective teachers who involved in this study agreed that the outlier had various effects on the distribution of data for the entire data represented by the frequency table. This issue will be discussed in detail in this report. Hopefully, the findings from this study will give a clear description on how far the participants of this study perceived about the role and effects of outlier in a set of data.

Keywords: Outlier, Data, Statistical graphs, Frequency table, Bar chart

INTRODUCTION

Visual representations such as graphs and charts are important tools to make data and models more understandable. In our visual world, information is often presented in graphical format through diagrams, maps, and visual representation of data. Understanding mathematical relationships that are expressed in graphical form has been identified as a critical component of mathematics proficiency (Rosenblum et al,2018). In our daily life, we are confronted with a lot of statistical graphs that visualize information, such as election results or the development of stock prices. Therefore, skills to understand, interpret and perceived about the data set represents by those statistical graphs were really in needs.

The study about graph comprehension have been in focussed when Curcio (1987) introduced three levels of graph comprehension. Regardless of the graph form used (pie, line, bar, etc.), the three levels of graph comprehension are reading the data, reading between the data, and reading beyond the data**.** Even though Curcio (1987) have gave us idea on how graph comprehension can be classified, we can't neglect the importance of statistical literacy in those process. These aspects have been studied in detail by various researchers. Gal (2002) who focus his study on statistical literacy, has introduced the conceptual model of statistical literacy. In this model, Gal (2002) have divided statistical literacy into a building block as Figure 1.

Figure 1
Conceptual Model of Statistical Literacy (Gal, 2002)

Knowledge elements	Dispositional elements
Literacy skills Statistical knowledge Mathematical knowledge Context knowledge Critical questions	Beliefs and attitudes Critical stance
Statistical literacy	

In Figure 1, it clearly showed to us that there were three types of knowledge needed to support statistical literacy. Those knowledges were statistical knowledge, mathematical knowledge and context knowledge. Among these three types of knowledge, context knowledge is something that have not been clearly thought when we learn about statistics and also mathematics at school. These aspects have brought many confusions and problems about the actual definition and needs of statistical literacy by various researchers. According to Gal (2019), he explains that instead of only depending on the knowledge that have been learn in the classroom, there were also needs that the statistical information in a data form to be relates with the real-world situations. In relation with statistical graph comprehension, context knowledge is really needed. We can't deny that each data set that been presented by any types of statistical graphs has its own context. It depends to the graph reader on how they want to interpret those contexts, but the important point here is the present and needs of context knowledge to allow the graph reader to interpret the statistical graphs appropriately.

Next, the idea about levels in graph comprehension (Curcio, 1987) and statistical literacy by Gal (2002) have been used by Watson and Callingham (2003) when they introduced their idea about six levels of statistical literacy hierarchy. Those six levels of statistical literacy hierarchy were idiosyncratic understanding (level 1), informal understanding (level 2), inconsistent understanding (level 3), consistent non-critical understanding (level 4), critical understanding (level 5), and critical-mathematical understanding (level 6). These hierarchical levels have been mainly used to explain the level of understanding of students' arguments in reading and interpreting data via critical thinking.

Even though the study on how graph comprehension and the appropriate knowledge that is needed to support the comprehension have been introduced, but, there were a lot of challenges and mistakes that still happen while interpreting statistical graphs with an outliers. The evidence of this problems can be found in the study conducted by Estrada and Batenero (2008) who found that 45 % of participants in their study did not take outliers into account when computing averages (Hannigan, Gill, & Leavy, 2013). Both researchers have also found that outliers was one of the misconceptions founded among their participants, prospective primary teachers. Meanwhile, Shoughnessy have stressed that one of the needs in making pedagogical content move in statistics lesson would be to superimpose the providing actual raw distribution along with the summary of critical values, including an outliers (Rossman, 2013). To make the things worse, the findings from the study of Jacobbe & Carvalho, (2011) have showed that the teachers who involved in their study showed no understanding of the effect of outliers on the mean (Koleza, & Kontogianni, 2016).

Based on the previous findings research findings, it proved that an outlier in a set of data have always given some problems to the graph readers/participants of the study. At the same time, an outlier always causes serious problems in statistical analyses. The position of an outliers that lies at an abnormal distance from other values in a random sample from a population could gave effect to the interpretations and analysis for the data set. Therefore, we decide that a study about how an outliers would affect the participants interpretation and perceptions towards the statistical graphs need to be conducted.

Research Objective

The objective of this research is to determine on how the participants of our study build up their perceptions towards the outliers in statistical graphs. There were two different types of statistical graphs used in this study. Those two was frequency table and bar chart. To ensure research objectives can be achieved, those two statistical graphs have at least one outlier in the data set.

Research Participants

There were five participants in this study. The limited numbers of participants for this study because this was a qualitative study. Besides that, we have conducted an in-depth interview with all of our participants separately between each of them. This is because we need to make sure the reliability of our data. Besides that, all of the participants would be asked based on their interpretations towards two types of statistical graphs, frequency table and bar chart. All of our participants were a pre-service teacher who were at their final year of their study at one of the Teachers Training Institute (IPG) in Malaysia.

Data Collection Method

An in-depth interview has been used to collect all the information needed to fulfil the objective of this study. All of the participants have been interviewed individually. This to ensure that the processed of interpretation and perception towards each of the statistical graphs can easily determine. Besides that, these to ensure that the feedback gave by each participant were not being affected by the feedback gave by other participants. At the same time, this process allowed us to posed questions based on each participants interpretations only withoit being affected by the others feedback. This help us to increase the validity of our data.

There were two different types of statistical graphs used in this study. Those two statistical graphs were frequency table and bar chart as shown in Figure 2 and Figure 3 below.

Figure 2
Statistical Graph 1

Type of waste	Decomposition period
Banana peel	1–3 years
Orange peel	1–3 years
Box	0.5 year
Chewing gum	20–25 year
Newspaper	A few days
Polystyrene cup	More than 100 years

Figure 3
Statistical Graph 2
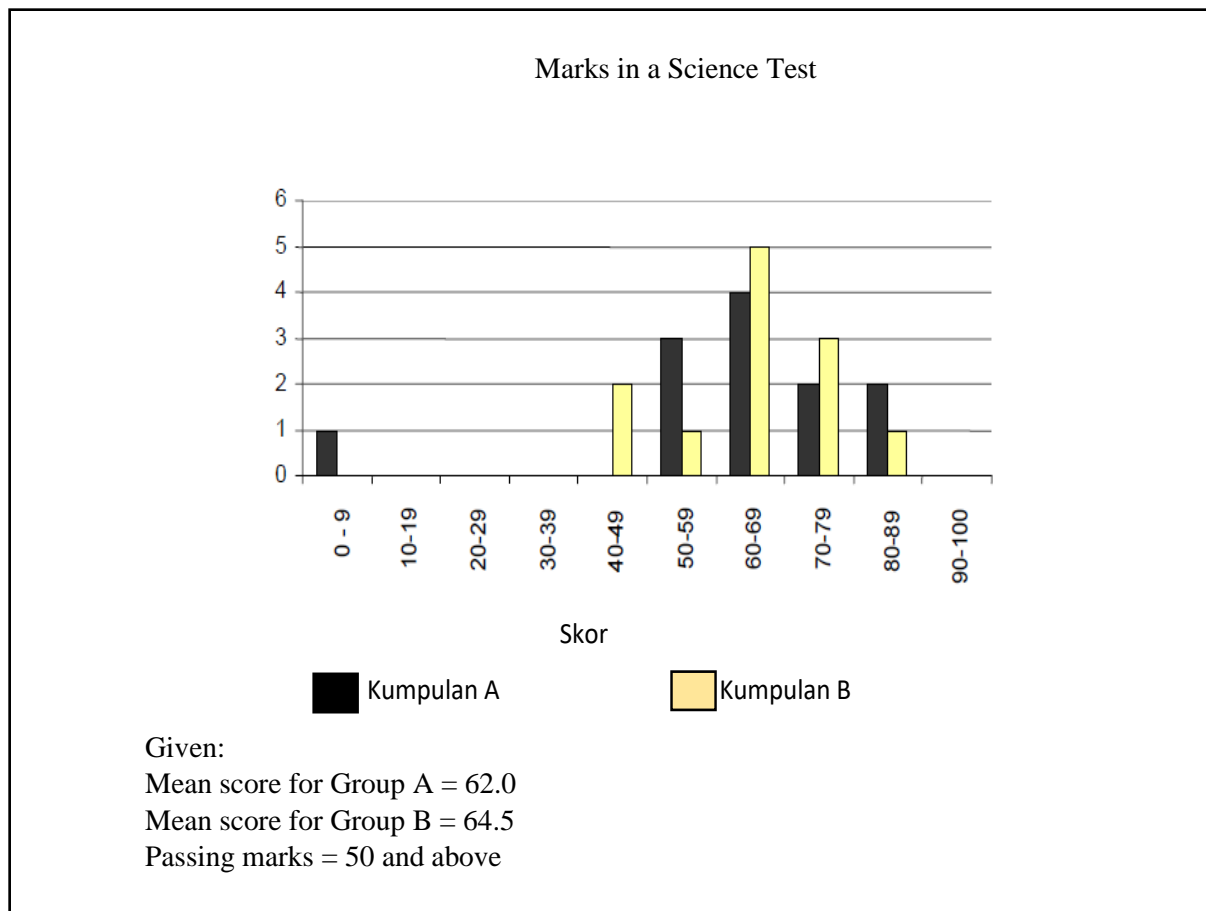
Those statistical graphs have been giving one after another to avoid confusion and to allow the participants to have a clear idea about the statistical graphs. By having the clear idea about the statistical graphs, hopefully it would help them to do their interpretation towards each statical graphs appropriately. The interview session started after the participants told us that he/she have clearly understand about the statistical graphs and when they were ready to discuss their interpretations and perceptions onto those statistical graphs. In accordance with the objective of this study, the findings that will be focus on data discussion below will focus on the perceptions of all the participants to the outliers in those statistical graphs.

DATA FINDINGS

We will discuss about the participants perceptions towards the outlier in both statistical graphs separately. So, for the next section we will discuss about the perceptions towards the outliers in frequency table first before we discuss about the perception towards the outlier of bar chart.

Perceptions towards outliers in frequency table

Frequency tables were always used as an organizer to a set of data. By using frequency table, it helps the reader of the data set to easily understand about all the information carried by the frequency table. At the same time, frequency table were usually used before analysis of the data set can be done in detail. There was similarity on how all of the participants start their discussion about the given frequency table. First, they would briefly discuss on the issue represents by the data set in the frequency table. All of the participants have agreed that the data set were about the decomposition period for five types of wastes,

banana peels, orange peels, box, chewing gum, newspaper and polystyrene cups. They have also discussed about the longest (polystyrene cup, more than 100 years) and fewest time (newspaper, a few days) of decomposition period based on the data set. Based on this information, all of the participants have determined that the given data set have a very big range.

Based on that information, the participants have focussed their discussion on the most suitable statistical graphs that can be used to represent the set of data. Based on the findings, its clearly shown that four participants faced some problem to determine the most suitable statistical graphs to represent the set of data. This is because of the range between the data is too big that brought by the two outliers in this data set. Because of this matter, there were some confusions when the participants discuss on what is the most suitable statistical graphs that can be used to represent the set of data.

To avoid many problems while selecting the most suitable statistical graphs to represent the set of data, all of the participants agreed that those two outliers need to be taken out from the group. Even though the participants have suggested to took out those two outliers from the data set, but they still carry on their work on determining and drawing the most suitable statistical graphs for the data set by using the outliers. They have listed out line graphs and bar chart before they agree that pie chart is the best representation for the data set.

Four participants have suggested to use pie chart to represents the set of data. But most of them decides to use pie chart after they found that their earlier suggestion can't be used to represent the set of data. This happen when they got stuck while drawing their suggested statistical graphs. Because of these, they change their decision to use a statistical graph without any axis on it that is pie chart. This is because they realize that by having axis in the statistical graph and with a big range of data it would really affect the scale that need to be used on their axis. Besides that, the big range would also give a large gap between each data in the data set.

The suggestion to used pie chart to represent the set of data also gave various obstacles to the participants. They can't correctly build up the suggested pie chart. This happen when they calculate the angle of segment for the outlier. Besides that, the big range in the data set have also given an effect to their calculations. By looking at their working steps, we realised that there was one participant who clearly miscalculate the angle of segment, where she used 100% instead of 360° in her calculations. Towards the end of their calculations for the angle for each segment then they have decided there were no appropriate statistical graphs that can be used to represent this set of data. These can be seen in Figure 4.

Figure 4
Miscalculation for the angle of segment in pie chart

$$\frac{50}{100} \times 100 = 50\%$$

$$\frac{50}{100} \times 360° = \underline{\quad}$$

Besides taking out the outliers from the data set, participants had also adjusted the value of the data in the data set. This is because some of the data were given in a range form that would affect the analysis for the whole data set. Therefore, all of the participants have adjusted the value of the data set as an example in Figure 5 that have been taken by one of the participants.

Figure 5
Adjustment to the value of data

Jenis bahan buangan	Tempoh Penguraian		
Kulit pisang	1–3 tahun	2	O O
Kulit oren	1–3 tahun	2	O O
Kotak	0.5 tahun	0·5	ฉ
Gula-gula getah	20–25 tahun	(25)	
Akhbar	Beberapa hari	0·1 tahun.	
Cawan polisterine	Lebih 100 tahun	100	

When discussing about the purpose of doing so, the participant told us that by using this method it really helps on drawing the appropriate statistical graphs for the data set.

From five participants in this study, there were one participant who have clearly shown his understanding towards the effect of the outlier in the given set of data while choosing the best and suitable statistical graphs to represent the data set. He has also suggested that line graph is the only solution if the data set still need to be represented by statistical graphs. In his discussion he also mentions that the line graph that he suggested need a lot of time to be drawn because of the effect brought by the outliers and the big range between the data.

Perceptions to outliers in bar chart

The first things that all of participants do after they received Figure 3 were discussing on the issue represented by the bar chart. Since the mean score for each group have been given, participants have focussed their interpretations on the data set based on the central tendency value and the data distribution between both of the groups. Based on information received from the interview session, we realised that all of the participants tend to focus their discussion on how the outlier of this set of data gave effect to the value of mean for group of students. By looking at Figure 3, we can see that there were two groups of participants that have been compared on their achievements in a Science test. Even though the number of students in Group A obtain 80-89 marks is more than Group B, but there was a student from this group who only get 0-9 marks in the same test. This difference has been discussed in detail by all of the participants in their interview session. Based on the findings that we have obtained, all of the participants agreed that the only students from Group A who obtain 0-9 marks in this test can be classified as the outlier for the set of data for Group A.

All of the participants agreed that this outlier have gave an effect to the mean for Group A in this test. Besides that, the outlier has also gave an impact towards the value of median for this graph. By discussing on the differences in the achievements between Group A and Group B, all of the participants agreed that the outliers in Group A have given an effect to the overall achievements of Group A compared to their friends in Group B. This is especially when we do the comparison by only looking at the central tendency value for each group. But this might be change if the analysis being done by making comparison between the number of students in each group of marks. Besides comparing the achievements for each group, all of the participants have also discussed the reason behind the achievement of the outliers in Group A.

DISCUSSION

Based on the findings from our interview session with all of the participants, we can conclude that there were a few points of discussions that can be elaborate and compare with findings from the other research in the same field of our study. Those points were as below:
   a) Discussion about context of the statistical graphs
   b) Choice of the most suitable graphs based on data set
   c) The effect of outliers towards the value of central tendency

Discussion about context of the statistical graphs

The importance of context in Mathematics study have been stressed by PISA when they include this aspect in their definition for numeracy. PISA defines numeracy as "an individual's capacity to formulate, employ, and interpret mathematics in a variety of contexts," including "reasoning mathematically and using mathematical concepts, procedures, facts and tools to describe, explain and predict phenomena" (Börner et al 2019). In the study of statistics, Gal (2019) have stressed on the importance of context by listing out two context that mainly found in the study of this field. Those two contexts were civic statistics and burning issue. Based on Figure 2 it brought us to an environmental context, which been categorized as burning issues, while Figure 2 brought us to educational achievement context which have been categorized as civic statistics.

By looking at how all of the participants began their discussion towards both statistical graphs, we can conclude that all of them have been able to discuss their interpretations by using an appropriate context brought by both statistical graphs. Besides that, they have been able to make their conclusion about the data set correctly. This conclusion has helped them to discuss in detail about the data set throughout their interview session. The role and effect of outliers to their data set have also been discussed correctly by all of the participants. This shows that the partipants have been able to use varied skill set that help them to interpreted and discussed about both statistical graphs that they have. The importance of applying various skill set have been stressed by Rosenblum et al. (2018) in their study.

Choice of the most suitable graphs based on data set

In this study, we have determined that the participants have also discussed about the most suitable statistical graphs that can be used to represent the set by of data especially when they discussed about the frequency table. Based on our findings, its clearly shown that most of the participants has faced problems to decides the most suitable statistical graphs to represent the set of data. This is because of the presence of two outliers in the data set. These two outliers have given a big range between the data in the data set. If we refer to Figure 2, it clearly showed that there were two different units of time involved, that was days and years. The biggest value in this frequency table is more than 100 years meanwhile the smallest value is only a few days. To avoid all of the problems brought by the big data range, most of the participants agreed that those two outliers need to be taken out from the group. Those two outliers were the smallest data, newspaper (few days), and the biggest data, polystyrene cup (more than 100 years).

The elimination of outliers from the data set shows that they have a good knowledge on how to manage the presence of outliers in a data set. According to Aguinis et al. (2013) there were many strategies that can be used while handling outliers in the data set including making some corrections to the data and also by removing the outlier.

To determine the most appropriate statistical graphs for the data set, Börner et al. (2019) has determined that the participants in their study have conducted three steps. Those steps were (i) examine a graph and answer yes/no insight questions by modifying usage of graphic variable types; (ii) read a simple case study that defines an insight need and dataset, and then, select the best visualization, graphic symbols, and variable types to meet the predefined need; and (iii) listen to a client explaining a real-world

problem, identify insight need(s), pick the most relevant dataset(s), construct an appropriate visualization, and verbally communicate key insights to the client. These steps have been categorized as scaffolding. By comparing these steps with our findings, we determined that those processes have also been conducted by our participants.

By comparing the data that we have obtain with the levels of statistical literacy hierarchy (Watson & Callingham, 2003) we could categorized our participants under Tier 2. Watson and Callingham (2003) have categorized Tier 1 as the ability to generally can understand how to read data and explain data correctly. Ability in Tier 2, analyze, interpret, interpret and make conclusions correctly accompanied by precise statistical terminology. Meanwhile in Tier 3, participants should be able to present data into other forms practically and be able to make predictions. Based on the findings, we have determined that four participants struggle to determine the most appropriate statical graphs that can be used to represent the data set in Figure 2. According to Risqi and Setianingsih (2021) this showed that the participants need to have special treatment from their lecturer, especially in the context to improve statistical literacy skills.

The effect of outliers towards the value of central tendency

The presence of outliers in any data set could lead to biased estimation of central tendencies (Aguinis et al's, 2013). The value of mean given in Figure 3, brought us to the possibility of variability is the variation of the data. In terms of our study, the ability of our participants to discuss in detail about the effect of outlier in similar data set proved that they have a good knowledge and skills about statistics. This finding is contrast with the findings from what have been discussed by Boels, Bakker et al. (2019) in their review about conceptual difficulties when interpreting histograms.
Besides that, the presence of outliers would bring out a fresh and meaningful perspective towards the data set. Based on our findings, we noticed that our participants have been able to use their statistical skills and knowledge to help them discussed and interpret about the effects brought by outliers to the value of central tendency and their data set.

CONCLUSION

Based on the findings of this study, we conclude that the outliers in a data set have given some effects to the participants perceptions towards the data set especially when they need to apply their critical skills by selecting the most appropriate statistical graphs for a set of data. By looking at the positive sides, the participants have been able to build up an appropriate perception towards the statistical skills and knowledge even though there were an outlier in the data set. Hopefully this study could gave an insightful idea on how can the outliers effect the perceptions of our participants towards the data set. At the same time, the information gain from this study could be use by the lecturers of statistics at IPG to put their focus on how to enhance the skills needed to help the pre-service teachers to build up the correct perceptions towards data set with an outliers.
But, more studies on the same field as this study need to be conducted to get much clear situations about how teachers in Malaysia gave their perceptions towards any set of data with outliers in it. At the same time, this is really needs because the participants for this study is limited to five participants only.

Therefore, we suggest that for the future research, there should be more studies by focussing on the effects towards the outliers in a set of data. We should look at how outliers effect the comprehension on any mode of statistical graphs. We can't deny that outliers should gave a big effect in data analysis, but how far it effects to various types of research participants either it was students or teachers should be look in detail in future studies.

REFERENCES

Aguinis, H., Gottfredson, R. K., & Joo, H. (2013). Best-Practice Recommendations for Defining, Identifying, and Handling Outliers. *Organizational Research Methods*, *16*(2), 270–301. https://doi.org/10.1177/1094428112470848

Boels, L., Bakker, A., Van Dooren, W., & Drijvers, P. (2019). Conceptual difficulties when interpreting histograms: A review. *Educational Research Review*, *28*(September), 100291. https://doi.org/10.1016/j.edurev.2019.100291

Börner, K., Bueckle, A., & Ginda, M. (2019). Data visualization literacy: Definitions, conceptual frameworks, exercises, and assessments. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(6), 1857–1864. https://doi.org/10.1073/pnas.1807180116

Curcio, F. R. (1987). Comprehension of Mathematical Relationships Expressed in Graphs. *Journal for Research in Mathematics Education*, *18*, 382–393.

Gal, I. (2002). Adults' statistical literacy: Meanings, components, responsibilities. International Statistical Review, 70(1), 1-25.

Gal, I. (2019). Understanding statistical literacy: About knowledge of contexts and models. *Actas Del Tercer Congreso Internacional Virtual de Educación Estadística*, 1–15. Retrieved from http://digibug.ugr.es/bitstream/handle/10481/55029/gal.pdf?sequence=1&isAllowed=y

Risqi, E. N., & Setianingsih, R. (2021). Statistical literacy of secondary school students in solving contextual problems taking into account the initial statistical ability. *Pi: Mathematics Education Journal*, *4*(1), 43–54.

Rosenblum, L. P., Cheng, L., & Beal, C. R. (2018). Teachers of students with visual impairments share experiences and advice for supporting students in understanding graphics. *Journal of Visual Impairment and Blindness*, *112*(5), 475–487. https://doi.org/10.1177/0145482X1811200505

Watson, J., & Callingham, R. (2003). Statistical literacy: A complex hierarchical construct. *Statistics Education Research Journal*, *2*(2), 3–46. Retrieved from http://www.stat.auckland.ac.nz/~iase/serj/SERJ2(2)_Watson_Callingham.pdf

Hannigan, A., Gill, O., & Leavy, A. M. (2013). An investigation of prospective secondary mathematics teachers' conceptual knowledge of and attitudes towards statistics. *Journal of Mathematics Teacher Education*, *16*(6), 427–449. https://doi.org/10.1007/s10857-013-9246-3

Rossman, A. (2013). Interview with Mike Shaughnessy. *Journal of Statistics Education*, *21*(1), 1–27. Retrieved from http://www.amstat.org/publications/jse/v21n1/dunn/rossmanint.pdf

Koleza, E., & Kontogianni, A. (2016). Statistics in primary education in Greece:How ready are primary teachers? In D. Ben-Zvi & K. Makar (Eds.), *The Teaching and Learning of Statistics: International Perspectives* (pp. 289–297). https://doi.org/10.1007/978-3-319-23470-0

Influence of School Administrators' Emotional Intelligence, Leadership Style, and School Culture on School Climate

Lucita Lofranco Ontong

Libona Central School, Bukidnon, Philippines (lucitaontong@yahoo.com)

ABSTRACT

School climate is one of the influential factors which explains learners' learning achievement and development, teacher commitment to stay, and school success. Many researchers studied factors that are behind having a healthy, safe, and positive school climate. However, there are fewer studies that identified emotional intelligence, school culture, and leadership style of school administrators influenced by school climate, specifically in the local setting. This current study developed a structural model and determined which of these variables influenced school climate. Two hundred twenty-four (224) teachers from twenty-two (22) public elementary schools in the municipality of Libona participated in the study. Descriptive and inferential statistics were used to initially organize the data. The study found confirmed that emotional intelligence of heads of schools, their leadership style and the school culture created predicts school climate. It is recommended that educational leaders may consider implementing strategic school programs, projects, strategies, and activities for the development of school administrators' high emotional intelligence, apply leadership style best fitted for the kind of culture and climate a school has, and adopt school culture for a quality learning environment.

Keywords: School culture, Emotional intelligence, Leadership style, School administrators

INTRODUCTION

School climate is one of the leading factors that affect learners' and school's performance. It describes the classroom and school environment, including relationships among teachers towards the parents and learners and the school heads relationship towards the teachers, learners, and parents. It also defines learners' experiences, shapes good memories, and provides learners' meaningful life-long learnings needed for the future. While learners are in school, their feelings, emotions, and engagement in school activities depend on the climate of the school they have experienced.

A school with a positive school climate encompasses everything that makes up a school's environment and that it impacts each aspect of student development (Wang & Degol, 2016). Students in a school with a positive climate will have the opportunity to explore their talents and skills. They can develop high self-esteem, self-appreciation, and a healthy disposition in life. Schools with a positive climate tend to have fewer problems on students' discipline (Thapa et al., 2013) and aggressive, violent behavior, (Gregory et al., 2010) and fewer high school suspensions (Lee et al., 2011). Students' attitudes and values are associated with a kind of climate a school has. A study reported that a school's climate is one of the core variables that has the power to augment student achievement (Maxwell, 2017). The best way of attaining improved students' academic performance is by having a healthy and positive school climate. It is a more significant factor in student achievement than the variables of race and socioeconomic status (Scallion, 2010).

While the school climate predicts students and their achievements, it also affects students' absenteeism. Based on the Youth Risk Behavior Survey conducted by the Centers for Disease Control and Prevention (CDC, 2012), 5.9% of students surveyed missed at least one day of school in the month before the survey because they did not feel safe at school or traveling to and from school (Eacho, 2013). In schools without supportive norms, structures, and relationships, students are more likely to experience violence, peer victimization, and punitive disciplinary actions, often accompanied by frequent absenteeism, which reduced academic achievement (Astor, Guerra, & Van Acker, 2010). It is necessary, therefore, that schools should have safe and orderly environments conducive to learning, free of violent behavior,

and criminal activity (Robers, Zhang, & Truman, 2010). The tendency of the students to feel safe in school is something to do with having a positive school climate. A school is said to have a positive climate when learners feel safe and freely roam around the school campus without having to fear. It is an effective school when students can feel safe, physically, and emotionally (Lezotte, 2013).

Aside from the fact that school climate influenced the attendance of learners in school, research also found out that school climate was a significant predictor of a teacher's commitment to stay. Collie et al. (2011), in their study, concluded that a positive school climate is one that includes good student relations, greater collaboration among teachers, and input on decision making, resulted in greater teacher commitment. Teachers will likely perform their tasks best in a safe, conducive, healthy, and positive school climate.

The Department of Education (DepEd) Mission Statement articulated the answer to the question for schools to gain a positive school climate. It states that "school administrators are stewards of the institution. They must ensure an enabling and supportive environment for effective learning to happen" (DepEd Vision and Mission Statement). School administrators take the lead to foster and nurture meaningful relationships between all school stakeholders and ensure that a collaborative, respectful climate is ever-present within the school (Hamilton Fish Institute, 2001; Leff, 2014). Given the roles and responsibilities provided in Republic Act 9155, school administrators are facing increasing challenges. One of these challenges, is to create a learning environment within the school that is conducive to the teaching and learning process (RA 9155 section 6.2).

A positive school climate is attained depending on school administrators' emotional intelligence and leadership styles in the performance of their roles and responsibilities. Emotions can be intense, upsetting, discouraging, motivating, exhilarating, positive, and negative, and they can challenge the leadership abilities of any person (Moore, 2015).

The researcher believes that motivating the members of the school community in improving the school climate is one of the primary responsibilities of the school principal. **A**rticle 2 Section 17 of Batas Pambansa Bilang 232 or *"Education Act of 1982 provided the duties and responsibilities of the school principals. One of these duties and responsibilities, is to develop* and maintain a healthy school atmosphere conducive to the promotion and preservation of academic freedom and effective teaching and learning and to a harmonious and progressive school-personnel relationship"**.**

There is a dearth of study on factors that influence school administrators' emotional intelligence and leadership style in creating a healthy school culture that will yield a positive school climate, especially in the local setting. Based on the premise that it is the ultimate job of school administrators to facilitate and support learning, collaboration and the creation of a healthy sustainable school climate has numerous effects on the school principals' management. Furthermore, it is believed that school principals' way of running the school has a bearing on their emotional intelligence, leadership style, school culture, and school climate. Thus, this study examined aspects of school administrators' emotional intelligence, leadership styles, and a school culture that influenced a school climate.

FRAMEWORK

This study is anchored on the following theories namely Needs-Based Theory of Abraham Maslow (1943) as cited by Spoor et al., (2017), Emotional Intelligence Theory by Daniel Goleman (1995), Bass and Avolio (1985) Full Range Leadership Theory, and the Theory Z of William Ouchi (1981).

The Needs-Based Theory of Abraham Maslow (1943) postulates that actions are motivated in order to achieve certain needs. Similar to Abraham Maslow's hierarchy of needs, a school also has needs that must be met in order to achieve a positive school climate. Among these are safety, harmonious relationships within the school premises, quality teaching and learning process, and conducive institutional environment. These needs are integral parts of what comprises a positive school climate (Wooley & Grogan-Kaylor, 2006 as cited by Spoor et al., (2017). These parallels in human needs and

school climate show the importance of the development of a positive school climate on the development of a child (Spoor et al., 2017).

Another theory that supports this study is that of Daniel Goleman's theory on emotional intelligence (EI), who postulated the idea that it is not enough for leaders to have a high Intelligent Quotient (IQ) and be technically skilled. They must also possess emotional intelligence in order to gain the trust and confidence of the followers. Emotional competencies stem from the emotional intelligence of each individual. Goleman explains the five basic dimensions of emotional intelligence, namely, self-awareness, managing emotions, motivating oneself, empathy, and social skills. Grobler & Conley (2014)   pointed out that the emotional intelligence of a leader influence positive relationships with others and among others. This is supported by the study of Madondo (2014) which concluded that leaders must be emotionally intelligent to manage effective relationships. It   is   said   that school administrators with high level of emotional intelligence are skillful in dealing with their emotions, especially in creating an environment conducive for learning. Being aware of one's feelings and of others in managing the school enable them to give technical assistance to the teachers in the delivery of quality education in a safe and conducive learning environment. Studies such as Alghamdi (2013) assert the emotional intelligence of school administrators immensely helps in making wise decisions of making the school climate positive.

The Full-Range Leadership Theory (FLRT) of Avolio and Bass (2010) presented an arrangement of the different characteristics that a leader must possess for a productive organization. The assumption underneath this theory is that every leader exhibits the three leadership styles – transformational, transactional, and passive – but on different levels. There must be an upright balance of these three (3) leaderships styles in order to have effective leadership in an organization (Avolio and Bass, 2010). According to this theory, leaders should be more frequently transformational than transactional and more frequently transactional than passive (Pantaleon, 2015). Leaders can also strengthen their competence by developing a flexible leadership style that draws in and motivates employees via skills such as visioning, coaching, affiliative behavior, and democratic style (Goleman et al., 2013). The additional assumption of this theory is that the transformational leadership style can make the organization successful, whereas passive leadership style should be minimized since this may not give good outcomes (Avolio and Bass, 2010). Leadership provides a significant path to influence minds and motivate the organization or group toward the attainment of recognized goals (Barth-Farkas & Vera, 2014). This study assumed that leadership styles of academic administrators is decisive of the school climate they create.

In 1981, William Ouchi popularized Theory Z as a hybrid management style, which is a combination of a strict American management style (Theory A) and a strict Japanese management style (Theory J). This theory speaks of an organizational culture that accurately manifested the culture of the Japanese workers who are described to be more participative and capable of performing multi-tasks. Theory Z is concerned with the "culture of the whole organization." It is not concerned with the attitudes or behavior patterns of an individual supervisor but rather with the difference the organizational culture makes in the way the whole organization is put together and managed (Lunenburg, 2011). Ouchi's Theory Z makes certain assumptions about workers. These are the notion that workers want to build cooperative and intimate working relationships with those that they work for and with, as well as the people that work for them, thus influencing possible positive culture as cited by Aydin (2012). The above discussion of the theories has led to the conceptualization of the propositions of this study that the school climate is influenced by the school administrators' emotional intelligence and leadership style and the school culture.

OBJECTIVE OF THE STUDY

This study attempted to determine the influence of school administrators' emotional intelligence, leadership style, and school culture on the school climate. It likewise determined the significant relationship between school administrators' emotional intelligence, leadership style, school culture, and school climate

METHODOLOGY

Using the descriptive correlational research design, this study was conducted in the two school districts in the municipality of Libona, Bukidnon Province with 22 schools and were *limited to teacher-population only*. There were 224 teachers who participated and whose informed consents were also secured and emphasized that participation was voluntary. Four (4) survey questionnaires were used, namely, The School Climate Survey of Spoor and Turney (2017); The Emotional Intelligence Appraisal developed by London Learning Academy (2010) to measure the emotional intelligence of the school administrators as perceived by the teachers; The Modified Leadership Questionnaire by Malcalm (2017) to determine the leadership styles of the school administrators as perceived by the teachers; and the School Culture Survey developed by Gruenert (1998). Permission was sought and granted by the authors to utilize and modify the four survey questionnaires. To organize the data, descriptive statistics and multiple linear regressions were used to further attain the objectives of the study. In this study, the different sources of the information gathered were the teacher-participants, the stakeholders, and the learners of the schools. Included in the qualitative analyses were the level of school administrators' emotional intelligence, leadership style, school culture, and school climate.

RESULTS

Perception of Teachers of their School Administrators' Emotional Intelligence, Leadership Style, School Culture and School Climate

Perceived School Administrators' Emotional Intelligence. To determine the summary of school administrators' emotional intelligence as perceived by teachers, the descriptive statistics such mean of the mean and standard deviation were used. Table 1 shows the manifestations of the school administrators' emotional intelligence of the five dimensions such as self-awareness, managing emotions, motivating oneself, empathy, and social skills.

Table 1. Summary of Respondents' Perceived School Administrators'
Emotional Intelligence

Indicators	Mean	SD	Qualifying Statement (QS)
Self-awareness	3.88	.613	Usually Applies
Managing Emotion	3.73	.688	Usually Applies
Motivating Oneself	3.92	.685	Usually Applies
Empathy	3.78	.726	Usually Applies
Social Skill	4.00	.705	Usually Applies
Overall Mean	**3.86**	.683	**Usually Applies**

The results of this study show that social skills are seen as the highest. This may be attributed to the school administrators' ability to deal with diverse people. One of the qualifications of being a school administrator is to possess the ability to interact with people in all walks of life. The findings suggest of the potential of school administrators' good relationships with their teachers as well as to students and parents. Grobler & Conley (2014) pointed out that the emotional intelligence of a leader influence positive relationships with others and among others. This is supported by the study of Madondo (2014) which concluded that leaders have to be emotionally intelligent to manage effective relationships. It was further found out based upon the interview conducted that the key informants perceived that their school administrators have moderately manifested emotional intelligence.

Perceived School Administrators' Leadership Style. Table 2 presents the summary results of the respondent's perception of the leadership style of their school administrators. The data reveals that school administrators 'fairly often' exhibited the transformational leadership style (M=3.98, SD=.654). School administrators are 'sometimes' demonstrated the transactional leadership style (M=3.44, SD=.723) and 'sometimes' laissez-faire (M=2.81, SD=1.088). The overall mean result reveals that the school administrators apply the three leadership styles, namely transactional, transformational, and

laissez-fair, in varying degrees. Although, the result implies that school administrators were more of transformational leaders, to be effective, leaders need to adopt the various leadership styles that best fit of the nature of the people they supervise as well as consider the school assignment. Leadership provides a significant path to influence minds and motivate the organization or group toward the attainment of recognized goals (Barth-Farkas & Vera, 2014).

Table 2. Summary Results Respondents' Perceived School Administrators' Leadership Style

Indicators	Mean	SD	Qualifying Statement (QS)
Transactional Leadership	3.44	.723	Sometimes
Transformational Leadership	3.98	.654	Fairly Often
Laizzes – Faire	2.81	1.088	Sometimes
Overall Mean	**3.41**	**.552**	**Sometimes**

Table 3. Summary Results Respondents' Perceived School Culture (N = 224)

Indicators	Mean	SD	Qualifying Statement (QS)
Collaborative Leadership	4.24	.574	Agree
Teachers Collaboration	4.11	.626	Agree
Professional Development	4.36	.551	Agree
Collegial Support	4.34	.623	Agree
Unity of Purpose	4.44	.544	Agree
Learning Partnership	4.28	.597	Agree
Overall Mean	**4.30**	.492	**Agree**

The data in table 3 displays that in general, the teachers agree with all the indicators of school culture having the mean score of 4.30 and SD=.492. Looking closely at the data from the table, the dimension on *unity of purpose* have the highest mean value (M=4.44, SD=.544) and the dimension on *teachers collaboration* (M=4.11, SD=.626) has the lowest mean. The findings that *unity of purpose* was rated the highest mean reflects the solidarity of teachers in achieving school goals and objectives. Nevertheless, all the dimensions of school culture was answered with 'agree' implying the existence of these school culture in schools.

Table 4. Summary Results Respondents' Perceived School Climate

Indicators	Mean	SD	Qualifying Statement (QS)
Safety	3.98	.548	Agree
Interpersonal Relationship	4.34	.499	Agree
Teaching and Learning	4.45	.458	Agree
Institutional Environment	4.56	.471	Strongly Agree
Overall Mean	**4.34**	.397	Agree

Table 4 presents the summary mean and standard deviation of the dimensions of school climate in terms of safety, relationship, teaching, and learning and institutional environment. The data disclosed that the climate of the schools in Libona is positively manifested in all the four dimensions of school climate, where the *institutional environment* has the highest mean (M=4.56, SD = .471), it is described as "strongly agree" implying that interactions among individuals are wholesomely generally manifested in their schools among teachers, learners, adults and peers and connecting school to home and the community. This condition makes institutional goals and objectives easier to attain. This finding is substantiated by the study of Spoor et al., (2017) which said that building a positive institutional environment a school must provide a platform for students to develop these feelings in order to connect them to the school itself. These harmonious relationships within the school premises, quality teaching and learning process and conducive institutional environment because these are integral parts of what comprise positive school climate (Wooley & Grogan-Kaylor, 2006 as cited by Spoor, et al., (2017). According to Alston (2017) a school's climate either positively or negatively affects teaching and

learning within the school. Grounded on the interview conducted, the key informants strongly pronounced that the climate of the school is positive in terms of safety, interpersonal relationship, teaching, and learning, and institutional environment.

Relationship of School Climate to the Independent Variables

The r values in Table 5 shows the significant relationship of the dependent variable cooperative performance and the independent variables. Based on this data, the null hypothesis is rejected: There is a significant correlation between school climate and the independent variables of emotional intelligence, leadership style and school culture.

Table 5. Pearson's r values Showing Relationships between the Dependent Variable Cooperative Performance Dimensions and the Independent Variables

Dependent Variable	Independent Variables	Mean	Pearson's r	P-value	Interpretation
School Climate	Emotional Intelligence	3.87	.560	0.000	Significant
	Leadership Style	3.67	.511	0.000	Significant
	School Culture	4.30	.634	0.000	Significant

This further implies that the school climate is associated with the emotional intelligence of the school administrators as well as the leadership style and the school culture. The table further shows that all the independent variables have high degree of correlation to dependent variable of school climate with school culture (r = .634, p < .01) having the highest coefficient, followed by emotional intelligence of school administrators (r = .560, p < .01) and lastly leadership style (r = .511, p < .01). Looking at the findings identified, the degree of correlations shown suggests that school culture, administrators' emotional intelligence and leadership style and school culture are significantly associated with building a positive school climate.

To determine the influencing factors of perceived school climate, Table 6 shows the result of the regression analysis between the independent variables (emotional intelligence and leadership style of the school administrators and school culture) and school climate.

Table 6. Regression Analysis for Emotional Intelligence, Leadership Style, School Culture on School Climate

Predictor	B	SE β	β	t	p	T
Constant	1.626	.178		9.154	.000	
Emotional Intelligence	.150	.043	.228	3.501	.001	.511
Leadership Style	.140	.045	.195	3.106	.002	.552
School Culture	.376	.042	.466	8.975	.000	.804

Notes: **R^2 = .523** (p < .05), F-value = 80.31 p-value=0.000

School Climate = 1.626 + 0.150Emotional Intelligence + 0.140Leadership Style +.376School Culture

The adjusted R^2 value explains the amount of influence the school administrators' emotional intelligence and leadership style and school culture taken as one, on school climate. This indicates that 52.3% of the school climate could be attributed to the three variables. With the f-value of 80.31, the model is highly significant at 0.000. Thus, the three independent variables can explain and or predict the climate of the school. Also, based on the assumption of multicollinearity, the independent variables predict each other. Furthermore, the analysis disclosed that school culture and school administrators' leadership styles are strong predictors of school climate than school administrators' emotional intelligence. The best fit model generated through confirmatory factor analysis showed significant

causation between school administrators' leadership style and emotional intelligence, which in turn, is the effect of school climate and school culture. The best fit model confirms the assumptions of the study that the school climate is influenced by school administrators' emotional intelligence and leadership style, and school culture.

CONCLUSIONS AND RECOMMENDATIONS

School climate is immensely affected by the culture of the school as well as the relationships of the people in and out the school. It is incremental in shaping the future of the learners as they experienced their socialization process with the people in the school. The significant and strong correlation established between the dependent and independent variables affects the dynamics that make up the appropriate learning environment. School culture had the greatest influence on school climate, followed by school administrators' emotional intelligence and leadership style. It is incumbent upon school administrators to look into these contributing factors of school climate since this construct determines the quality of the learning environment where the processes of effective teaching and learning positively thrive. Continuing professional development can be of great help for administrators to improve their emotional intelligence, and leadership style.

For sustaining the positive school culture, they need to retool themselves with professional development programs such as Graduate Degree Program and attending Seminar-Workshop on soft skills such as Developing Emotional Intelligence.

REFERENCES

Alghamdi, A. (2013). Emotional Intelligence and School Leaders' Ability with Respect to the Saudi Arabian Educational Context.

Alston, C.R., (2017). A Causal Comparative Study of Teacher and Administrator Perceptions of School Climate within Elementary Schools in a School District. Proquest 10256900. Published by ProQuest LLC (2017).

Amedome, SN., (2018). The Influence of Leadership on School Climate: a Case of Senior High Schools in Hohoe Municipality of Ghana (Academy of Educational Leadership Journal, Volume 22, Issue 2, 2018).

Anyaogu, R. O. (2016). Creating Conducive Learning Environment and Management: A Panacea for Effective Learning and Creativity in Schools. International Journal of Academia, Volume 2 No.1, December, 2016, ISSN: 2505-0540

Astor, R. A., Guerra, N., & Van Acker, R. (2010). How can we improve school safety? research? Educational Researcher, 39, 69–78. doi:10.3102/0013189X09357619

Avolio, B., Bass, B., & Jung, D. (2010). Re-examining the components of transformational and transactional leadership using the Multifactored Leadership https://doi.org/10.1348/096317999166789

Aydin, O. T. (2012). The Impact of Theory X, Theory Y and Theory Z on Research Performance: AnEmpirical Study from A Turkish University. Retrieved from International Journal of Advances in Management and Economics Available online at www.managementjournal.info

Barth-Farkas, F., & Vera, A. (2014). Power and transformational leadership in public organizations. International Journal of Leadership in Public Services, 10(4), 217-232. doi:10.1108/ijlps-07-2014-0011

Bass, B. M. & Avolio, (1985). Leadership and performance beyond expectations. New York: Free Press.

Batas Pambansa Blg. 232. *"Education Act of 1982"* as retrieve from http://webcache.googleusercontent.com/search?q=cache:https://www.lawphil.net/statutes/bataspam/bp1982/bp_232_1982.html

Centers for Disease Control and Prevention (2012). Youth risk behavior surveillance – United States, 2011. Morbidity and Mortality Weekly Report, 61(4).

Collie, R. J., Shapka, J. D., & Perry, N. E. (2011). School climate and social-emotional learning: predicting teacher stress, job satisfaction, and teaching efficacy. Journal of Educational Psychology, 104(4), 1189-1204. doi:10.1037/a0029356

Eacho, T.C. (2013) Violence and Disorder, School Climate, and PBIS: The Relationship among School Climate, Students Outcomes, and the Use of Positive Behavioral Interventions and Supports. Dissertation submitted to the Faculty of the Graduate School of the University of Maryland, College Park in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Goleman, D., (1995). Emotional intelligence. New York: Bantam Dell.

Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T., & Huang, F. (2010). Authoritative school discipline: High school practices associated with lower student bullying and victimization. Journal of Educational Psychology, 102, 483–496. doi:10.1037/a0018562

Grobler, B. & Conley, L., (2014). The relationship between emotional competence and instructional leadership and their association with learner achievement
DOI: 10.1080/16823206.2013.866003 as retrieve from
https://www.researchgate.net/publication/272121338_The_relationship_between_emotional_competence_and_instructional_leadership_and_their_association_with_learner_achievement

Hamilton Fish Institute. (2001). A comprehensive framework for school violence prevention. Retrieved from http://www.hamfish.org/framework/framework.pdf

Lee, T., Dewey, C., Anne, G. & Xitao, F. (2011). High suspension schools and drop-out rates for Black and White students. Education and Treatment of Children, 34(2), 167-192.

Lezotte, L. (2013). What Makes a School Effective? Retrieved from
http://www.education.com/reference/article/Ref_What_Makes_School/

Lunenburg, F. C. (2011). Organizational Culture-Performance Relationships: Views of Excellence and Theory Z as retrieved from https://studylib.net/doc/8820416/organizational-culture-performance-relationships--views-of dated November 2018

Madondo, N. F., (2014). Emotional Intelligence and School Leadership: A Study of Primary School Principals in the Pinetown District of Kwazulu-natal.

Maslow, A. H. (1943). A theory of human motivation. Psychological Review, 50, 370–396. doi:10.1037/h0054346

Maxwell, S., et.al., (2017). The Impact of School Climate and School Identification on Academic Achievement: Multilevel Modeling with Student and Teacher Data.
https://www.frontiersin.org/articles/10.3389/fpsyg.2017.02069/full.
https://doi.org/10.3389/fpsyg.2017.02069

Moore-Johnson, S. (2015). Will VAMS Reinforce the Walls of the Egg-Crate School? Educational Researcher, 117-126.

Ouchi, W. G. (1981). Theory Z. New York, NY: Avon Books. Theory Z:
How American Business can meet the Japanese. Journals.
journals.sagepub.com/doi/abs/10.1177/105960118100600316 Republic Act No. 9155
"Education Act of 2002" as retrieve from
https://www.officialgazette.gov.ph/2001/08/11/republic-act-no-9155/

Robers, S., Zhang, J., & Truman, J. (2010). Indicators of school crime and safety: 2010 (NCES 2011-002/NCJ 230812). National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice. Washington, DC.

Scallion, S. (2010). The Voice of Elementary School Principals on School Climate

Spoor J., et. al., (2017). White and African American elementary aged student perspectives of school climate and the relationship to academic achievement. Published by ProQuest LLC ( ). Copyright of the Dissertation is held by the Author. ProQuest:10274313

Thapa, A., & Cohen, J. (2013). A Review of School Climate Research. New York: National School Climate Center.

Wang, M. T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. Educational Psychology Review, 28(2), 315-352.

Wooley, M. E., & Grogan-Kaylor, A. (2006). Protective family factors in the context of neighborhood: Promoting positive school outcome. Family Relations, 55, 93-104.

Wuch, J. (2013). The Impact of Elementary Principals' Leadership Styles on School Climates and Student Achievement in an Urban Setting: A Mixed-Methods Study. A Doctoral Study Submitted to the Graduate Faculty of Missouri Baptist University in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

Job Stressors and Dispositional Traits: Influence on Coping Strategies

Arnold D. Tagud

Liceo de Cagayan University (arnoldtagud707@yahoo.com)

ABSTRACT

Stress is a state of mental, emotional, physical, and social tensions that causes very tough feelings. This has become very common among schoolteachers who are caught with avalanche of paper works and other tasks outside classroom teaching. This has become very prominent with the present mode of instruction delivery. To overcome stress, there is a need to engage in certain stress mechanisms to relieve or alleviate its threatening effect on any situation. These mechanisms are known as coping strategies. The study aimed to determine the level of stress, dispositional traits, and the coping strategies as self-reported by the 314 public school teachers in the First Congressional District of Bukidnon, Southern Philippines in 2020. The causal-comparative research design was used, and descriptive statistics, Pearson's r, and multiple linear regression were used to attain the objectives of the study. Among the coping strategies mobilizing family and spiritual support showed positive influence on the teachers' coping strategies. The study concluded that teachers can best cope with stress when desirable practices such as strong support of their families and spiritual support, especially when encountered with stressful works at school or at home. Recommendations were appropriately presented to address issues on stress and coping strategies.

Keywords: Teachers' Self-Efficacy, Mobilizing Family, Work-related Stress, Discipline and Motivation, Attitude Towards Work

INTRODUCTION

Teachers play vital roles in the education and care of students, specifically in facilitating learning. However, it has also been found to be the most stressful job compared to other occupations. Not only at the elementary level but also at the secondary level, both public and private. This is the reason why there is a need to attend to teachers' welfare because teachers do not only teach content and pedagogy but also help motivate children to become life-long learners.

Too much stress among teachers can lead to physical, mental, and emotional state of teachers and not only affect their performance but also their student-teacher relationship or even personal relationships (Mingoa, 2017). Stress also affects teachers' relationships among colleagues and even family members.

In the Philippines, specifically, for elementary school teachers, the teaching profession is seen and undoubtedly very stressful. For many years in teaching, teachers teach not for development but survival (Pagayanan, 2016). Rapid social and economic changes have placed new demands, which created new and higher expectations from teachers at all levels, with many reforms being addressed to and imposed abruptly to comply with the standards and higher participation (Makasa, 2013; Pagayanan, 2016).

Teachers as front-liners of the school in shaping the minds of the young are required to render services for eight hours as stipulated under the Philippines' RA 1800 of the Civil Service Commission. Currently, teachers not only serve eight hours but beyond because of the enormous demands of the teaching job. This includes preparation of lesson plans and instructional materials in all learning areas, attend faculty meetings, prepare periodic exams, record test or evaluations, compute quarterly grades, attend curricular and non-curricular activities and honed learners for various competitions may it be in school, district, division, national and regional (Pagayanan, 2016). Furthermore, to abreast of new trends in teaching, the Philippine Regulatory Commission (PRC) requires teachers to attend seminars, training and even enroll in advance programs to address the Continuing Professional Development (CPD) mandated by PRC.

Philippines is losing many of its most competent individuals in teaching because of their inability to cope with the situation, according to Reyes (2018). Teaching loads, work pressure, professional relationship, and working environment are among other various issues compulsive the country's public education system and have become major factors of teachers leaving the country, and some committed to suicide due to depression (Reyes, 2018).

Studies showed that teachers are confronted by various situations that oftentimes are beyond their control. Different people encountered mental or emotional stress in varied situations, different degrees, and various reasons (Ferguson, Mang, & Frost, 2017), to include teachers. Many studies had been conducted to identify the status of teachers who suffer from various stress at work and school. Behavioral outcomes such as low productivity increased absenteeism, and high attrition rates are effects related to physiological and emotional responses to teacher stress (Rentner et al., 2016; Skaalvik & Skaalvik, 2015). Working long hours have been showed to affect job satisfaction (Hafeez & Akbar, 2015). These findings point to the fact that stress can affect teachers in multiple ways.

Recent studies mainly addressed general stress in the workplace (Mojsa-Kaja, Golonka, & Marek, 2015; Pocnet et al., 2015). Few studies had focused on teaching-specific stressors in dimensions of job control, resource, and demands (Collie et al., 2012). In the workplace, employees are affected by stressors specific to the work environment because it showed that every occupation possessed with specific risk factors associated with job-related stress (Tastan, 2014).

Teaching remained a top contender for high stress works among blue-collared professions (Bolanio et al., 2018). Pagayanan (2015) found that teachers felt high stressed at highest points during the school year activities such as parent-teacher conferences, mandated tests, working under deadline pressures, beginning of a school year, a traumatic event at school, having to perform task not trained, classroom, and teacher evaluations . Research exemplified three items that brought about stress for educators: testing and curriculum mandates, heavy workload, and student behavior. Dewe, O'Driscoll, Copper (2010) emphasized that studies concerning stress were important to show the cost of stress on the individuals, communities, or organizations in which stress existed. Therefore, this study explored sought to address a gap in the literature as well about teachers coping strategies.

This study hopes to provide an eye-opener to the legislators, department, and front-liners of the learning process. The result may also contribute to finding relevance for further studies that concern teachers' physiological and psychological attributes through policy formulation in the Philippine Educational system, which could benefit the health and lives of teachers in the Philippines.

Framework

This study is theoretically based on the concept on job demands-control (JD-C) by Karasek (1979) as cited by Zhang (2017), self-determining theory (SDT) by Ryan and Deci (2004), Bandura's (1997), Social Cognitive Theory, Dispositional Theory by Jackson (2007) and Coping Strategies by Naughton (1997).

Job-Demand and Control (JD-C) by Karasek (1979) is a theory that has become one of the best-known models with regards to workload and work-related stress, which emphasized two important aspects. First is the height of strain (demands) which includes set at work, including work rate, availability, time pressure, effort, and difficulty, and the second is decision latitude (control) which concerns the freedom of an employee to control and organize his work, and how the task is performed. It consists of both competence and decision-making authority. Numerous employee problems face job stress and the most significant one relates to job dissatisfaction and low (marginal) job performance Hussain and Khalid (2011). Furthermore, if one experiences high job demands combined with low control or decision latitude, it resulted in negative and risk on work according to Habibi, Poorabdian, and Shakerian (2015).

Self-Determining Theory (SDT) by Deci and Ryan (2004) is another theory that contributed to the context of the research study. SDT best explains the motivation, which asserts that the type of

motivation present is more relevant than the amount of motivation when trying to predict behavior (Gagné and Vansteenkiste, 2013). Thus, the theory explains the context of intrinsic and extrinsic categories. SDT defines intrinsic motivation as the "inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (Deci& Ryan, 2000b). It is an essential part of healthy cognitive and social development and a central component of well-being and optimal functioning. Extrinsic motivation, on the other hand, involves behavior that is not autonomously driven (Deci & Ryan, 2008). SDT also recognizes that many activities that people perform in their daily lives are not self-regulated (Deci& Ryan, 2000a). When a behavior is driven by external sources such as rewards or social pressures, it is extrinsically motivated. In Self-Determining Theory, the researcher sees that this model can be an aid in clarifying issues and concerns on teachers coping strategies and can give powerful insights on making justifications while teachers encounter sources of stress, which may also bring positive output.

This study discusses self-efficacy concepts developed by Bandura's Social Cognitive Theory as an anchor because it supports the ability of a person to thrive situations. On the other hand, it also emphasized on the major role in how an individual takes advances in his objectives, tasks, and challenges. The concept of self-efficacy connects to the coping strategies of the teachers considering their effort to adopt and choose the one that fits for them on their sources of stress at work, family, and environment. Furthermore, people who have a high sense of self-efficacy may develop and learn a high and variety of coping skills than those individuals with poor coping skills, which to suffer and lead into a negative impact on stress concerns (Bandura, 1997).

In Dispositional Theory which Jackson (2007) labeled as Job-Satisfaction Theory where Hussain and Khalid (2015) suggested that people have inborn nature that causes them to have trended toward a certain level of satisfaction, regardless of one's job. However, to narrow the scope of the dispositional theory, Judge et al. (1998) and Hussain & Khalid (2015) enlightened through Core Self-Evaluation Model with four components in determining one's disposition towards job satisfaction such as self-esteem, general self-efficacy, locus of control, and neuroticism. It further holds that the higher the levels of self-esteem, self-efficacy will lead to higher job satisfaction. While having an internal locus control as opposed by the external or outside forces will lead to higher job satisfaction, and lower levels of neuroticism will lead to higher job satisfaction. Gregg (2018) posited that attitudes as a dispositional trait are factors in one's daily living and therefore play a vital role in an educator's daily interactions with co-workers, students, and community which also connote with responsibility and were a responsibility always shared together in nurturing children as students. Dispositional traits are determinants of how an individual copes with stress.

Coping Strategies Theory advocated by Naughton (1997) stated that coping has evolved to encompass a large variety of disciplines in all areas of psychology and was divided into three broad components, namely, biological/psychological, cognitive, and learning. Naughton believes that an individual will react and resist the external challenges to maintain the balance within. Furthermore, these three components have been used, too as a means of coping with stress. First, for the biological/ psychological component, the body has its way of coping with stress that any threat or challenge that an individual perceives stimulus often from environment it can manage directly. Secondly, for cognitive approach, coping is based on mental processes on how an individual appraises the situation and where the level of appraisal determines the level of stress and the unique coping strategies that the individual partakes. Thirdly, learned components of coping, which view as human motivation and behavior is the result of what were learned through experiential reinforcement, learned helpless phenomena, and implications of the culture (Naughton, 1997). Thus, there were five constructs identified in this study, namely: social support, reframing, spiritual support, family, and passive support. Peters (2012) found various results on social support: (1) not all forms of support involve engaging in caretaking activities, in some cases, individuals provide social support, which involves giving advice, and emotional and psychological support to others, (2) not all social support is provided by family members some, support and care giving comes from close friends, (3) individuals differ with regard to how involved they are when providing social support and care giving. Some individuals are very empathic and are prone to be very involved while others are not. Providing support and care to a close friend for everyday problems can also

influence a person's well-being. Another view is that reframing has been proposed a highly complex and dynamic process (Sun, 2015, Greenhoot & McLean, 2013). Positive reframing resulted an effective way of emotionally coping with memories of difficult life experiences. Nonetheless, a few recent studies have revealed negative correlations between positive reframing and psychological well-being (Greenhoot, et al., 2013; Sales, Merrill, & Fivush, 2013). For family, tough times, seeking help and support to others, maintain faith and spirituality, and develop family member's autonomy is a positive strategy for families.

Additionally, the importance of the close family having good coping strategies is to cope with different stressful events and, thus, optimally keep family functioning very smartly (Montilla et al., 2016). Bailey (2017) posited that having open communication with family members, sticking together in most tough times, seeking help and support to others, maintain faith and spirituality, and develop family member's autonomy is a positive strategy for families. Some researchers concluded that the experiences of spirituality do not only show positive effects on lowering levels of psychological, physiological, and depressive symptoms, but also increase health-related quality of life and decrease illnesses and mortality rate (Masters & Hooker, 2013; Park & Slattery, 2013).

From the standpoint of the theories and concepts discussed, this study theorized that the extent of coping strategies among teachers could be predicted by their sources of stress and their dispositional traits.

Objective of the Study

This study the influence of job stressors and dispositional traits coping strategies among teachers in a province of the southern part of the Philippines.

METHODOLOGY

This study was conducted in the 13 districts of five municipalities of the First Congressional district of Bukidnon, Southern Philippines with 314 teacher-respondents were selected through random stratified sampling. This study used a causal-comparative research design or ex-post-facto research design. The causal-comparative design established the relationship between the teachers' dispositional traits, sources of stress, and their manner of coping strategies.

Four (4) instruments were used to gather the quantitative data of the study. For coping strategies, questionnaire was patterned from Galimbas (2014), with the permission of Pritzlaf (2001); for dispositional traits on self-esteem and self-efficacy, this was taken from the study of Zalsos (2007), while attitudes towards work the questionnaire developed and standardized by Renthlei and Malsawmi (2015). All instruments were utilized with permission from the authors. For the sources of stress, this study used the 22-item questionnaire developed and standardized by Fimian (1984). The instruments on coping strategies, sources of stress, and dispositional traits were modified to suit the purpose and investigation of the study. A five-point Likert Scale was used in securing the responses of the participants. 1 – Strongly disagree, 2 – Disagree, 3 – Neither agree nor disagree, 4 – Agree, and 5 – Strongly agree for three instruments, namely, the source of Job Stress, Attitude towards Work, and Coping strategies. A four-point scale was likewise used for dispositional traits on self-esteem and self-efficacy. These were 1 – Strongly disagree, 2 – Disagree, 3– Agree, and 4 – Strongly agree.

RESULTS

Self-Report of Teachers on their Sources of Job Stressors, Dispositional Traits, and Coping Strategies

Sources of Job Stressors. Only the summary of sources of job stressors, can be displayed for want of space. The item means, and factor loadings could not be presented. However, a summary of the results to show the sources of job stressors is reflected in Table 1. As shown in the table, the overall sources of

stress of teachers are generally perceived as "moderately noticeable." However, closer scrutiny of the table shows that two components were rated as 'very noticeable.' These are work-related (M=3.60, SD=.694) as well as discipline and motivation (M=3.52, SD=.681).

Table 1. Summary Table of Sources of Job Stressors

Indicators	Mean	SD	Qualifying Statement (QS)
Time Management	3.42	.594	Moderately Noticeable (MN)
Work Related	3.60	.694	Very Noticeable (VN)
Professional Distress	3.19	.821	Moderately Noticeable (MN)
Discipline and Motivation	3.52	.681	Very Noticeable (VN)
Overall Mean	**3.43**	.535	**Moderately Noticeable (MN)**

The sources of job stressors for teachers lie heavily on work-related concerns and in disciplining and motivation of pupils, which is, in a way, also work-related. The other two sources of job stressors also contributed to teachers' stress, but these are of lesser degree.

Table 2. Summary Table of Teacher's Dispositional Traits

Indicators	Mean	SD	Qualifying Statement (QS)
Self-Esteem	2.81	.370	Moderate Self-Esteem
Self-Efficacy	3.19	.442	Moderate Self-Efficacy
Attitudes towards Work	3.54	.418	Moderately Positive
Overall Mean	**3.18**	.290	**Agree**

As shown on the table, attitudes towards work (M=3.54, SD=4.18) got the highest mean, which was qualitatively described as moderately agree as perceived by the teachers. Nevertheless, self-efficacy (M=3.19, SD=.442) is not far behind, which comes the second. On the other hand, self-esteem (M=2.81, SD=.370) has the lowest mean as perceived by the teachers. The finding showed that attitudes towards works were given emphasized by the teachers of Bukidnon. This means that teachers are concerned more about their attitudes, for this will build a solid foundation and relationship which keeps abreast of the changing and challenging role of teaching. This shows that teachers show more comprehensive, responsible, and heart to teaching conditions. Gregg (2018) posited that attitudes are factors in one's daily living and therefore play a vital role in an educator's daily interactions with co-workers, students, and community. Furthermore, teachers are also willing to examine their own beliefs, perceptions, and attitudes by uncovering and discovering the racial biases they hold, as well as the racial barriers that may interfere with student academic performance.

Table 3. Summary Table of Teacher's Coping Strategies

Indicators	Mean	SD	Qualifying Statement (QS)
Social Support	3.43	.702	Neither Agree or Disagree (NAD)
Reframing	4.19	.439	Moderately Agree (MA)
Spiritual Support	4.38	.488	Moderately Agree (MA)
Mobilizing Family	4.45	.523	Moderately Agree (MA)
Passive Support	3.34	.640	Niether Agree or Disagree (NAD)
Overall Mean	**3.96**	.558	**Moderately Agree (MA)**

In Table 3, the overall mean of coping strategies of teachers in the first congressional district is perceived as "moderately agree.' Two-components got the rating with a qualifying statement of moderately agree, mobilizing family (M=4.45, SD=.523), followed by spiritual support (M=4.38, SD=.488), which means that teachers of the first congressional district of Bukidnon perceived as moderately positive on coping. However, it was noticed that passive support got the lowest mean score

of (M=3.34, SD=.640) as perceived by the teacher-respondents. The findings revealed that mobilizing family is the top coping strategies practiced by the teachers. This means that teachers believed that family could mobilize and put into action and measures and to act in front of changes or to the appearance of stressful events. Additionally, the importance of the close family having good coping strategies is to cope with different stressful events and, thus, optimally keep family functioning very smartly (Montilla et al., 2016).

Relationship of Coping Strategies to The Independent Variables

Table 4: **Pearson's r values Showing Relationships Between the Dependent Variable Cooperative Performance Dimensions and the Independent Variables**

Dependent Variable	Independent Variables	Mean	Pearson's r	P-value	Interpretation
Coping Strategies M=3.96	Sources of Stress	3.43	.093	.155	Not Significant
	Dispositional Traits	3.18	.360**	.000	Significant

**Correlation is significant at the 0.01 level (2-tailed), **$p < 0$

The results indicate that sources of stress as one single variable is not significantly related to coping strategies. However, dispositional traits are positively correlated with coping strategies (r=.360), although moderate correlation, but statistically significant with p values of < 0.05**.** The null hypothesis was rejected based on the data: there is a significant relationship between coping strategies and the independent variable dispositional traits. Hassin and Khalid (2011) opined that teacher with a higher self-efficacy, self-esteem, and best attitude towards works would typically learn and have a variety of worthy coping strategies. This is also supported by the theory of Ryan and Deci (2000), which stated that essential part of healthy cognitive and social development and a central component of teachers as well-being possess positive dispositional traits to coping strategies with optimal functioning. Furthermore, the theory of Naughton (1997) stated that coping has evolved to encompass a large variety of disciplines in all areas, specifically on one's dispositional traits. The null hypothesis that there is no significant relationship between coping strategies and sources of stress was not rejected. There is a no significant relationship between sources of stress and coping strategies.

Table 5: Regression Analysis for Sources of Stress and Dispositional Traits on Coping Strategies

Predictor	B	SE β	β	T	P
Constant	2.584	.216		11.953	.000
Sources of stress	-.007	.037	-.010	-.184	.854
Dispositional Traits	.440	.067	.363	6.531	.000

Notes: R = .360 **$R^2 = .130$** (p < .05), F-value = 22.840 *p-value*=0.000

The dispositional traits variable is the best predictor of coping strategies, as reflected by its standard coefficient of .440 with T = 6.531 at a significance level of .000. The model is significant since F=22.840 and p=.000. It further explains that only 13 percent ($R^2 = .130$) of the sources of stress and dispositional traits contribute to the coping strategies of the teachers in this study. It is not known what the bigger percentage of factors contribute to the teachers' coping with the model:

Coping Strategies = 2.584 - (0.007*Source of Stress) + (0.440*Dispositional Traits)

The findings show confirmation of the theory of coping strategies by Naughton (1997), Dispositional Theory by Jackson (2007) Self-Determining Theory (SDT) by Ryan and Deci (2004). For one, the dispositional traits were deemed to be positive factors for coping strategies. It also establishes that high dispositional traits and lesser job stressors predicted coping strategies. Further, Naughton's theory

(1997) proved that an individual would react and resist to an external challenge to maintain the balance within. Galimbas (2014) also concurred that the problems encountered are the results of life's processes, situations, and activities.

CONCLUSION AND RECOMMENDATION

Teachers can best cope with stress when desirable practices such as strong support of their families and spiritual support, especially when encountered with stressful works at school or at home. Given the fact that work-related stress is the highest contributor experienced by teachers, work life balance should be encouraged so that teachers will have time for the family can help in reducing the teachers' stress to be more productive. It is also a revelation that coping strategies of teachers is dependent of their dispositional traits which is characterized by attitude towards works manifested with their positive behaviors.

School administrators should be able to roll out a plan that would facilitate teachers' time management so that they can have more time for their families and for nurturing their spiritual life. The study was limited to only few sources of jobs stressors and dispositional traits as predictors of coping strategies, an expanded study to include more variables with much wider population and scope.

REFERENCES

Bandura, A. (1997) Human agency in social cognitive theory. Stanford University

Blom, V., Bodin, L., Bergström, G., Hallsten, L., & Svedberg, P. (2013). The importance of genetic and shared environmental factors for the associations between job demands, control, support and burnout. Plos ONE, 8(9), 1-7. doi: 10.1371/journal.pone.0075387

Bolanio, I.C. et.al. (2018). Level of Stress and Coping Mechanisms of Teacher Education Interns of the University of Bohol. Volume 12 March 2018 ACADEME University of Bohol, Graduate School and Professional Studies Journal Print ISSN 2362-9142

Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School Climate and Social-Emotional Learning: Predicting Teacher Stress, Job Satisfaction, and Teaching Efficacy. Journal of Educational Psychology, 104, 1189-1204. http://dx.doi.org/10.1037/a0029356

Deci, E. L., & Ryan, R. M. (2000b). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. DOI: 10.1037/0003-066X.55.1.68

Deci, E. L. & Ryan R.M. (2008). Self-determination theory and the role of basic psychological needs in personality and the organization of behavior. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (p. 654–678). The Guilford Press.

Dewe, P.J, O'Driscoll, M.P., & Copper, C.L. (2010). Coping with Work Stress: A Review and Crritique Chichester,UK. Wiley-Blackwell. Retrieved from: http.www//: Cooper C, Dewe P, O'Driscoll M. Organizational Interventions, Organisational Stress: A Review and Critique of Theory, Research, and Applications

Ferguson, K., Frost, L., & Hall, D. (2012). Predicting teacher anxiety, depression, and job satisfaction. Journal of Teaching and Learning, 8, 27– 42.

Gagné, M. and Vansteenkiste, M. (2013), "Self-Determination Theory's Contribution to Positive Organizational Psychology", Bakker, A. (Ed.) *Advances in Positive Organizational Psychology* (*Advances in Positive Organizational Psychology, Vol. 1*), Emerald Group Publishing Limited, Bingley, pp. 61-82. https://doi.org/10.1108/S2046-410X(2013)0000001006

Habibi, Poorabdian and Shakerian (2015). Job strain (demands and control model) as a predictor of cardiovascular risk factors among petrochemical personnel. doi: 10.4103/2277-9531.154034

Hussain, N. & Khalid, K. (2011). Impact of Karasek Job Demand and Control Model on the Job Satisfaction of the Employees of Narda. Vol.3, No.5. September 2011.

Judge, T.A., Locke, E.A., Durham, C.C., Kluger, A.N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. Journal of Applied Psychology, 83, 17–34.

Karasek, R. A. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. Administrative Science Quarterly, 24(2), 285-308. doi:10.2307/2392498

Luchman, J. N., & González-Morales, M. G. (2013). Demands, control, and support: A meta-analytic review of work characteristics interrelationships. Journal of Occupational Health Psychology, 18(1), 37-52. doi:10.1037/a0030541

Makasa, J.W. (2013). Perceived Level of Occupational Stress among Basic School Teachers: A Case Study of Selected Lusaka Urban Schools. A Dissertation, University of Zambia, Zambia

Mingoa, T.R., (2017). Filipino Teachers' Stress Levels and Coping Strategies. De La Salle University, Manila, Philippines. 2017

Mojsa-Kaja, J., Golonka, K., & Marek, T. (2015). Job burnout and engagement among teachers - Worklife areas and personality traits as predictors of reltionships with work. International Journal of Occupational Medicine & Environmental Health, 28(1), 102-119. doi:10.13075/ijomeh.1896.00238

Naughton, F.O. (1997). Is stress a motivation or emotion from www.google.com, date accessed Sept. 19, 2013

Pagayanan, R.O (2015). Stress Profile of Public Elementary School Teachers in Tacloban City Division: Inputs for a Proposed Classroom Intervention Program

Pocnet, C., Antonietti, J., Massoudi, K., Györkös, C., Becker, J., de Bruin, G. P., & Rossier, J. (2015). Influence of individual characteristics on work engagement and job stress in a sample of national and foreign workers in Switzerland. Swiss Journal of Psychology, 74(1), 17-27. doi:10.1024/1421-0185/a000146

Rentner, D., Kober, N., & Frizzell, M. (2016). Listen to us: Teacher views and voices. Retrieved from Centre on Education Policy website: http://www.cepc.org/displayDocument.cfm?DocumentID=1456

Reyes, R.O. (2018). DepEd Wary Over Mental, Professional, Fitness of Teachers. Retrieved from: https://www.sunstar.com.ph/article/1753622

Ryan, R. M., & Deci, E. L. (2004). Autonomy is no illusion: Self-determination theory and the empirical study of authenticity, awareness, and will. In J. Greenberg, S. L. Koole, & T. Pyszczynski (Eds.), Handbook of experimental existential psychology (pp. 449–479). New York: The Guilford Press

Skaalvik, E. M., & Skaalvik, S. (2015). Job satisfaction, stress and coping strategies in the teaching profession-what do teachers say? International Education Studies, 8(3), 181-192.

Sohail, M., & Rehman, C. A. (2015). Stress and health at the workplace: A review of the literature. Journal of Business Studies Quarterly, 6(3), 94-121.

Stafyla, A., Kaltsidou, G., & Spyridis, N. (2013). Gender differences in work stress, related to organizational conflicts and organizational constrains: An empirical research. International Journal of Economic Sciences & Applied Research, 6(1), 91-101.

Tastan, S. B. (2014). The theoretical implications of job demands-resources model: A research study on the relations of job demands, supervisor support and job autonomy with work engagement. Ataturk University Journal of Economics & Administrative Sciences, 28(4), 149-192.

Wu, T., Hu, C., & Yang, C. (2013). Abusive supervision and workload demands from supervisors: Exploring two types of supervisor-related stressors and their association with strain. Stress & Health: Journal of the International Society for the Investigation of Stress, 29(3), 190-198.

Zhang, X.D. (2017). A Correlational Study of Teachers' Job Stressors and Stress Manifestations in Northern California, Grand Canyon University Phoenix, Arizona May 10, 2017.

SUB-THEME 3:
Inclusive and Multidisciplinary Curriculum

Academic, Personal, Social, and Career Needs of Learners of Cavite State University – Laboratory Science High School: Basis of the Enhancement of the School Counseling Program

Mark Joseph A. Lorenzo

Cavite State University, The Philippines (mjalorenzo22@gmail.com)

ABSTRACT

Concurrent guidance and counseling program that traditionally embraced the broader service scopes have led to a paradigm that shifts counseling program to academic, personal, social, and career needs of learners. The primary goal of the study is to gather and determine the academic, personal, social, and career needs of learners as perceived by them, parents/guardians, and teachers. The study also aims to identify the significant difference in the perception of the said three populations as basis for the enhanced school counseling program for Cavite State University – Laboratory Science High School. Descriptive comparative research design was used. Results showed that learners need to improve their attitude, knowledge, and skills in study, and increase their awareness about venues of growth after high school. They also need to become more aware of their household tasks and learn to relate with their family members in a better way. Moreover, learners have to increase their self-awareness and self-acceptance of their strengths and weaknesses. In terms of career, they have to be knowledgeable about the rewards of work in their lives and be assisted to create their career goals. The proposed enhanced school counseling program is as follows, learners have to be exposed to school counseling activities where they can learn good study habits skills, educational options after high school, keep in mind test-taking skills, and application of school learning to the non-school environment. Learners have to be engaged with increasing awareness for their responsibilities at home, getting along better with family members, and boosting self-esteem. In addition, they have to be empowered to know more of themselves, taking psychological examinations, and self-affirmations while talks and symposia for career needs.

Keywords: Guidance program, learners' needs assessment, ASCA National Model

INTRODUCTION

Cavite State University – Laboratory Science High School (CvSU-LSHS) is one of the leading secondary schools not only in the historic town of Indang and in the province of Cavite, but also in the region. According to the records, the CvSU–LSHS opened in the school year 2019 - 2020 with a total population of 365 learners. It comprises of 60 learners in 7th grade, 67 learners in 8th grade, 59 learners in 9th grade, 61 learners in 10th grade, 53 learners in 11th grade, and 65 learners in 12th grade. The Laboratory Science High School (LSHS) is attached to the organizational structure of the College of Education (CEd) given that the unit is under the secondary education program of the college especially in conducting their practicum.

As per consultations with the existing members of the CvSU - LSHS organogram, series of interviews and related records have been found the following considerations which cause why this study should be materialized: (1) academic difficulties such as study cramming and procrastinating, and developing good study habits; (2) learner's experiencing personal, social difficulties like rising demand in responding mental health awareness, boosting self-esteem, trust, and confidence and other related concerns; (3) addressing the various career needs and roles; and (4) lastly, the lacking of the fullest execution of the school counseling program such as consultations guidance sessions, psychoeducational counseling, and other related direct and indirect services. The aforementioned premised necessitate the development of comprehensive school counseling program based on the needs of learners.

Academic Needs. This domain of needs are set of considerations for every learner in order to achieve in the academics adequately. These include the motivation, adjustment, good study habits, time management, skills, and practices in improving every learner's academic performance which is measured through the results of written outputs, performance tasks, and quarterly assessments. In this study, the academic needs will be measured using "Strengthening K-12 School Counseling Program: A Support System Approach Needs Assessment for Learners" by Rye, D. R. and Sparks, R. (1991), which includes the following items, awareness of the available school counseling services, study skills and habits, ability in concentrating especially in test taking skills, effort to make better grades by developing their basic educational skills, and educational plans.

Personal-Social Needs. This refers to the need of every learner to know, understand and accept their unique personal identities and qualities like mental health awareness, boosting self-esteem, trust, and confidence. In this study, the personal, social will be measured by the experiences of self-awareness and self-acceptance, ability in understanding them and their actions, increase the level of strengths and weaknesses awareness, empowerment them in dealing with personal feelings in effective ways, and encouragement in working with teachers, school counselors, and administrators.

Career Needs. These needs cover the entire understanding of every learner's knowledge, awareness, and goals in life in achieving future profession after post-secondary studies. These include the self-discovery, guidance of parents/guardians and teachers in acquiring knowledge, skills and competencies in achieving every learner's career goals toward career success. In this study, the career needs will be measured by the awareness in the information in selecting a career, exploration in their interests, abilities, and aptitudes, ability in selecting their career goals, information about training, skill required, and future of certain occupations, and empowerment in identifying the requirements for their career choice.

School counseling program. The set of activities and interventions planned, organized, implemented and evaluated by school counselor in working collaboration with learners, parents/guardians, and teachers, also with the school administrators and experts in the field. This will be based on the gathered data about the academic, personal, social, career needs of learners.

STATEMENT OF THE PROBLEM

This study was designed to determine the academic, personal, social, and career needs of learners as basis for the enhanced school counseling program.

Specifically, the study aimed to answer the following queries:
1. What are the academic, personal, social, and career needs of learners as perceived by:
   a. them;
   b. parents/guardians; and
   c. teachers?
2. Is there significant difference on the academic, personal, social, and career needs of learners as perceived by:
   a. them;
   b. parents/guardians; and
   c. teachers?
3. Based on the results of the study, what is the proposed enhanced school counseling program?

Framework of the Study
The framework of this study identifies the significant relationship of the academic, personal, social, and career needs of learners as basis for the enhanced school counseling program as perceived by them, parents/guardians, and teachers. This study is to be conducted in order to analyze, assess and evaluate the above mentioned variables as basis for the enhanced school counseling program.

Supported by the research being conducted by Otto (2001), the needs assessment survey developed by Rye, D. R. and Sparks, R. (1991) established the significant empirical support and positive result in the enhancement of the school counseling program.

"Instrument results for each group such as learners, parents/guardians, and teachers were projected the results particular to its respecting perception in facilitating the use of data in the enhancement of the school counseling program." (Otto, 2001)

As one of the support system approaches in strengthening the school counseling program, the above mentioned instrument soliciting learners' needs as perceived by them, parents/guardians, and teachers allowed and helped the continuous improvement of the overall school counseling in the school where the research was being conducted.

Moreover, in the deeper understanding, Brown and Trusty (2005) well-elaborated the very nature of the American School Counselor Association (ASCA) National Model for school counseling program, the said association made its way when professionals and school counseling practitioners convened and came-up with the Framework for Comprehensive School Counseling Program. According to Brown, D. and Trusty, J. (2005), the framework was made through the efforts of systematic studies made by the association. Spearheaded by Norman Gysbers, Stanley Miszewski, Judy Bowers, Pat Schwallie-Giddis, and Richard Myrich, the said group endorsed that a school counseling program should be "comprehensive, preventive in nature, developmental, and central to the primary mission of the school". (ASCA National Model: A Framework for School Counseling Program). ASCA became more systematic by "elaborating the set of processes and procedures that can be used to reengineer existing school counseling programs to make themselves comprehensive."

Rye and Sparks (1991) postulated that needs assessments should be guided with the best procedure in order to utilize methods in providing quantitative empirical basis of needs instead of using methods which depend on subjective bases. Into its support, the authors added that the needs assessment survey should cover items related to academic, personal, social, and career areas of concerns to learners, parents/guardians, and teachers to ensure the comprehensiveness in nature of the school counseling program to be developed or enhanced.

The abovementioned premises are the bases of the research paradigm presented in the Figure 1. The input variables such as the academic, personal, social, and career needs of learners as perceived by them, parents/guardians, and teachers. These would then be bases for development of the enhanced school counseling program. The said variables will be analyzed, assessed, and evaluated in order to attain the criteria set by the researcher which are all grounded on the viewpoint of the participants of this study and be accessed based on the preferred approaches and techniques prescribed in the review of the related literature and studies.

The development of school counseling program purports a very strong and dynamic developmental approach since it is systematically presenting programs that are appropriate to learners' developmental level which includes achievable and measurable outcomes in the area of academic, personal, social, and career domains. (Gysbers & Henderson, 2000).

Figure 1. The paradigm of the study.

| Academic, personal, social, and career needs of learners as perceived by: 1. them, 2. parents/guardians, and 3. teachers | → | Academic, Personal, Social, and Career Needs Assessment | → | Enhanced School Counseling Program at Cavite State University – Laboratory Science High School (CvSU-LSHS) |
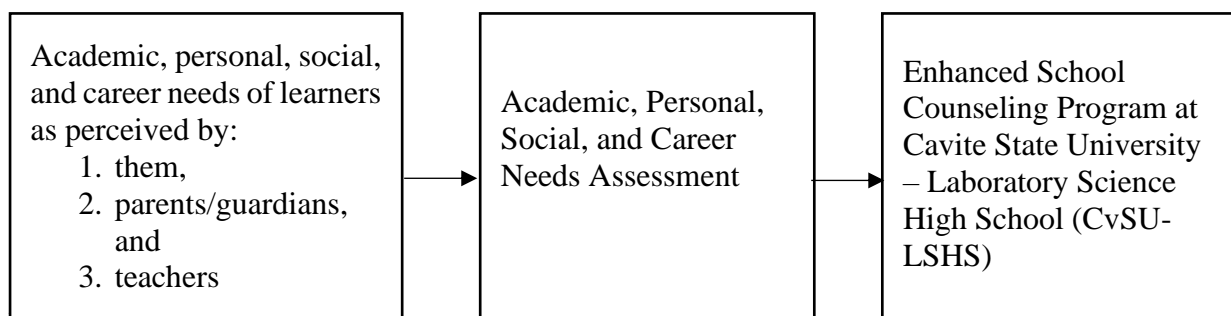
The descriptive model was applied since the researcher gathered data about the needs of the three particular groups such as learners, parents/guardians, and teachers. Through this model, the researcher fulfilled the aims of identifying the academic, personal, social, and career needs as basis for the enhanced school counseling program. The said basis analyzed, summarized, and interpreted the data systematically in achieving the objective of the study.

Comparative research design is concerned with the methodical analysis in the significant difference of learners' needs as perceived by them, parents/guardians, and teachers where the said study will be conducted as supplemental basis for the enhancement of the school counseling program. The aims of this design is to gather valid, reliable and systematic data which can be used in statistical treatment.

Participants of the Study
The study was conducted at Cavite State University – Laboratory Science High School (CvSU-LSHS). The participants of this study are learners from 7th graders to 12th graders with the total populace of 365; parents/guardians from 7th graders to 12th graders with the same total populace of 365; and 16 faculty members.

Grade Level	Number of Learners	Sample	Number of Parents/Guardians	Sample
7th Grade	60	53	60	53
8th Grade	67	61	67	61
9th Grade	59	55	59	55
10th Grade	61	56	61	56
11th Grade	53	48	53	48
12th Grade	65	59	65	59
Total	365	332	365	332

Number of Teachers: 16, Sample: 15

Sampling Technique
In order to maximize the measurement of the needs assessment for the entire population, the ideal sampling technique used in this study is the total population sampling. This sampling technique examined the three groups of population such as learners, parents, and teachers of the Cavite State University – Laboratory Science High School (CvSU-LSHS).

The total population sampling was used in this study and it was composed of 365 high school learners and same count with the parents/guardians of the learner, the said two-group of populations returned answered instruments of 332 (91%), while the total participants of 16 faculty population who participated on the said size returned answered instrument of 15 (94%), respectively.

Research Instrument
The researcher conducted and performed systematic and methodical process in making the research instrument which was used in the study. Supported by the research being conducted by Otto (2001), the needs assessment survey developed by Rye, D. R. and Sparks, R. (1991) established the significant

empirical support and positive result in the enhancement of the school counseling program. "Instrument results for each group such as learners, parents/guardians, and teachers were projected the results particular to its respecting perception in facilitating the use of data in the enhancement of the school counseling program" (Otto, 2001).

The instrument used to collect the data for the academic, personal, social, and career needs of learners as perceived by them, parents/guardians, and teachers was derived from the "Strengthening K-12 School Counseling Program: A Support System Approach" authored by Rye, D. R. and Sparks, R. (1991). Given that there are eight questions in every domain, the instrument used was composed of 32 questions. With four Likert scale and 32 questions, some item details were changed as follows: From 6. "I need to learn to deal with divorce family" to "I need to learn to deal with changing or separating family", and from 24. "I need information about educational alternatives after high school" to "I need information about educational options after high school."

In order to deepen the needs assessment in the instrument, the particular needs in every domain is composed of 32 items. Furthermore, the interpretation of the above mentioned domains which will be measure accurately by its level of need will be utilized using four Likert scale with corresponding equivalency of scales:

Scale	Verbal Interpretation
4	Almost Always
3	Usually
2	Sometimes
1	Almost Never

The average ratings that correspond to the academic, personal, social, and career needs of the instrument are classified and interpreted as follows:

Numerical Value	Qualitative Description
3.25 – 4.00	Remarkably Needed (RN)
2.50 – 3.24	Much Needed (MN)
1.75 – 2.49	Generally Needed (GN)
1.00 – 1.74	Needed a Little (NL)

Statistical Treatment of Data
The study made use of mean, standard deviation, frequency and percentage, Kruskal-Wallis One-Way Analysis of Variance (1-ANOVA) as statistical tools.

Ethical Considerations
The researcher strictly observed the right to privacy and confidentiality of the information obtained in the data collection of the study. The researcher also issued informed consent.

RESULTS

Academic Needs

The table 1 presents the significant difference on the academic needs of learners as perceived by them, parents/guardians and teachers.

Participants	Mean	Mean Tank	Kruskal-Wallis Statistics	P Value	Remarks
Learners	3.49	344.39 b			
Parents/Guardians	3.41	327.44 b	12.171	0.002	Reject Ho
Teachers	3.83	509.61 a			

Table 1: Academic Needs of Learners

As seen in the table, the academic needs of learners as perceived by them, parents/guardians, and teachers significantly differed from each other. Test of difference (Kruskal-Wallis) of 12.171 (∝0.002) pointed out that the hypotheses stating that there was significant difference on the academic needs of learners as perceived by them, parents/guardians, and teachers was rejected.
Learners and their parents/guardians were one in their learners' academic needs. However, teachers viewed higher level of academic needs of learners than that of learners and parents/guardians.

According to Carns and Carns (1991), this implies that teachers have work closely with school counselors in offering with study-skills guidance program which can resulted a dramatic increase in learners' standardized achievement scores to increase self-efficacy awareness of metacognitive skills and knowledge of learning styles. Meanwhile, in the studies conducted by Floyd (1996) and Keith and Lichtman (1994), it proves that parental involvement at school supports the efficacy as means of improving their child's academic achievement.

Personal Needs

The table 2 shows the significant difference on personal needs of learners as perceived by them, parents/guardians, and teachers.

Participants	Mean	Mean Tank	Kruskal-Wallis Statistics	P Value	Remarks
Learners	3.37	343.76 b			
Parents/Guardians	3.34	328.09 b	11.868	0.003	Reject Ho
Teachers	3.78	509.04 a			

Table 2: Personal Needs of Learners

As seen in the table, the personal needs of learners as perceived by them, parents/guardians, and teachers significantly differed from each other. Test of difference (Kruskal-Wallis) of 11.868 (∝ 0.003) resulted that the hypotheses stating that there was significant difference on personal needs of learners as perceived by them, parents/guardians, and teachers was rejected.

The repercussion of this findings might be attributed to the teachers' subsequent role in helping learners to recognize and accept individual differences and identifying learners who are in need of help and assisting them in getting services they need such as special accommodations. (Thompson, 2011). In the researches conducted by Bennett (1975) and Herr (1976), it was discovered that learners who have been helped by teachers and school counselors in providing activities to learners that will allow them to evaluate, break into components, and master their problems gained self-confidence, strengths and awareness of their weaknesses.

Social Needs

The table 3 show the significant difference on social needs of learners as perceived by them, parents/guardians, and teachers.

Participants	Mean	Mean Tank	Kruskal-Wallis Statistics	P Value	Remarks
Learners	3.33	316.08 c			
Parents/Guardians	3.40	353.57 b	24.598	0.000	Reject Ho
Teachers	3.88	561.18 a			

Table 3: Social Needs of Learners

As seen in the table, the social needs of learners as perceived by learners, parents/guardians, and teachers significantly differed from each other. Test of difference (Kruskal-Wallis) of 24.598 ($\propto$ 0.000) resulted that the hypotheses stating that there was significant difference on social needs of learners as perceived by them, parents/guardians, and teachers was rejected.

Teachers may observed that social needs is higher it is because, they are the ones who witnessed learners' classroom interaction and involvement in the activities at school. This could also attributed to the teachers' thorough remarks about learners social life and this could be manifested on how learners deal about love, marriage, and family living. Teachers looked forward to empower them to work with school counselors and teachers. Similarly, teachers have the high hopes to increase the level of awareness of their learners about their responsibilities at home. The possible implications of the teachers point of view to the social needs of learners is clearly defined in the teacher advisor programs (Anfara, 2006) that teachers are the immediate responsible and advocate of nurturing social endeavor of learners with other adults which is characterized by caring, trust, honesty, and communication by providing activities that focus on increasing social skills and interpersonal understanding to prevent self-defeating behaviors.

Career Needs

The table 4 presents the significant difference on career needs of learners as perceived by them, parents/guardians and teachers.

Participants	Mean	Mean Tank	Kruskal-Wallis Statistics	P Value	Remarks
Learners	3.56	330.62 b			
Parents/Guardians	3.56	340.89 b	12.456	0.002	Reject Ho
Teachers	3.88	517.11 a			

Table 4: Career Needs of Learners

As seen in the table, the career needs of learners as perceived by learners, parents/guardians, and teachers significantly differed from each other. Test of difference (Kruskal-Wallis) of 12.456 ($\propto$ 0.002) caused that the hypotheses stating that there was significant difference on the perception of learners, parents/guardians, teachers as to career needs was rejected. The perception of learners and parents/guardians are the same however they are differ on the perception of teachers.

Learners and their parents/guardians were one in their perception of the career needs. However, teachers viewed higher level of career needs of learners than that of learners and parents/guardians. Various researches conducted by Babcock & Kaufman (1976), Martin & Stone (1977), Stewart & Thoreson (1968), and Thompsons, R. A. (1987, 1999) found out that when learners are provided with group problem-solving methods and activities that will allow learners to clarify their career goals using

relevant information for their decision making help them to understand the relationship between education and vocational achievement.

The Proposed School Counseling Program

Based on the interpreted data, to respond the needs of learners in terms of academic, personal, social, and career as perceived by themselves, parents/guardians, and teachers, the following information are the bases of the school counseling activities under the enhanced school counseling program. Learners' domains of development in the school counseling. Dollarhide and Saginak (2012) widely projected the three domains of learners' development in the school counseling. With these three areas that were introduced from the various results of the education for all movement in the United States of America, the authors clearly elaborated such as following:

Since the school by nature takes the primordial role in the learning on the part of its main clients – learners, academic development focuses on the lifelong acquisition and usage of information, knowledge, skills, talents, insights, ways, and interaction with the world. The academic concern does not only focus on the abovementioned entities, but it also let learners learn how to know, to do, to live together, and to be as introduced by the UNESCO. Academic domain places on the first priority of the school counselor given the fact that it is the confirmation of the partnership of the school counselor and the philosophy of the educational institution.

With the second domain of learners' development, personal, social plays the important role in the holistic development of learners' well-being especially on personal and social dimensions. Major concerns of this domain reach issue like identity difficulties or problems, peer and group relationship, acceptance of others, problems in socializing with other people, diversity, changes, and maturity towards adulthood.

The main purpose of every educational institution is offering quality education which hones learners' preparedness not only the college admission but especially in the life and career success. Common issues in this regard prevents, counteracts, or answers the following hindrances in developing learners' career growth, problems like mistake in career selection and choices, career misinformed, decision-making, parental insistence, learners lack of knowledge of the career availability in the market, relatedness of the career as projected and advised based on the aptitude results of learners especially the 9th graders in the secondary level.

According to American School Counselor Association (ASCA, 2012), school counseling program should not only work with at-risks learners but should also promote academic, career, personal and social development for each learner in the particular academic institution. Ratliff (2012) explicitly says that school counseling should reach all learners through individual, peer or group means. It is given that school counseling program is applicable for individual sake or individual counseling, the ideal aim of school counseling program is to meet all learners' needs rather than the needs of a little.

CONCLUSIONS AND RECOMMENDATIONS

The study concluded that the academic needs of learners primarily focus also on the needs to acquire the attitudes, knowledge, and skills in study, concentration, test-taking that will contribute to learner's effective learning in school and across the life span. The personal needs of learners are ascertained that the learners have to be more aware their tasks in household chores and how to interact better with the family members. In terms of social needs, learners needed to be assisted to increase their self-awareness and self-acceptance of their strengths and weaknesses. The career needs of learners are in need to be knowledgeable about the rewards of work or profession in their lives. They are also seeking to be assisted in preparing their career life by exploring their interests, abilities, and aptitudes.

On the other hand, teachers see the learners to have higher level of needs academically, personally, socially, and in the area of career than that of the learners and their parents/guardians. The experiences, observations, and constant interaction with the learners of the teachers make them to see the learner's needs at a higher level.

The contents of the activities in the school counseling program are as follows, in the academic needs, the inclusion of activities intended to address good study skills and habits, educational options, test taking skills, and application of school learning to environment; the personal needs are responded with activities like awareness of responsibility at home, empowerment of social entities in the family, boosting self-esteem, and unity in diversity; in the social needs, the school counseling activities are composed of knowing oneself, understanding peers and groups, and inter and intrapersonal upliftment; and career needs providing activities and services like career talks, exploration, awareness, forum, promotions, test taking, and counseling.

The implementation of the proposed Enhanced School Counseling Program which is empirically based on the needs of the learners is highly encouraged. The program is comprehensive in scope, preventive in design, developmental in nature, and remedial in approach.

Active participation of teachers is a key factor in the success of the school counseling program. They are considered para-professionals in counseling who are in closed contact with the students and who can attend immediately attend to the needs of the learners. They are an important referral sources in the counseling program and the fruitful implementation of the guidance curriculum depends on them.

The researcher recommends the need of support of the administration in terms of program's human, physical, and fiscal needs are very essential in the effective implementation of the program; active participation of learners, parents/guardian, and teachers are key factors in the success of the school counseling program; and conduct evaluative research on the efficacy of the enhanced counseling program. Evaluation may be done according to the activities included in the program.

REFERENCES

American School Counselor Association. (1999a). *The national standards for school counseling.* Alexandria, VA: Author.

American School Counselor Association. (2003). *The ASCA National Model: A Framework for School Counseling Programs.* Alexandria, VA: Author.

American School Counselor Association. (2005). *The ASCA National Model: A Framework for School Counseling Programs* (2nd ed.). Alexandria, VA: Author.

Anfara, V. A., Jr. (2006). *Research summary: Advisory programs.* Retrieved from http://www.nmsa.org/Reasearch/ResearchSummaries/AdvisoryPrograms/tabid/812/Default/aspx.

Babcock, R. J., & Kaufman, M. A. (1976). Effectiveness of a career choice. *Vocational Guidance Quarterly, 24,* 241-266.

Bennett, E. C. (1975). *Operation C.O.D.: A program designed to improve pupil self-esteem thereby reducing future school dropouts.* Chicago: Nova University

Brown, D. & Trusty, J. (2005). *Designing and Leading Comprehensive School Counseling Programs: Promoting Student Competence and Meeting Student Needs.* United States: Thomson Books/Cole.

Carns, A. W, & Carns, M. R. (1991). Teaching study skills, cognitive strategies, and metacognitive skills through self-diagnosed learning styles. *School Counselor, 38,* 341-346.

Floyd, C. (1996). Achieving despite the odds: A study of resilience among a group of African American high school seniors. *Journal of Negro Education, 65,* 181-189.

Gysbers, N. C. & Henderson P. (2000). *Developing and managing your school guidance program (5th ed.),* Alexandria, VA: American School Counselor Association.

Gysbers, N. C. (1997). *A model comprehensive guidance program.* In N. C. Gysbers & P. Henderson, Comprehensive guidance programs that work II (pp. 1-24) Greensboro, NC: ERIC/CASS.

Herr, E. L. (1976). *Does counseling work?* Paper presented at the Seventh International Round Table for the Advancement of Counseling. University of Wurzburg, Germany.

Keith, P. B., & Lichtman, M. V. (1994). Does parental involvement influence the academic achievement of Mexican American eight graders? Results from the National Educational Longitudinal Study, *School Psychology Quarterly, 9,* 256-273.

Martin, D., & Stone, G. L. (1977). Psychological education: A skill oriented approach. *Journal of Counseling Psychology, 24*, 153-157.

Rye, Donald R. & Sparks, Rozanne (1999). *Strengthening K-12 school counseling programs. A support system approach.* (2nd ed.). Philadelphia, PA: Accelerated Development.

Stewart, N. R., & Thoreson, C. R. (1968). *Behavioral group counseling.* Boston: Houghton Mifflin.

Thompson, R. A. (1987). Creating instructional partnerships to improve the academic performance of underachievers. *School Counselor, 3(4),* 62-66.

Thompson, R. A. (1999). Empowering youth at-risk with skills for school and life. In D. Rae & R. Warkentin (Eds.), *The need to empower youth with critical social, emotional and cognitive skills.* New York: McGraw-Hill.

Thompson, R. A. (2011). *Professional School Counseling: Best Practices for Working in the School.* (3rd Ed.). USA: Taylor & Francis Group.

Unraveling the Influence of School Factors, Innovativeness and Creativity to Entrepreneurial Risk-Taking: A Causal Model

Anthony Ly B. Dagang, DBM

Lourdes College, Philippines (anthony.dagang@lccdo.edu.ph)

ABSTRACT

Entrepreneurs face many challenges such as dealing with ambiguity, declining market shares or investments that have gone wrong. For an entrepreneur to succeed, one should deal with these daunting tasks. Many authors consider an individual's ability to be creative, innovative and the ability to take risks as significant factors to entrepreneurial sustainability and success. One would question: What fuels them to take the risk, the uncertainty, and the daunting task in choosing this path? Scholars stressed that no one is born to take risks, but others agree that it can be developed through education and training. The challenge: Can school factors such as curriculum, instruction, and facilities and support influence innovativeness, creativity and risk-taking? Hence, this study was conceptualized to determine if school factors, innovativeness and creativity may influence entrepreneurial risk-taking. Using structural equation modelling, four hundred eighty-eight (488) senior college students from selected colleges and universities in Cagayan De Oro City, Philippines participated in this study. The best fit model proposed that entrepreneurial risk-taking is anchored on Innovativeness and Creativity, which influence can be enhanced with School Factors. The best indicators for School Factors are Curriculum (CUR) and, Facilities and Support (FS). Results imply that entrepreneurial risk-taking can be formed when innovativeness and creativity is high. School factors were found to have a crucial role in enhancing the effects of innovativeness and creativeness, which contributes to the formation of students' entrepreneurial risk-taking. Since Curriculum, and Facilities and Support were found to be best indicators for school factors that may influence students' entrepreneurial risk-taking, the academe must focus on identifying and developing existing programs that are hinged in this direction. Particularly, sustaining enhancement programs for curriculum and facilities and support, which were found to be significant components that contribute to successful academic programs for entrepreneurship.

Keywords: Innovativeness, Creativity, Curriculum, Instruction and Support, Entrepreneurial Risk-Taking

INTRODUCTION

Entrepreneurs face many challenges such as dealing with ambiguity, declining market shares or investments that have gone wrong. For an entrepreneur to succeed, one should deal with these daunting tasks. Many authors consider an individual's ability to be creative, innovative and the ability to take risks are significant factors to entrepreneurial sustainability and success. One would question: What fuels them to take the risk, the uncertainty, and the daunting task in choosing this path? Scholars stressed that no one is born to take risks, but some agree that it can be developed through education and training. The challenge: Can school factors such as curriculum, instruction and facilities impact innovativeness, creativity and risk-taking?

Adekiya & Ibrahim (2016) emphasized that no one is born an entrepreneur, but one can develop through education or training. The role of schools in developing entrepreneurs has been a subject of contention for many years. Some say that entrepreneurs, not the academe, must lead in the formation and development of entrepreneurs since they can better associate what is happening outside than on what is taught in the classroom. For academicians, the school is the right avenue because it supplements the necessary support to equip students with entrepreneurial knowledge and competencies. In whatever set of circumstances may be, scholars and experts alike seem to agree on common ground, that

entrepreneurs must have the right attitude and character to face the many risks entrepreneurship may offer.

This study aims to develop a causal model for entrepreneurial risk-taking of fourth-year college students from selected colleges and universities in Cagayan De Oro City. It is grounded on the assumption that school factors such as instruction, facilities and support, and curriculum; innovativeness and creativity may influence students' entrepreneurial risk-taking. Specifically, it determined the following: (1) the correlation between school factors instruction, facilities and support, and curriculum innovativeness, creativity and entrepreneurial risk-taking (2) the influence of innovativeness and creativity to entrepreneurial risk-taking and; (3) the best fit model for student's entrepreneurial risk-taking.

Risk-taking can be defined as undertaking a task or action that involves a challenge a person takes in order to obtain some sort of benefit when there is an element of uncertainty involved in the outcome (Yeboah, 2014). Risk-taking has been widely considered as a quality common to entrepreneurial people. Uddin & Bose (2012) argue that risks are inherent for any person who undertakes and operates a new enterprise or venture. Choosing a career in entrepreneurship means one should embrace entrepreneurial risks such as financial, market, management, and human resources risks. Risk-taking is part of entrepreneurial life. For an entrepreneur to succeed, one should learn to embrace potential threats that can be used as a measure for future success (Fuller et al., 2010). Tiftik & Zincirkiran (2014) studied entrepreneurs in Turkey and found risk-taking, creativity and innovation to be dominant. The challenge is, what drive entrepreneurs to take risks? Can entrepreneurial risk-taking be developed in school?

Many scholars suggest that the right combination of instruction, facilities and support, and curriculum are crucial in developing potential entrepreneurs. It encourages innovation, creativity and risk-taking. For example, in Taiwan, with the support of the government, universities have created student business centers. These venues comprise more than 85% of entrepreneurial development centers in the country. Schools partnered with Government and Corporations to further develop entrepreneurial needs of the students. Mok (2012), as cited by Jabeen, Faisal, & I. Katsioloudes (2017) mentioned that in Korea, University-Industry collaborations is a practice that has long resulted to venture creation and success of college graduates. School support is an essential element in student development. Cinches et al. (2017) supported this and stressed that schools must provide an environment that stimulates student development. Schwarz, Wdowiak, Almer-jarz, & Breitenecker (2009) also points out that school support has a positive influence on the entrepreneurial interest of students. Among other things, attention is also given to teachers' competence. Teachers must not only be knowledgeable in their area of expertise, but they also have the skills to relate content to the nation's economy and emphasize the youth's role in sustaining society's progress. While scholars put more emphasis on teacher qualities as very crucial in student development, Arasti, Kiani Falavarjani, & Imanipour (2012) argued that teaching is more effective when it is based from a well-designed curriculum that focuses on the systematic, pedagogy-based course of study. Pedagogies that support entrepreneurship learning must be integrated in the curriculum. Jabeen et al. (2017) proposed that schools drive creativity and innovation, which may influence an individual's propensity for venture creation.

On the other hand, Innovation is important factor for entrepreneurship. An innovative entrepreneur is someone who sees new ideas and opportunities easily, never ceases to look for niches and takes risks to partake them. It is also characterized by someone who likes to challenge old ideas and applications and seek better ones. They strongly believe that it is crucial to look for novelty to sustain and grow the business continually. A person, with innovative skills, can optimize and grow his business (Autio et al., 2014; Carayannis et al., 2014). When a person continues to think differently, even bending beyond the norms to improve his craft, he is considered creative. *Creativity* is simply the ability of a person to use his imagination to craft more ideas, thinking "outside the box" and puts aside practical norms to create something innovative and new. Artistry is a skill that is something innate in a creative person. Creative people prefer an environment that involves different activities and enjoys expression

of their own ideas. They can come up with the most unthinkable ideas and bring innovation into existing practices (Autio et al., 2014; Carayannis et al., 2014)

Entrepreneurs are known to contribute to economic development by bringing in innovative ideas such as product innovation, process innovation, market innovation, and organizational innovations. These innovative ideas give rise to the satisfaction of new consumer demands and to new firms being established. Innovation and creativity have been confirmed by scholars to have positive effects on entrepreneurship and performance. For instance, Alegre & Chiva (2013) studied the effects of innovation, organizational learning capability and entrepreneurial orientation on a manufacturing firms' performance. They proved that the association between entrepreneurial orientation, organization learning and a firm's ability to perform at a higher level is improved by innovation and creativity. Another point of view was raised by Wurthmann (2013) who found a direct positive relationship between attitude toward innovation and entrepreneurial intentions. He stressed that individuals with more favorable attitudes toward innovation might choose careers that involve new venture creation.

Developing the youth to become future entrepreneurs is a challenge the academe should respond. Scholars and policymakers agree that entrepreneurship is a way to sustainable economy. They recognized the value of entrepreneurship education in nurturing entrepreneurial minds.(Karimi, Biemans, Lans, Chizari, & Mulder, 2016; Vakili, Tahmasebi, Tahmasebi, & Tahmasebi, 2016). Hence, this study is conceptualized in the hope of adding to the growing knowledge of entrepreneurship and the possibility of contributing concepts that may lead to the enhancement of academic programs for entrepreneurship.
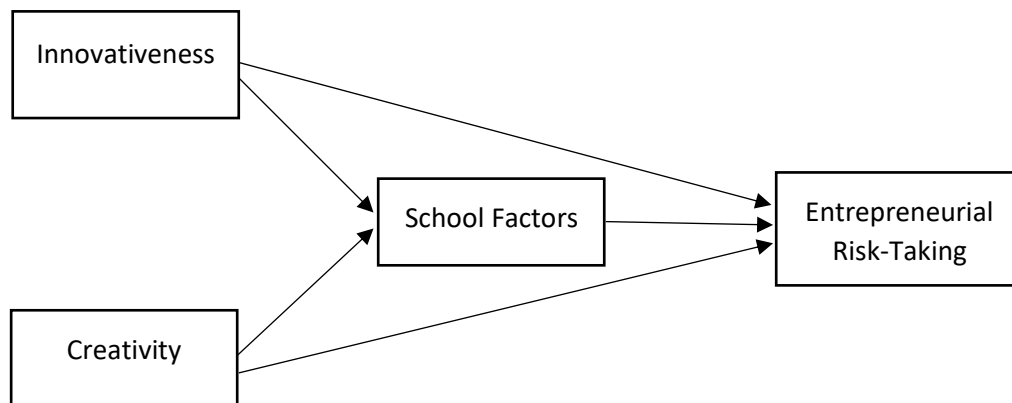
Figure 1. Schematic Diagram of the Study

METHODS

This study aims to determine a causal model of entrepreneurial risk-taking of senior business management students at selected colleges and universities in Cagayan De Oro City. To achieve this goal, a causal-comparative method using Structural Equation Modelling was applied. It involves randomly sampled, 488 senior students. The choice of senior students is appropriate for this study because they have enough exposure to entrepreneurial subjects and activities (Jesselyn Co & Mitchell, 2006; Nguyen, 2017; Segumpan et al., 2012). The participants were given a researcher-made survey questionnaire. To ensure that the questionnaire's content and composition is adequate to measure the problems of this study, content validity and reliability was done. To validate the questionnaire, Lawshe's Content Validity Ratio was used (Lawshe, 1975). Lawshe (1975) developed a statistical method called Content Validity Ratio (CVR) to reject or retain an item in the questionnaire. A panel of Subject Matter Experts (SME) must be consulted to rate each question for content validity. Lawshe (1975) as cited by Ayre, et.al (2014), Gilbert et.al(2016) and Wilson, et.al (2016) states that each SME shall rate each item: "Essential", "Useful, but not essential" or "not necessary".

The formula to calculate CVR is:

$$CVR = \frac{n_e - N/2}{N/2}$$

Where: n_e equals the number of SMEs rating an item as "essential" and N equals the total number of SMEs provided ratings (Lawshe, 1975). Gilbert & Prion (2016) suggested that a CVI of 0.70 and above with three or more experts could be considered evidence of good content validity.

On the other hand, to measure the questionnaire's reliability, Chronbach Alpha was used. George & Mallery (2010) as cited by Cinches, Russell, Chavez, & Ortiz (2015) stated that reliable scales must have values between 0.70 to 0.90.

The survey questionnaire's items were equally distributed for variables that has multiple indicators, such as school factors' *instruction, facilities and support, and curriculum*, in which each category have 7 items. For *risk-taking, innovativeness and creativity*, each category has 7 items. An agreement scale of 6 (6 – Completely agree, 5 – Mostly agree, 4 – Slightly agree, 3 – Slightly disagree, 2 – Mostly disagree, 1 – Completely disagree) was used to measure innovation, creativity and risk-taking. On the other hand, school factors used a likelihood scale of 6 (6 – Very high extent, 5 – High extent, 4 – Moderate extent, 3 – Low extent, 2 – Very low Extent, 1 – No extent).

A pilot test was conducted to thirty respondents for reliability testing prior to final data gathering. Five subject matter experts where also consulted for content validity. Table 2 shows the results of the content reliability and validity.

Table 2. Reliability and Validity Tests

Variables	Cronbach Alpha	CVI
A. School		
- Instruction	.909	.94
- Facilities and Support	.901	.82
- Curriculum	.931	.82
B. Innovativeness	.848	.88
C. Creativity	.838	.78
D. Risk-taking	.804	.78

Reference: Cronbach Alpha >= 0.70, CVI >= 0.70

Pearson-R Correlation was used to determine the relationship between school factors instruction, curriculum and facilities and support, to innovativeness, creativity and entrepreneurial risk-taking. To test the influence of *innovativeness and creativeness to entrepreneurial risk-taking,* Multiple Linear Regression was used. To determine the best fit model for entrepreneurial risk-taking, Structural Equation Modelling was used using IBM Amos.

Structural Equation Modelling (SEM) is a multivariate statistical analysis tool to analyze structural relationships, which is the main goal of this study. A best fitting model must be determined in order to establish causal relationship of the variables used. A good-fitting model is one that is reasonably consistent with the data and so, it does not require re-specification. Re-specification means that the variables used on the model shall be drawn again, possibly a change of connection between variables until a good fit model is achieved (Civelek, 2018). To determine the model fit, a table of criterion indices must be met. These fit indices indicate how substantial your data is to prove or disprove the hypothesized model of this study. Table 1 shows the criterion indices and standard values for Structural Equation Modelling (SEM) best fit model. Civelek (2018), Hooper, Coughlan, & Mullen (2008) and Hu & Bentler (1999) used the following criteria for best fit model: CMIN (P-Value) or chi-square test, minimum discrepancy test (CMIN/DF), goodness of fit index (GFI), comparative fit index (CFI),

normed fit index (NFI), Tucker-Lewis coefficient (TLI) and root mean square error of estimation (RMSEA). IBM Amos software was used to create the model and compute the results.

Table 1. Criterion for SEM Model Fit

Criterion	Standard Value
CMIN P	> 0.05
CMIN/DF	< 5.00
GFI	> 0.95
CFI	> 0.95
NFI	> 0.95
TLI	> 0.95

RESULTS AND DISCUSSION

The Relationship Between School Factors, Innovativeness, Creativity and Risk-Taking

Table 3 shows the correlation matrix between school factors instruction, facilities and support, and curriculum innovativeness, creativity and entrepreneurial risk-taking. The results determine whether the variables school factors, innovation, creativity and risk-taking are significantly related.

Table 3. Correlation Matrix Between School Factors Instruction, Facilities and Support, Curriculum, Innovativeness, Creativity and Risk-taking

		Instruction	Facilities and Support	Curriculum	Innovative-ness	Creativity	Risk-Taking
Instruction	**Pearson R**	1	.673[**]	.745[**]	.531[**]	.522[**]	.509[**]
	Sig. (2-tailed)		.000	.000	.000	.000	.000
Facilities and Support	**Pearson R**	.673[**]	1	.733[**]	.439[**]	.464[**]	.388[**]
	Sig. (2-tailed)	.000		.000	.000	.000	.000
Curriculum	**Pearson R**	.745[**]	.733[**]	1	.473[**]	.494[**]	.441[**]
	Sig. (2-tailed)	.000	.000		.000	.000	.000
Innovativeness	**Pearson R**	.531[**]	.439[**]	.473[**]	1	.774[**]	.791[**]
	Sig. (2-tailed)	.000	.000	.000		.000	.000
Creativity	**Pearson R**	.522[**]	.464[**]	.494[**]	.774[**]	1	.724[**]
	Sig. (2-tailed)	.000	.000	.000	.000		.000
Entrepreneurial Risk-Taking	**Pearson R**	.509[**]	.388[**]	.441[**]	.791[**]	.724[**]	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

[**]. Correlation is significant at the 0.01 level (2-tailed).

Results reveal that the correlation between the independent variables school factors (instruction, facilities and support, curriculum), innovation and creativity, and the dependent variable entrepreneurial risk-taking were highly significant at P=0.00 level. It showed a positive correlation of the school factors instruction to risk-raking (.509), facilities and support to risk-taking (.388), and curriculum to risk-taking (.441). It also shows positive correlation of the variables' innovativeness to risk-taking (.791) and creativeness to risk-taking (.724). The positive correlation coefficient implies that the variables move in one direction. When the level of one variable increase, the level of the associated variable also increases.

The results confirm with Arasti et al., (2012) and Jabeen et al., (2017) that school factors such as instruction, support and curriculum may contribute to the development of students entrepreneurial risk-taking. Using this study's context, it indicates that when a school's instruction, facilities and support, and curriculum improves, a students' skill of entrepreneurial risk-taking may also improve. And when the level of innovativeness and creativeness also increase, entrepreneurial risk-taking also increases.

The Influence of Innovativeness and Creativeness to Risk-Taking

Table 4 presents the Multiple Linear Regression results to test the influence of Innovativeness and Creativeness to Entrepreneurial Risk-taking. The results will determine if the the level of innovativeness and creativity can predict the students' entrepreneurial risk-taking.

Table 4. Multiple Linear Regression on the Influence of Innovativeness and Creativeness to Entrepreneurial Risk-taking

Independent Variables	B	T-Value	P
Innovativeness	.566	13.84	.000
Creativity	.284	6.71	.000
Dependent Variable	Entrepreneurial Risk-taking		
Constant	.694		
Adjusted R-Squared	.660		
F Value	474.80		
P	.000		

ERT = .694 + .566Inno + .284Crea

Results reveal that the value of adjusted R^2 indicates that 66% of the variation of the respondents' entrepreneurial risk-taking can be predicted by innovativeness and creativeness. The adjusted R^2 value indicates the amount of influence of the Innovativeness (INO) and Creativeness (CRE) on Entrepreneurial Risk-taking (ERT). With F-Value of 474.80, the model is highly significant at P=0.000. The figures of the table show that for every unit change in the respondent's INO and CRE, there is a corresponding increase of 57% and 28% respectively in their ERT. This indicates that the higher INO and CRE, the higher ERT would be. While these have proven the enhancing effects of INO and CREA to ERT, the missing 43% of **INO** and 72% of **CRE** might be attributed to other influencing factors, which can be considered in future studies.

The results confirm with Wurthmann (2013) who stressed that there is a direct positive relationship between attitude toward innovation, creativity and entrepreneurial attitude. He pointed out that individuals who are innovative and creative may likely choose entrepreneurial careers. Moreover, Fuller et al., (2010) added that for an entrepreneur to succeed, one should learn to embrace uncertainty. Risk-taking is part of entrepreneurial life. To increase the chances of success, an entrepreneur must be innovative, creative and have a high tolerance to risk-taking to succeed.

The Best Fit Model for Entrepreneurial Risk-Taking

Hypothesized Model 1: Figure 2 presents the Hypothesized Model 1. The model proposes that entrepreneurial risk-taking (ERT) is influenced by Innovativeness, Creativeness and School, where School mediates the degree of influence Innovativeness and Creativity has towards Entrepreneurial Risk-taking. For School, it proposes three indicators: teachers (TEA), facilities and support (FS) and curriculum (CUR).
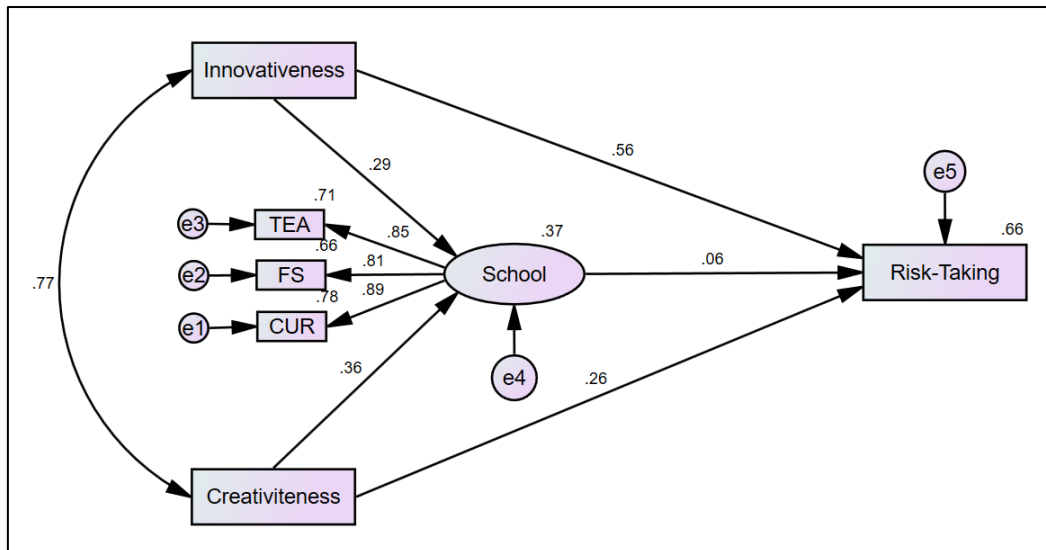
Figure 2. Hypothesized Model 1

As shown in Figure 2, the model reveals that 66% of the variations in risk-taking (R^2=.66) are predicted by Innovativeness (β=.56), School (β=.06) and Creativeness (β=.26). Furthermore, 37% of the changes in School (R^2=.37) are affected by Innovativeness (β=.29) and Creativeness (β=.36). Correlation is significant between Creativeness and Innovateness (β=.77).

On the other hand, Model 1 reveals a significant effect of the indicators to the latent variable School. Three indicators predict School: teacher (TEA, β=.85), facilities and support (FS, β=.81) and curriculum (CUR, β=.89). Results for R^2 were positive such as TEA(R^2=.71), FS (R^2=.66) and CUR (R^2=.89), which implies that 71% of TEA, 66% of FS and 89% of CUR explains the changes of School. The remaining 29%, 34% and 11% respectively may be predicted by other variables, which can be considered in future studies.

Table 5 presents the fit indices for hypothesized model 1. It shows the different fit index results using Structural Equation Modelling.

Table 5. Model 1 Fit Indices

Criteria	Threshold	Model 1 Results
CMIN P	> 0.05	.03
CMIN/DF	< 5.00	3.26
GFI	> 0.95	.987
CFI	> 0.95	.993
NFI	> 0.95	.990
TLI	> 0.95	.983
RMSEA	< 0.05	.067

Results reveal significant positive regression weights (B-Coefficient) and squared multiple correlations (R^2) for each line connecting all the variables. However, the result was a poor fit, considering that CMIN P (.03) was highly significant. Although, CMIN/DF (3.26), GFI (.987), CFI (.9937), NFI (.990) and TLI (.983) reached the threshold, RMSEA (.067) is greater than the acceptable value of less than 0.05. This implies that this model does not represent the data. Therefore, Model 1 is rejected.

Hypothesized Model 2: Figure 3 presents the Hypothesized Model 2, the best fit model. The model proposes that entrepreneurial risk-taking (ERT) is influenced by Innovativeness, Creativeness and School, where School mediates the degree of influence Innovativeness and Creativity towards

Entrepreneurial Risk-taking. For School, it proposes two indicators: facilities and support (FS) and curriculum (CUR).

After testing the first model, the same exogenous variables were retained namely Innovativeness, Creativity and School. Given the SEM reduction process, *School* is indicated with only two variables namely facilities and support (FS), and Curriculum (CUR).
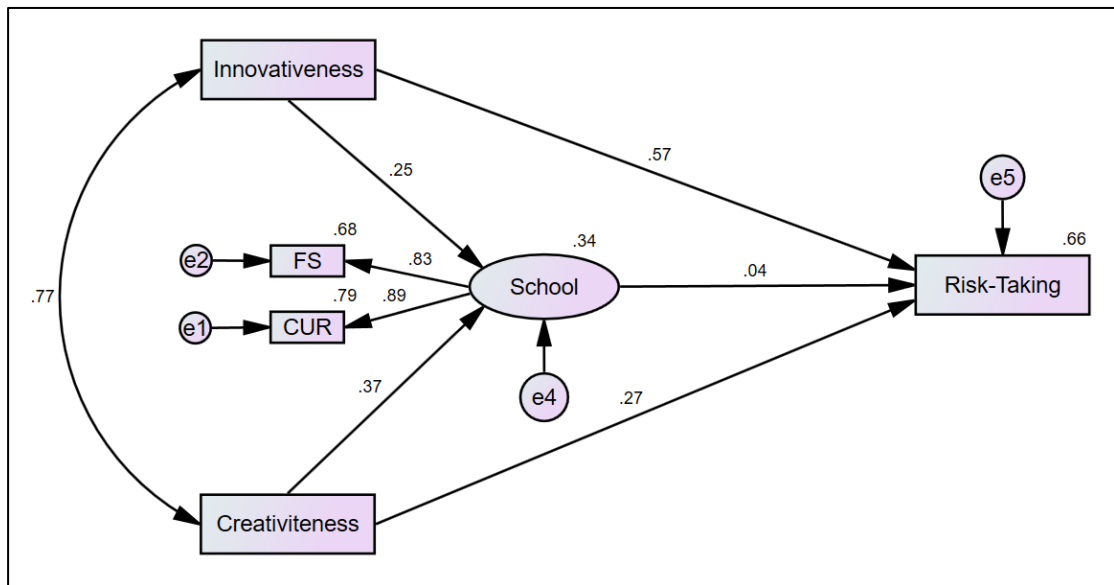

Figure 3. Hypothesized Model 2

Figure 3 shows the hypothesized Model 2, the best fit model. Results reveal that 66% of the variations in risk-taking (R^2=.66) are predicted by Innovativeness (β=.57), School (β=.04) and Creativeness (β=.27) as shown in the structural equation: (ERT = .57INNO + .04SCHOOL + .27CREA). Moreover, 34% of the changes in School (R^2=.34) are affected by Innovativeness (β=.25) and Creativeness (β=.37) as shown in the structural equation: (SCH = .25INNO + .37CREA). Correlation is still significant between Creativeness and Innovateness (β=.77).

Furthermore, Model 2 shows a significant effect of the indicators to the latent variable School. Two indicators were retained this time: facilities and support (FS, β=.83) and curriculum (CUR, β=.89). Results for R^2 were positive such as FS (R^2=.68) and CUR (R^2=.79), which implies that 68% of FS and 79% of CUR explains the changes of School. The remaining 32% and 21% respectively may be predicted by other variables, which can be considered in future studies.

Table 6 presents the fit indices for hypothesized model 2. It presents the fit index results applying the Structural Equation Modelling.

Table 6. Model 1 Fit Indices

Criteria	Threshold	Model 1 Results
CMIN P	> 0.05	.463
CMIN/DF	< 5.00	.770
GFI	> 0.95	.999
CFI	> 0.95	1.00
NFI	> 0.95	.999
TLI	> 0.95	1.00
RMSEA	< 0.05	.000

Results disclose significant regression weights (B-Coefficient) and squared multiple correlations (R^2) for each line connecting all the variables. With CMIN P of .463, CMIN/DF of .770, GFI of .999, CFI of 1.00, NFI of .999, TLI of 1.00 and RMSEA of .000, all the criteria met the threshold values. Therefore, Model 1 is the best fit model for ERT.

Table 7 presents the summary of the fit indices of the two models presented. This results shows the fit indices for each of the models, where Model 2 met the criteria.

Table 7. *Summary of the Fit Indices of the Two Models*

	P	CMIN/DF	GFI	CFI	NFI	TLI	RMSEA
Model 1	.03	3.26	.987	.993	.990	.983	.067
Model 2**	.463	.770	.999	1.00	.999	1.00	.000
Fit Criterion	>0.05	<5.00	>0.95	>0.95	>0.95	>0.95	<0.05

** *Best fit model*

The best-fitting model proposes that *entrepreneurial risk-taking* is anchored on *Innovativeness and Creativity*, which influence can be enhanced with *School Factors*. The correlation between *Innovativeness and Creativity* is also positive. The best indicators for *School Factors* are *Curriculum (CUR) and, Facilities and Support (FS)*.

The findings add to the growing literature of entrepreneurial risk-taking which proposes that School Factors curriculum and facilities and support may influence Innovativeness, Creativity and Entrepreneurial Risk-taking (Autio et al., 2014; Cinches et al., 2017; Jabeen et al., 2017)

DISCUSSION

Based on the findings, this study concludes that entrepreneurial risk-taking can be formed when innovativeness and creativity is high. School factors were found to have a crucial role in enhancing innovativeness and creativeness, which contributes to the formation of students' entrepreneurial risk-taking. Since Curriculum, and Facilities and Support were found to be best indicators for school factors that may influence students' entrepreneurial risk-taking, the academe must focus on identifying and developing their existing programs that are hinged in this direction. Particularly, sustaining enhancement programs for curriculum and facilities and support, which were found to be significant components. However, even if the result does not include Instruction as a significant variable, it does not mean that this dimension may be disregarded. The model suggests that there is a need to improve Instruction, which may contribute to the overall success of academic programs for entrepreneurship.

Furthermore, schools have a significant role in driving students to pursue entrepreneurship. Thus, opportunities to develop innovation, creativity and risk-taking must be provided. Importantly, schools must also recognize the importance of reviewing their existing facilities and support, curriculum, and instruction to improve academic programs related to entrepreneurship. The more enhanced entrepreneurial programs are, the more students can develop their entrepreneurial risk-taking.

Based on the foregoing findings and conclusions, the following are recommended:
1. For schools, colleges and universities offering entrepreneurship education;
   1.1 curriculum, facilities and support, and instruction may be reviewed and enhanced;
   1.2 may consider designing an effective training program for teachers to develop their teaching competencies related to entrepreneurship;
   1.3 may consider the possibility of improving the facilities that support entrepreneurial activities to encourage student engagement;
   1.4 may consider the possibility of improving the design and development of the curriculum that are hinged to innovation, creativity and risk taking.
2. Since creativity and innovation are seen to be relevant indicators to entrepreneurial risk-taking, thus;

2.1 may intensify the integration of creativity, innovation and risk management skills in the entrepreneurship-related subjects

2.2 may develop assessments that includes creativity, innovation and risk-taking as criteria for grading in all entrepreneurship related subjects;

2.3 may include risk identification and management in case studies , business plans or feasibility studies, to enhance student's skills in innovation, creativity and risk management.

3 For entrepreneurship course administrators;

3.1 may maintain teacher quality through intensification of the assessment, feedbacking, monitoring and evaluation processes in the school

3.2 may provide meaningful faculty development programs to enhance teaching quality related to entrepreneurship.

3.3 may continue to provide quality facilities that support student entrepreneurial programs.

3.4 may craft policies aiming to create programs and support structures that enhance students' entrepreneurial activities.

REFERENCES:

Adekiya, A. A., & Ibrahim, F. (2016). Entrepreneurship intention among students. The antecedent role of culture and entrepreneurship training and development. *International Journal of Management Education*, *14*(2), 116–132. https://doi.org/10.1016/j.ijme.2016.03.001

Alegre, J., & Chiva, R. (2013). Linking Entrepreneurial Orientation and Firm Performance: The Role of Organizational Learning Capability and Innovation Performance. *Journal of Small Business Management*, *51*(4), 491–507. https://doi.org/10.1111/jsbm.12005

Arasti, Z., Kiani Falavarjani, M., & Imanipour, N. (2012). A Study of Teaching Methods in Entrepreneurship Education for Graduate Students. *Higher Education Studies*, *2*(1), 2–10. https://doi.org/10.5539/hes.v2n1p2

Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. *Research Policy*, *43*(7), 1097–1108. https://doi.org/10.1016/j.respol.2014.01.015

Carayannis, E. G., Grigoroudis, E., Sindakis, S., & Walter, C. (2014). Business Model Innovation as Antecedent of Sustainable Enterprise Excellence and Resilience. *Journal of the Knowledge Economy*, *5*(3), 440–463. https://doi.org/10.1007/s13132-014-0206-7

Cinches, M. F. C., Russell, R. L. V., Chavez, J. C., & Ortiz, R. O. (2017). Student engagement: Defining teacher effectiveness and teacher engagement. *Journal of Institutional Research South East Asia*, *15*(1), 5–19. http://www.seaairweb.info/journal/JIRSEA_v15_n1_2017.pdf

Civelek, M. E. (2018). *Essentials of Structural Equation Modeling* (Zea E-books (ed.)). Digital Common Library at University of Nebraska. https://doi.org/10.13014/K2SJ1HR5

Fuller, B. K., Spears, M. C., & Parker, D. F. (2010). Entrepreneurial Tendencies: Evidence from China and India. *International Journal of Management and Marketing Research*, *3*(3), 39–53. ftp://ftp.repec.org/opt/ReDIF/RePEc/ibf/ijmmre/ijmmr-v3n3-2010/IJMMR-V3N3-2010-3.pdf

George, D., & Mallery, P. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference* (10th ed.). Pearson.

Gilbert, G. E., & Prion, S. (2016). Making Sense of Methods and Measurement: Lawshe's Content Validity Index. *Clinical Simulation in Nursing*, *12*(12), 530–531. https://doi.org/10.1016/j.ecns.2016.08.002

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, *6*(1), 53–60. https://doi.org/10.1037/1082-989X.12.1.58

Hu, L., & Bentler, P. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives. *Structural Equation Modelling*, *6*(1), 1–55.

Jabeen, F., Faisal, M. N., & Katsioloudes, M. I. (2017). Entrepreneurial mindset and the role of universities as strategic drivers of entrepreneurship: Evidence from the United Arab Emirates.

Journal of Small Business and Enterprise Development, *24*(1), 136–157. https://doi.org/10.1108/JSBED-07-2016-0117

Jesselyn Co, M., & Mitchell, B. (2006). Entrepreneurship education in South Africa: a nationwide survey. *Education + Training*, *48*(5), 348–359. https://doi.org/10.1108/00400910610677054

Karimi, S., Biemans, H. J. A., Lans, T., Chizari, M., & Mulder, M. (2014). The Impact of Entrepreneurship Education: A Study of Iranian Students' Entrepreneurial Intentions and Opportunity Identification. *Journal of Small Business Management*, *54*(1), 187–209. https://doi.org/10.1111/jsbm.12137

Lawshe, C. H. (1975). A Quantitative Approach To Content Validity. *Personnel Psychology*, *28*(4), 563–575. https://doi.org/10.1111/j.1744-6570.1975.tb01393.x

Nguyen, C. (2017). Entrepreneurial intention of international business students in Viet Nam: a survey of the country joining the Trans-Pacific Partnership. *Journal of Innovation and Entrepreneurship*, *6*(1), 7. https://doi.org/10.1186/s13731-017-0066-z

Schwarz, E. J., Wdowiak, M. A., Almer-Jarz, D. A., & Breitenecker, R. J. (2009). The effects of attitudes and perceived environment conditions on students' entrepreneurial intent: An Austrian perspective. *Emerald Education and Training*, *51*(4), 272–291. https://doi.org/10.1108/00400910910964566

Segumpan, R. G., Soraya, J., & Zahari, A. (2012). Attitude Towards Entrepreneurship Among Omani College Students Trained in Business. *International Journal of Business and Behavioral Sciences*, *2*(4), 61–72.

Tiftik, H., & Zincirkiran, M. (2014). A Survey of Entrepreneurial Tendencies Candidate Young Entrepreneurs: Foundation University Sample. *Journal of Management Research*, *6*(2), 177. https://doi.org/10.5296/jmr.v6i2.5444

Uddin, M. R., & Bose, T. K. (2012). Determinants of Entrepreneurial Intention of Business Students in Bangladesh. *International Journal of Business and Management*, *7*(24). https://doi.org/10.5539/ijbm.v7n24p128

Vakili, F., Tahmasebi, N., Tahmasebi, S., & Tahmasebi, D. (2016). Role of education in entrepreneurship development. *Journal of Ecophysiology and Occupational Health*, *16*(3–4), 103–112. https://doi.org/10.15512/joeoh/2016/v16i3&4/16046

Varamäki, E., Joensuu, S., Tornikoski, E., & Viljamaa, A. (2015). The development of entrepreneurial potential among higher education students. *Journal of Small Business and Enterprise Development*, *22*(3), 563–589. https://doi.org/10.1108/JSBED-02-2012-0027

Wurthmann, K. (2013). Business students' attitudes toward innovation and intentions to start their own businesses. *International Entrepreneurship and Management Journal*, *10*(4), 691–711. https://doi.org/10.1007/s11365-013-0249-4

Yeboah, M. A. (2014). *Analysis of Entrepreneurship : How does Culture Influence Risk-Taking in SMEs in the Sekondi-Takoradi Metropolis , Ghana ? 4*(2), 131–140.

SUB-THEME 4:
Education Technology and Innovation

Laboratory-Services Leading to Quality of Maritime Education and Training (MET) at Maritime University in the Philippines

Edsel S. Gildore[1] and Rolando A. Alimen[2]

[1]*John B. Lacson Foundation Maritime University-Molo, Philippines (edsel.gildore@jblfmu.eduy.ph)*
[2]*John B. Lacson Foundation Maritime University-Molo, Philippines (rolando.alimen@jblfmu.eduy.ph)*

ABSTRACT

This quantitative study determined the level of satisfaction of the marine engineering students on the services rendered by the Laboratory Department of JBLFMU-Molo, Iloilo City, Philippines. The participants of the study were 111 third year marine engineering students of the College of Maritime Education (CME), JBLFMU-Molo for the School Year 2019-2020. The statistical tools used were frequency count, percentage, and rank. Results revealed that majority of the marine engineering students were "satisfied" with the services given by the Laboratory Department of JBLFMU-Molo, Iloilo City, Philippines. Services of the Laboratory Department of JBLFMU-Molo that were very favorable and satisfactory were: "rules and regulations in borrowing and retrieving of the tools and apparatuses" and "enough ventilation in the laboratory room." Comments of services of the laboratory were: "catering to the needs of the clients during their laboratory activities" and "safety of the students during laboratory hours." However, the least satisfied services of the laboratory were included in the "Development Plan of the Laboratory Department of JBLFMU-Molo." These needs were inputted in the management review of the laboratory department to address the needs of the clients and stakeholders to maintain the status of the university as Level 4 Accredited Marine Engineering Program by PACUCOA and ISO accredited maritime university in terms of maritime education and training (MET).

Keywords*: Laboratory-service quality, Maritime Education and Training (MET), and Maritime University

INTRODUCTION

Several studies conducted by Say-Morte (2017), Murphy (2014), and Isaiah (2013) Dacuray, de la Rosa, de Chavez, Dolor, Guevarra, Caiga, Mandigma, 2015; Laguador, de Castro, & Portugal, 2014; Buted, et al., 2014; Javier, 2014) underscored that the laboratory spaces should be given attention because these are necessary to fit the students into the room. These can influence instruction and performance of teachers. Performance of teachers according to this study is influenced by technology and will in turn influence the satisfaction of the students on laboratory facilities. The students' satisfaction of the services laboratory needs to be addressed so that competencies of the marine engineering graduates are ensured.

The students' satisfaction is linked with their learning, which includes laboratory exercises and troubleshooting. Better learning takes place in a better environment. Laboratory therefore plays a critical role in students' satisfaction. Nikolic, Ritz, Vial, Ros, & Stirling (2014), Mason, Shuman, & Cook (2013). The universities cannot be complacent towards students' satisfaction with regards to the use of the laboratory.

In another study conducted by Maristela, et al. (2015), it stated that students' satisfaction can be used to help institutions to consider their strengths and to identify some areas that need improvement. Majority of the universities view the facilities of high standard as a very important factor in selecting the students' choice of school, using the students' satisfaction, institutions can increase the overall quality of service rendered to its customers. Satisfaction of customers is the key to establish and maintain long run relationship considered as a key role in gaining sustainable competitive advantage.

The physical facilities of the universities are considered as major component in developing the proficiency of the students in their respective fields of specialization. Higher education (HE) students are considered as primary customers of colleges and universities, which are the major recipients of services offered by the schools which have the right on meeting and satisfying their needs (Maristela, et al. 2015; Dotong, 2014; Bay, An, & Laguador, 2014). The researchers opted to study this particular subject because of limited studies in the field.

Therefore, this was conceived to determine the services of the laboratory towards the development of students' skills and competencies as required by the international shipping companies.

Statement of the Problem

The present study determined the satisfaction on the laboratory services of JBLFMU-Molo intended for marine engineering students. Specifically, the following questions were advanced:

1. What is the level of satisfaction of the marine engineering students on the services rendered by the Laboratory Department of JBLFMU-Molo as a whole and when grouped according to different services?
2. What is the most outstanding service rendered by Laboratory Department intended for marine engineering students for this SY 2019-2020?
3. What is the least satisfactory service of the Laboratory Department that needs improvement?

METHOD

The research design employed in this study was quantitative using descriptive method. The participants of the study were the one-hundred eleven (111) graduating marine engineering students who were officially enrolled at the College of Maritime Education (CME), JBLFMU-Molo for the SY 2019-2020. The sample size was sixty-nine (69%) percent of the total population (160) students of CME. The participants were selected because of their experiences they had acquired of the services of the laboratory, passed the selection-criteria given by the researchers, and completed the laboratory exercises required for the graduating students as stipulated in the international standards of STCW (Standard Training and Certification and Watchkeeping) for marine engineering students.

Research Instrument

This research instrument consisted of fifteen (15) statements answerable by Strongly Agree to Strongly Disagree with a range of 1-5. This was subjected to the experts in the different fields in research, statistics, instrumentation, marine engineering, and English for evaluation, content review, and face validation. The instrument was pilot-tested to marine engineering students who had the same characteristics with the participants but not included in the present study. The reliability of the instrument was determined using Cronbach Alpha, obtaining the result of .82, which meant that it is reliable.

The scales and their descriptions are reflected below:

Scale	Description
4.21-5.00	Highly Satisfied (VS)
3.41-4.20	Satisfied (S)
2.61-3.40	Neutral (N)
1.81-2.60	Not Satisfied (NS)
1.00-1.80	Very Not Satisfied (VNS)

RESULTS AND DISCUSSION

This part of study presents the results and discussion derived from the quantitative data and responses of the respondents.

Table 1. Satisfaction of the Laboratory Services

Laboratory Service	M	Description	SD	R
1. Rules and regulations on borrowing and retrieving the tools/apparatus and equipment	3.94	Satisfied (S)	.46	1.5
2. Safety at the laboratory rooms is ensured during laboratory hours.	3.94	Satisfied (S)	.47	1.5
3. Meeting the learning needs of the marine engineering students.	3.91	Satisfied (S)	.42	3
4. Laboratory provides complete PPE when needed for an activity	3.87	Satisfied (S)	.51	4
5. Enough laboratory equipment/apparatus for every laboratory experiment.	3.86	Satisfied (S)	.41	5.5
6. Cooperation of laboratory assistant and faculty members for an effective conduct of practical instruction.	3.86	Satisfied (S)	.48	5.5
7. Satisfaction on the services rendered by the laboratory assistant during the activity.	3.85	Satisfied (S)	.39	7
8. Other services of the laboratory department.	3.83	Satisfied (S)	.53	8
9. Enough ventilation in the laboratory room is provided.	3.81	Satisfied (S)	.36	9.5
10. Standard laboratory facilities are available to ensure students effective learning.	3.81	Satisfied (S)	.59	9.5
11. Principles of 5'S are implemented in the laboratory.	3.80	Satisfied (S)	.39	11.5
12. Needed chemicals/tools/equipment are available for utilization in the laboratory for practical instruction.	3.80	Satisfied (S)	.38	11.5
13. Catering well on the requests and needs intended for the laboratory activity.	3.74	Satisfied (S)	.47	13
14. Laboratory department accepts the comments and recommendations for the improvement of the area.	3.69	Satisfied (S)	.45	14

Laboratory Service	M	Description	SD	R
15. Availability of first aid kits in the area.	3.63	Satisfied (S)	.45	15
Over-all satisfaction level of laboratory services.	3.82	Satisfied (S)	.46	

Legend: 4-21-5:00 Very Satisfied, 3.41-4.20 Satisfied; 2.61-3.40 Neutral; 1.81-2.60
Not Satisfied; 1:00-1.80 Very Not Satisfied

The results in Table 1 reveal that the over-all satisfaction level of the marine engineering students about the services of the Laboratory Department of JBLFMU-Molo, Iloilo City, Philippines is "satisfied" only with the mean scores ranges from 3.63 to 3.94. However, there is a need to improve the services of the laboratory in order to make the students "highly satisfied" of the uses and services of the laboratory in which would make them to be globally competitive and skillful in the different operations of the international ships. The obtained standard deviations (SDs), which ranged from .36 to .59, revealed the narrow dispersion of the means indicating that the marine engineering students' homogeneity in terms of their level of satisfaction.

Most Outstanding Service rendered by Laboratory Department as evaluated by the Marine Engineering Students of JBLFMU-Molo for SY 2019-2020

The results reveal that the marine engineering students' most satisfied service of the Laboratory Department of JBLFMU-Molo for the School Year 2019-2020 is "implementing the rules and regulations in borrowing and retrieving the tools/apparatus and equipment" with the mean score of 3.94. This result is anchored on the studies conducted by Nikolic, Ritz, Vial, Ros, & Stirling (2014), Mason, Shuman, & Cook (2013) that satisfaction on laboratory services would improve the quality of instruction, and teaching with laboratories are unique learning situation. The students' satisfaction on laboratory services helps attain better learning towards students' achievement, of which every institution could not deny the use of the laboratory.

This "satisfaction on services of laboratory" is in coherence with the studies conducted by Say-Morte (2017), Murphy (2014), and Isaiah (2013), which stated that "satisfaction on laboratory" should be given attention because these are necessary to fit the students into the room, which have influenced instruction and performance of teachers. Studies of Nikolic, Ritz, Vial, Ros, & Stirling (2014), Mason, Shuman, & Cook (2013), Laguardia, de Castro, & Portugal (2013) also supported the results that "laboratories" can improve the quality and students' performance and play an important role in teaching practices of the instructors. It was stated in this study that students' satisfaction is linked with their learning. This includes laboratory exercises and troubleshooting, better learning takes place in a better environment. These activities influenced students' satisfaction and achievement. Therefore, the laboratory plays a critical role for the students' satisfaction and must be of the highest quality. The universities cannot be complacent towards students' satisfaction with regards to the use of the laboratory.

Another study that conforms with this "result on satisfaction of laboratory services of JBLFMU-Molo" was the statement of Maristela, et al. (2015) that students' satisfaction on laboratory services can help institutions to identify some areas that need improvement. It is on this premise, that universities view the facilities of high standard as an important factor in selecting the students' choice of school, using the students' satisfaction, institutions can increase the overall quality of service rendered to its customers. Satisfaction of students is the key to establish and maintain long lasting relationship, which considered as a key role in gaining sustainable competitive advantage.

The same views were given by Maristela, et al. (2015), Dotong (2014), Bay, An, & Laguador (2014) stating that the physical and facilities of the universities are the major components in developing the proficiency of the students in their respective fields of specialization and students were considered as primary customers of colleges and universities and which should be given attention and concern.

Least Satisfied Service/s of the Laboratory Department of JBLFMU-Molo according to Marine Engineering Students

The data show that the least satisfied service in the Laboratory Department of JBLFMU-Molo that students noted was on "availability of first aid kits in the area" that were used by the students. This particular service and other related concerns were reported to the administration of the school and proper actions and attentions were already undertaken and given.

CONCLUSIONS

Based on the findings of this study, the following conclusions were drawn:

The satisfaction of the students on the services given by the Laboratory Department of JBLFMU-Molo, Iloilo City, Philippines indicates that as a maritime university, it is a core function of the university to deliver quality services as one of its functions towards quality maritime education and training (MET) through laboratory utilization. However, improvements and development were considered as indicated in the results of this study.

The least satisfied service of the laboratory is included in the "Development Plan of the Laboratory Department of JBLFMU-Molo areas that need to be addressed are inputted in the management review of the laboratory department to address the needs of the clients and stakeholders to maintain the status of the university as Level 4 Accredited Marine Engineering Program by PACUCOA and ISO accredited maritime university."

RECOMMENDATIONS

In reference to the results and conclusions of the present study, the following recommendations were advanced:

The most satisfied service should be sustained and maintained by the Laboratory Department of JBLFMU-Molo, Iloilo City as a premier maritime university in the country.

However, least satisfied service shall be addressed by the head of the Laboratory Department of JBLFMU-Molo. Laboratory assistants concerned shall be oriented and reminded of their roles in achieving the objectives of the department towards providing quality service to different stakeholders. The laboratory assistants shall ensure that necessary first aid kits are available at the area during laboratory activities of the students.

There should be a regular updating of equipment through periodic inventories based on the standards required by CHED and MARINA in order to comply the student-equipment ratio. To address the concern on safety and protection of the students in the laboratory, the department will provide appropriate PPE, and see to it that these are clean and free of damage and are properly monitored.

In relation to the problem on feedback, the department shall establish customers' feedback mechanism to the students because it will serve as a guiding factor for the development and growth of the laboratory department.

Parallel studies shall be conducted by those interested individuals to determine other parameters and factors that should be reviewed for the constructive development of the laboratory department.

REFERENCES

Bay, A. B., An, I. L., & Laguador, J.M. (2014). Organizational satisfaction and work engagement of Filipino teachers in an Asian University. International Journal of Multidisciplinary Academic Research.

Buted, et al.. (2014). Level of Nigerian cadets' satisfaction on the services of Lyceum International Maritime Academy. Asia Pacific Journal of education, Arts, and Sciences.

Dacuray, M.J., de la Rosa, R., de Chavez, J., Dolor, P.C., Guevarra, L.J., Caiga, B., & Mandigma, L. (2015). Maritime students' satisfaction on the services of one training center in the Philippines. International Journal of management Sciences. Volume 4. Number 8.

Dotong, C. I. (2014). School-related factors in the development of graduates' competencies towards employability. Journal of Education and Literature. Volume 1, Number 1.

Isaiah, M.N. (2013). Linking the school facilities conditions to teachers' level of job dissatisfaction in the South Central Region of Botswana. International Review of Social Sciences and Humanities. Vol. 4, Number 2.

Javier, F.V. (2014). Assessing an Asian university's organizational effectiveness using the Malcolm Baldridge Model. Journal of Business and Governance.

Laguador, J.M., de Castro, E.A., & Portugal, L.M. (2014). Employees' organizational satisfaction and its relationship with customer satisfaction measurement of an Asian Academic Institution. Quarterly Journal of Business Studies.

Maristela, et al. (2015). Satisfaction of maritime students in using laboratory facilities. Asia Pacific Journal of maritime Education. Volume 1. Number 1. ISSN: 2423-2033.

Mason, G.S., Shuman, T.R., & Cook, K.E. (2013). Comparing the effectiveness of an invested classroom on a traditional classroom in an upper-division engineering course. IEEE Tran. Educ. Volume 56, Number 4.

Murphy, S.C. (2014). The first-year student experience: examining student satisfaction and the use of learning communities in the first year of college.

Nikolic, S., Ritz, C., Vial, P., & Stirling, D. (2014). Decoding student satisfaction: how to manage and improve the laboratory experience. University of Wollongong Research Online.

Saunders, W.S.A. & Ruske, M. (2014). Tabulated results from review of natural hazard provisions in regional policy statements, territorial authority plans, and CDEM group plans: GNS Science.

Say-Morte, A. (2017). Level of satisfaction and performance in laboratory subjects of computer engineering courses. Sci.Int. (Lahore), 29, 939-942. ISSN 1013-5316, CODEN: SINTE 8.

Extracting Insights by Clustering Structured Data

Amir H. Rouhi

Data and Analytics, Finance and Governance, RMIT University, Melbourne (amir.rouhi@rmit.edu.au)

ABSTRACT

As part of the higher education ecosystem, Institutional Research (IR) is an integral part. Institutional data is one of the building blocks that makes IR vital in decision making and shaping policy and strategy. All the institutional entities —. students and courses consisting of different attributes, such as program code and name, course code and names, credit points, etcetera — are stored in defined structures named tables. These tables are conventionally stored in the form of structured data elements (fields or columns) and tuples (records or rows) in Relational Database Management Systems (RDBMSs). Breaking down the concept of entities and their attributes and storing them into tables is called normalization. This process is for reducing the data redundancies which is the main concern in large RDBMSs. Hence, given the fact that the entities and their attributes are the concepts already categorized and stored in the database tables, to what extent can this cliché structure negatively impact on researchers by limiting their views to the institutional data?

The objective of this research presentation is to introduce a new lens by which to analyze structured data with the aid of Clustering algorithms. To achieve this objective, the attributes of different entities can be merged using classical database views. Before we embark on the conventional analysis of the extracted data, we can apply an unsupervised Machine Learning algorithm (Clustering) to detect hidden correlations among the attributes and thereby re-group the datapoints into new clusters in order to start the analyzing process. This can assist institutional researchers to distill different perspectives of data and to extract invaluable insights based on the automatically detected clusters. The key factor in this approach is defining the appropriate number of clusters and, subsequently, the interpretation skills for the new clusters.

Keywords: Machine Learning, Clustering, Insight extraction, Structured data, RDBMS.

INTRODUCTION

The education sector, like any other organization, necessarily utilizes relational databases to store daily transactional data into pre-defined structures, known as tables. Data forms the building blocks of all computer-based systems. All these systems are the product of primary requirement analysis, such as structured-based (SSADM) or object-oriented-based (OOAD) software engineering processes. Regardless of the analyzing methods, the analyst focuses on the process or objects of the system and naturally categorizes conceptually correlated attributes together, which will ultimately form the final tables in the databases. This process will divide the concepts into entities and attributes and store them is different database tables. Tables are connected to each other based on their key attributes, so the analyst will be able to connect the tables to extract more complicated concepts in form of database views or even output reports.

The benefits of databases are obvious; almost no business can function without utilizing them nowadays. The amount of transactional data generated in each hour or day is beyond classical data storage capabilities. Moreover, to ensure adequate data storage capacity, the complicatedness of requests needed to run a successful business forces the utilization of databases by designing views and reports. Briefly, improving business management is the byproduct of computerized management systems and their databases.

As explained above, analyzing business, and dividing the business concepts into entities, and entities into correlated attributes, helps to conquer the difficulties and ambiguities in business management. However, neither the dividing processes nor the forging of entities' attributes into defined tables guarantees that all the correlations between attributes has been captured during the process of system analysis. There is always a possibility of the existence of unknown correlations among attributes in the same table, or in different tables of a database, or even in different databases of a data warehouse.
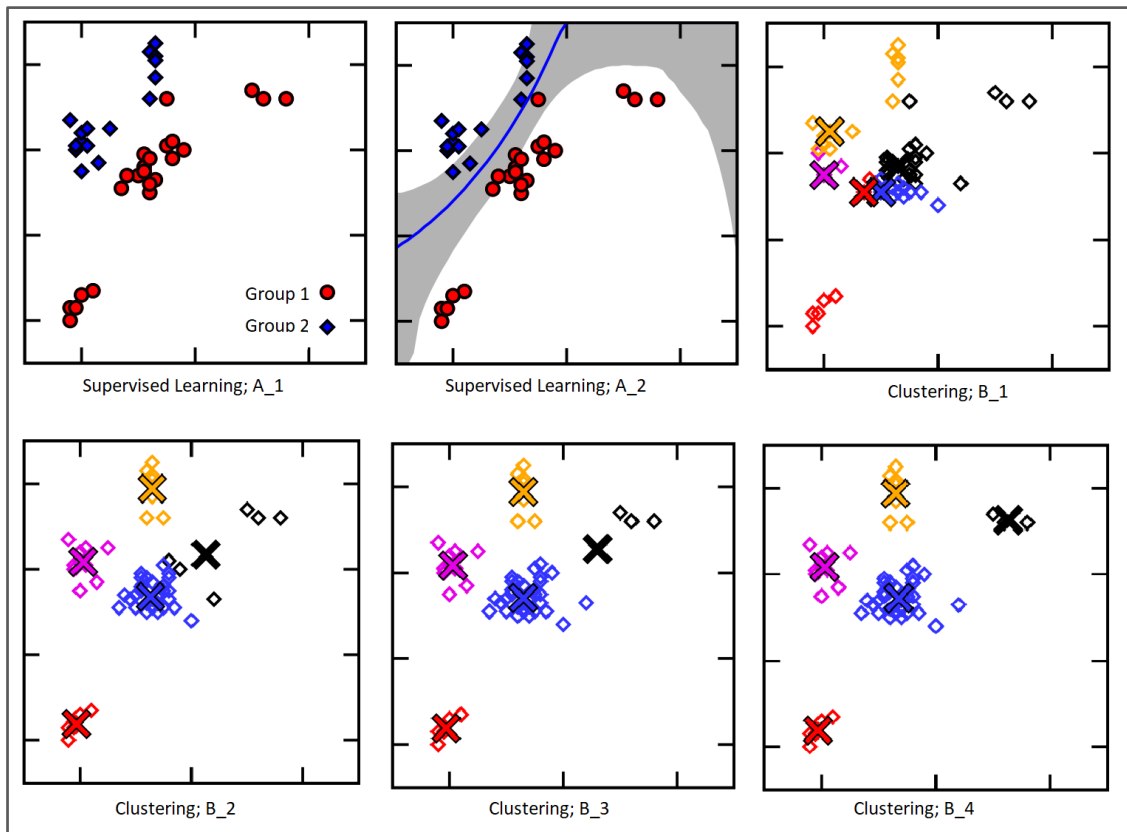
Figure 1: Supervised versus unsupervised learning. A_1 and A_2 represent supervised learning and groups of data are known. B_1 to B_4 illustrates the Clustering process as an unsupervised learning. As can be seen a randomly selected centroids and groups of data in B_1, finally ended with nicely clustered data in B_4.

Fortunately, there are some tools and techniques that allow the investigation and extraction of such hidden correlations or patterns. Unsupervised learning is one Machine Learning method that helps to categorize stored data beyond their technical database structures and systems. In this research, the way in which Clustering as an unsupervised learning tool helps to distill such patterns or categories, and enriches our knowledge of our business, is demonstrated.

After this short introduction, the following sections are provided in this research:
- Introduction to types of Machine Learning and Clustering
- How Clustering helps to extract insights?
- Applying Clustering on institutional structured data
- Conclusion

Introduction to Machine Learning and Clustering

In Artificial Intelligence (AI) and Machine Learning (ML), there are 3 main paradigms for the learning rule: Reinforcement (RL), Supervised (SL) and Unsupervised Learning

(UL). The former two paradigms are core methods widely used in different applications (Ayodele, T.O., 2010). The main difference between the two is the utilization of labeled date in SL and unlabeled data in UL. The information in the training data for RL is intermediate between SL and UL (Jordan, M.I., 2015).

The algorithms of SL needs labeled data to map the input to the labeled output. The SL process adjusts the weight parameters of numerous functions in different layers (input, middle and output) in a way that map the input to the desired output (Jordan, M.I., 2015). This process happens in the learning phase and when the system is trained on all the labeled data, it is ready for the predicting phase to automatically map any unknown input to the output (Figure 1; A_1 and A_2). The more appropriately the data for the training phase is selected and labeled, the greater the accuracy of the system in prediction phase. There exist different types of mapping functions $f(x)$ in SL which generate an output y for input x. Some of the well k`12345-+ 0-`1238n0 own functions are neural networks, decision trees, decision forests, logistic regression, support vector machines and Bayesian classifiers (Hastie, 2011). The SL models are widely used in classifications and regression problems.
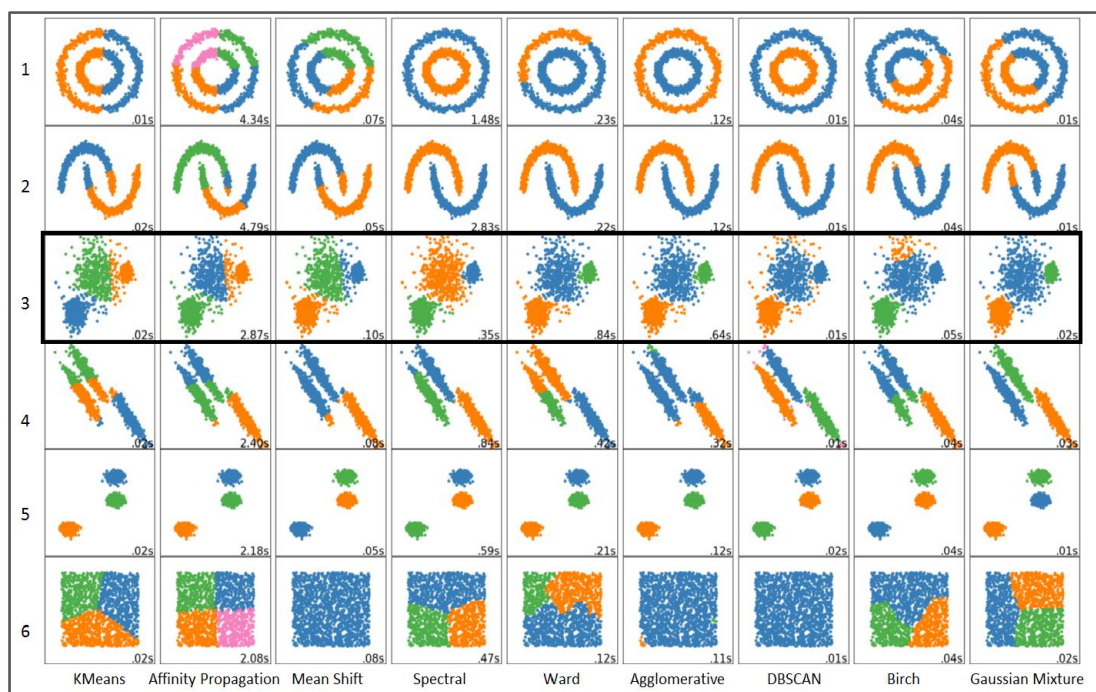
Figure 2: Clustering algorithms.

As can be seen the formation of data distribution is important to select appropriate algorithm. Unlike SL, the algorithms of UL do not need labeled data to map input to output for the training phase. Their algorithms automatically investigate the data, based on assumptions of the structural properties of the data, to discover inherent patterns or structures (Jordan, M.I., 2015). However, they need some input parameter such as the number of clusters (k) in Clustering algorithms. They also need human interpretation to validate their outputs (De Lua, 2021). The three main tasks for ULs are Clustering (i.e. *k-means* data grouping), Association (i.e. market analysis), and Dimensionality Reduction (i.e. topic modeling).

In some applications, both SL and UL are employed together. When the datasets are huge and labeling data manually is almost impossible, Clustering and Dimension Reduction can be utilized for automatically labeling datapoints to make them available for SL.

Clustering can be known as the art of detecting implicit knowledge in the absence of explicit labels, which can support the grouping of datapoints into clusters. There exists a wide range of Clustering models, such as Centroid models (*K-means*), Connectivity models (*Hierarchical Clustering*), Density-based Clustering (*DBSCAN*) and *Affinity propagation,* which can be variously selected based on the nature of the "Cluster" in the application and datapoints.

Due to the pattern of data distribution in the current research, *K-means* has been employed as the selected Clustering algorithm. *K-means* is a model-based, centroid model Clustering algorithm and its properties makes it the most popular Clustering algorithm. Generally, it can be applied on a wide range of Clustering problems. Its algorithm represents each cluster by a single mean vector. In this algorithm, the number of clusters (classes, groups) needs to be selected and the algorithm initializes by assigning random center-points for each randomly selected group. Choosing the number of groups is experimental, and the selection is made heuristically or based on experience or on the application's constraints. Each datapoint is classified by its distance from the center point (centroid), which is calculated by a distance function i.e. Euclidean. Based on the mean distances of the datapoints from the random centers, the new centers will be re-computed and the process of calculating the mean distances from the new centers will be repeated. These steps will be repeated in several iterations until the mean distances from the group centers do not change significantly (Figure 1; B_1 to B_4). The cluster labels on the datapoints in this status are interpreted as the most appropriate Clustering. *K-means* is a very efficient algorithm and selecting the number of groups is not always trivial, because the objective is to extract insight from the data. *K-Median* is another version of *K-means* which is less sensitive to outliers, but computationally more expensive. Figure 2 illustrates different Clustering algorithms (Scikit Org.). As can be seen, the distribution pattern of datapoints is the key factor in selecting the Clustering methods. The data distribution pattern used in this research is more like the form of distribution in the 3rd row. As can be seen, the results for *K-means* are exactly like the other two algorithms: *Affinity Propagation* and *Mean Shift,* and do not display a significant difference to those of the other algorithms.

If N represents total datapoints and X_n represents each of them and k represents the number of clusters and m_k represents the centroid of the cluster, the cost function for the *K-means* algorithm is as follows:

$$C = \sum_{n=1}^{N} \sum_{k=1}^{K} S_{nk} \, \|X_n - m_k\|^2$$

where $S_{nk} = 1$ if data point: n is assigned to the clusters: k and $S_{nk} = 0$ otherwise. It's important to know that $\sum_{k=1}^{K} S_{nk} = 1$, which means a datapoint can be assigned to one cluster only. The objective in the *K-means* algorithm is to minimize C.
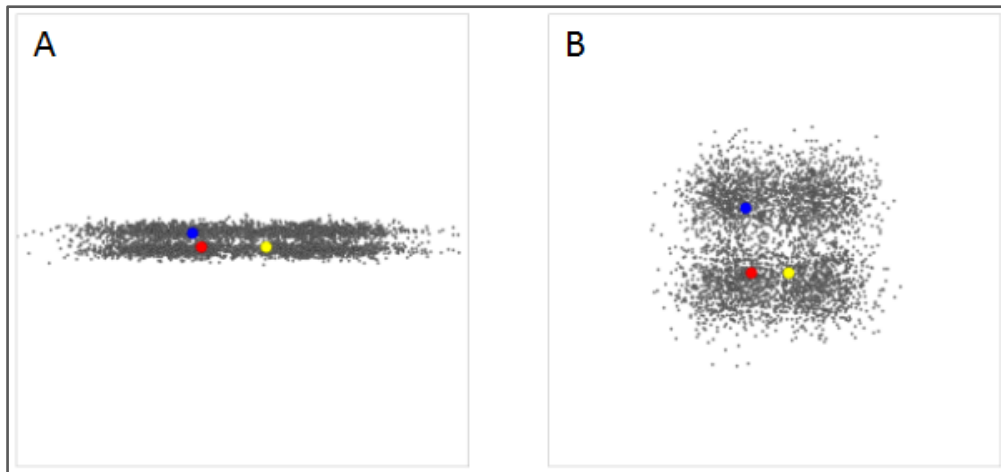
Figure 3: The impact of normalization;
A- before and B- after normalization on the same dataset.

The process of utilizing Clustering in extracting insight

In the previous section, the way in which the *K-means* algorithm can help to cluster datapoints into groups automatically is explained, based on minimizing the cost function. The objective of this section is to describe how this ability can be utilized on the structured data of institutional databases in order to find the hidden correlation among datapoints (attributes of entities) and to finally utilize it to distil new insights.

The first step is defining a problem. The objective in the problem statement should be realistic and in harmony with the maturity of data in our institutional databases. The way in which the problem is defined in undergraduate programs will be explained in the following sections.

The next step, a technical one, is related to extracting structured data from the databases. If all the attributes of the needed data are already recognized as related attributes of an entity, it is possible to extract the datapoint from a single table of one of the databases. However, in most of the problem statement, different aspects of entities need to be combined, before any Clustering phase, into one data extract. In such cases, a View to extract data from different tables in a database or other databases in the data warehouse needs to be designed. In either case, the output of this phase of data extraction from the structured data is a table or worksheet, in which it is expected there will be some pattern correlations among the datapoints; such correlations are the subject of interest.
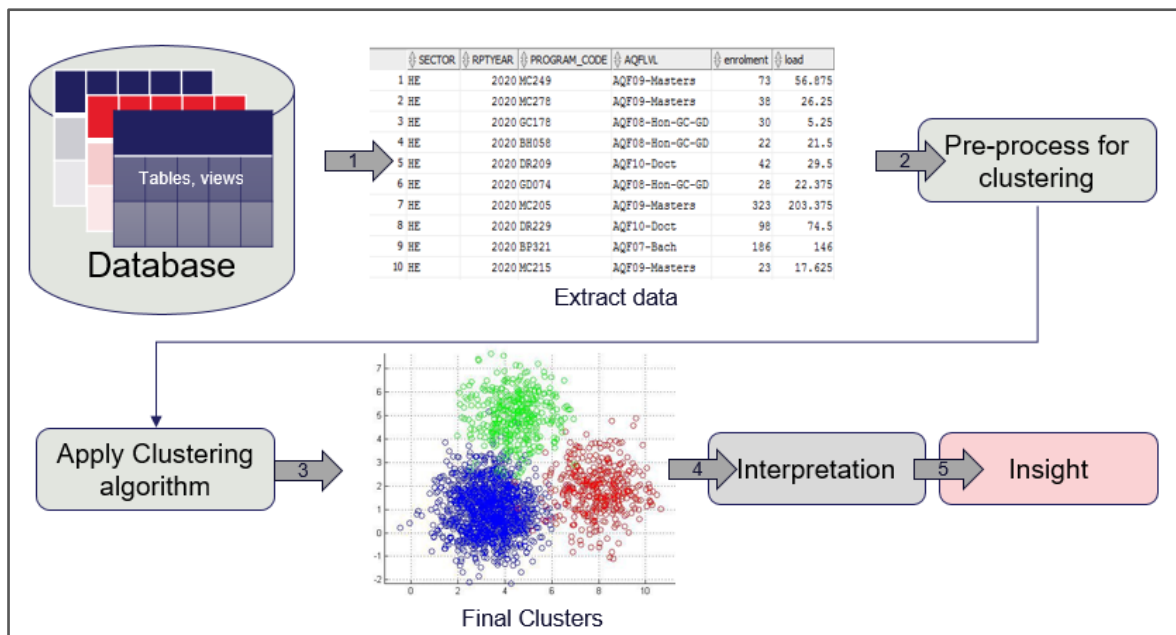
Figure 4: Process of Clustering structured data.

Preprocessing the data before applying the Clustering algorithm is almost essential. The type of data, and the way in which they are stored in databases, is not necessarily appropriate for Clustering. The most common-preprocessing activity is the normalization of data. This process helps to segregate the clusters more clearly; otherwise, the distances between datapoints are not following the same standard and cannot be compared to each other. The normalization formula is as follows:

$$X^` = (X - \mu)/\sigma$$

where $X^`$ is the normalized X and $\mu = mean$ and $\sigma = standard\ deviation$. *Log Transforms* and *Quantiles* are also other techniques that can be used in data preparation; however, they are not utilized in this research. Figure 3 represents the Clustering and their centroids before and after normalization.

The second consideration in data preparation is related to the type of data. Clustering algorithms are designed for numerical data because it is needed to calculate the distance between the datapoints and the centroids. However, it is very common that we have some categorical (non-numeric) data among our datapoints, such as level of education (PGRD, UGRD) or results (Pass, Fail). There are some techniques to overcome this issue in Clustering. *K-modes* is among the first technique introduced by Huang which is based on dissimilarity measures to deal with categorical objects (Huang, Z., 1998). There exist other techniques, which are introduced in Potdar (2017); of these, the *Ordinal* and *One Hot* are easy to implement and are accurate encoding techniques. Both are utilized in this research.

After data preparation, the Clustering algorithm (*K-means*) can be applied on the data and the result will be ready for interpretation. It is possible to investigate and compare the results with a different number of clusters (*K*) to find the most meaningful number of clusters for the project. Moreover, to this heuristic approach, there are some techniques that are helpful in selecting the appropriate number of clusters. *Bayesian Information Criterion (BIC)* is a method that is often used in model-based Clustering; however, it can also be used

in partitioning-based Clustering (Zhao, 2008). There is another method, known as *Kluster* procedure, which provides more accurate results compared to BIC on model-based Clustering (Estiri 2018).

After conducting the Clustering algorithm on the prepared data, interpreting the result of the cluster analysis is the most crucial phase. This will be more challenging when there are multidimensional clusters. Subject Matter Experts (SME's) should perform this interpretation. Distillation insight, the last stage of the process, tries to find those hidden correlations among datapoints, which are now formed into clusters.

Clustering programs based on student pass EFTSL

In institutional databases, one of the major levels of student data is the program level, in which each student/program has one record in a year. Student load refers to a measure that counts students in terms of full-time equivalence units in Australia, called EFTSL (Rouhi 2017) for higher education (HE) programs. The objective of this section focuses on the investigation of unknown patterns among university HE UGRD programs in 2020, based on the behavior of students on three aspects of the load. The three dimensions of student loads considered in this experiment are as follows:

- Certified_EFTSL; Total load that students acquired in the year,
- Pass_EFTSL; The portion of certified_EFTSL which successfully passed, and
- Cumulative pass_EFTSL; Total pass_EFTSL of the students from the starting of the program

The value for pass and certified_EFTSL is maximum 1 in each year for a full-time student. Cumulative pass_EFTSL is considered in Clustering to investigate the possibility of correlation between pass load and the students in the program in the same the year; the more years, naturally the higher the cumulative pass EFTSL. The maximum value for a 4-year undergraduate program is 4.

The sample of input data for some programs is shown in Table 1. Enrolment headcount is added to the data to enable us to calculate the average figures for the above 3 types of EFTSL. This average calculation before feeding the data to a Clustering algorithm can be considered as a data preparation task. The raw values extracted from the database and the average values are shown on the left (Blue) and right (Green) columns in Table1.

To investigate the impact of averaging and raw values, Figure 5 depicts these in the form of a 2-dimensional Clustering on pass_ and certified_EFTSL. As can be seen clearly in this figure, the averaging forms the Clustering results more clearly. This is very similar to the impact of normalization shown in Figure 3.

PROGRAM CODE	Enrolments Headcount	Total EFTSL	PASS EFTSL	CUMULATIVE PASS_EFTSL	PASS_EFTSL (avg)	CERTIFIED_EFTSL (avg)	CUMULATIVE PASS_EFTSL (avg)
Program1	545	391.39	320.85	625.76	0.59	0.72	1.15
Program2	48	34.04	30.92	50.78	0.64	0.71	1.06
Program3	566	394.44	322.56	580.22	0.57	0.70	1.03
Program4	123	102.76	90.00	134.92	0.73	0.84	1.10
Program5	325	263.17	251.26	457.86	0.77	0.81	1.41
Program6	258	184.47	163.19	308.13	0.63	0.72	1.19
Program7	206	153.39	119.23	225.30	0.58	0.74	1.09

Table 1: Structure of data for the first program experiment.
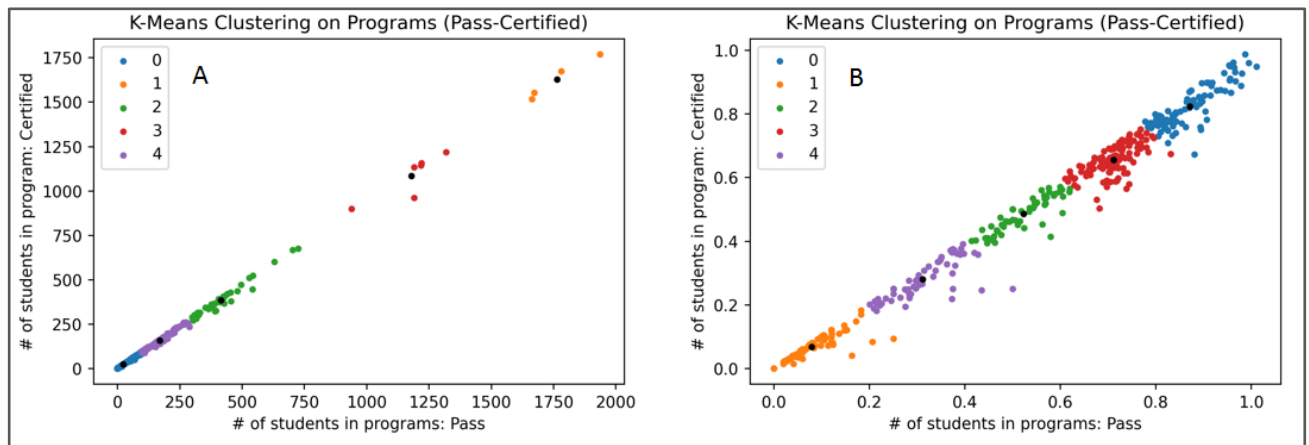
Figure 5: The effect of data preparation on Clustering. Two-dimensional Clustering with K=5 before averaging (A) and after averaging (B) on program pass_ and certified_EFTSL.

In the next level of the experiment, averaging on raw data is considered; however, to investigate the correlation between pass_ and certified_EFTSL with the year of the program, the third dimension, cumulative pass_EFTSL, is added to the Clustering algorithm. The investigation on the 3 dimensions allows us to visualize the results on 3-D graphs; however, we should be aware that it is possible for Clustering to be applied on n dimensions. Also, n-D can be reduced to lower dimensions via the principal component analysis (PCA) technique, which is available in script languages like Python. Liang (2013) introduced the utilization of a distributed PCA in *K-means* Clustering. In this experiment, we have investigated the 9 Clustering sizes, with their BIC values and number of programs in each cluster bin shown in Figure 6. As can be observed, increasing the number of clusters reduces the BIC; however, it is our interpretation, our awareness of application constraints and our tacit experience that will finally lead us to select the most appropriate number of clusters. The results of the 3-D Clustering on 3,4 and 5 clusters are represented in Figure 6.
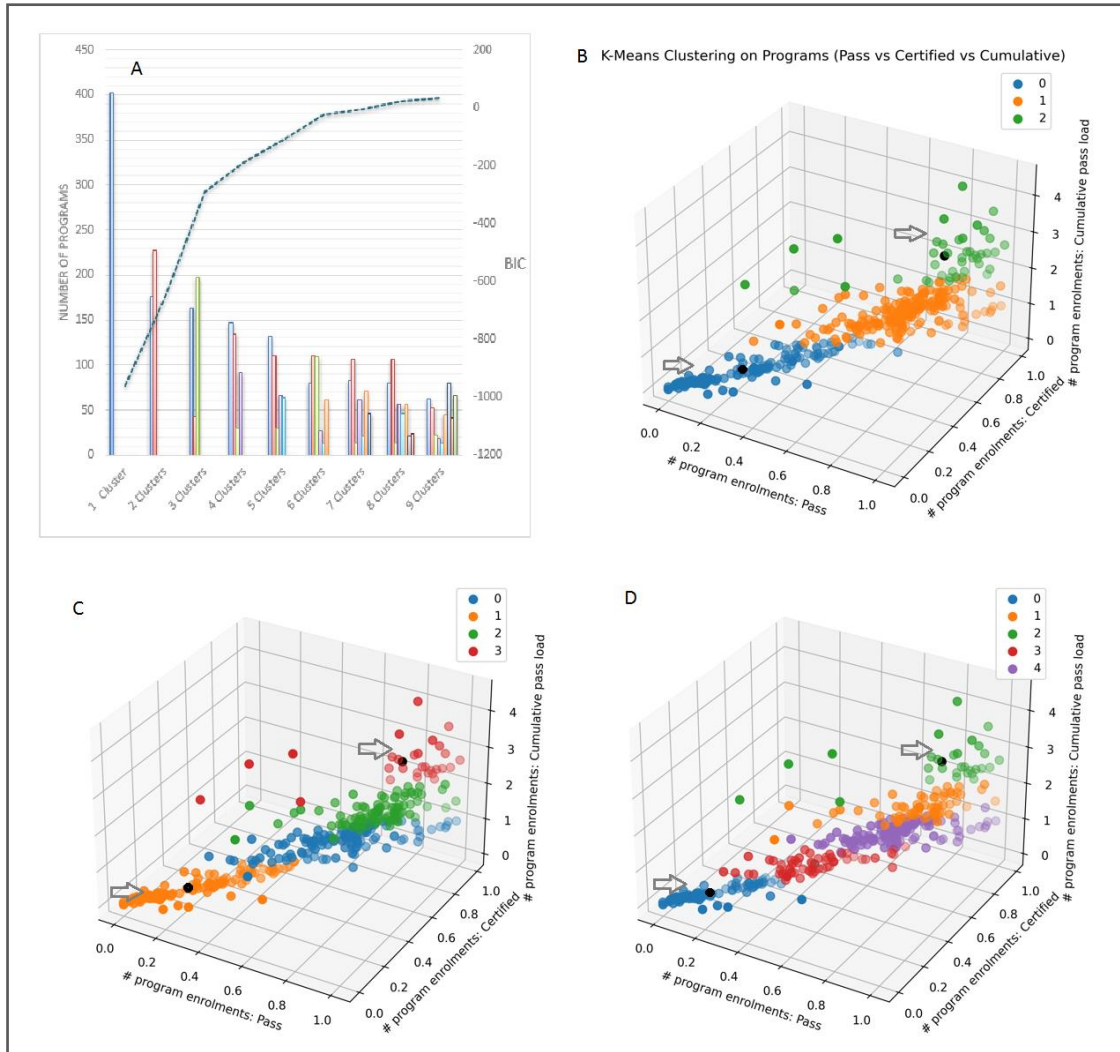
Figure 6: Investigation of the impact of different Ks in *K-means* Clustering and the BIC.
A: Number of clusters from 1 to 9 and the BIC.
Results of number of K in 3-D Clustering on the 3 types of EFTSL, from 3 (B) to 5 (D) clusters.

Insight extraction

Figure 6 illustrates the Clustering programs based on the behavior of students in passing and total EFTSL in different years of UGRD programs in one sample year (2020). The X axis represents pass_EFTSL and the Y axis represents the certified_EFTSL, with maximum values of 1 for a full-time student in each academic year. The Z axis represents the cumulative pass_EFTSL, and the maximum value for a 4-year UGRD program is 4. Nine Ks are investigated (from 1 to 9 clusters shown in Figure 6A) and the cluster formations of 3 of them are illustrated in Figure 6 (B, C and D for 3 ,4 and 5 clusters, respectively).

Extracting insight can be initiated by visual interpretation of the graphs. As can be seen in the Figure 6 – B, C and D, the propagation of the programs is shown by colored circles representing the clusters. The graphs clearly show two opposite groups of programs with their centroid points, which are as follows:

- The H_cluster, which includes programs with highest values in X, Y and Z axis; this cluster comprises cluster 2 in Figure 6_B, cluster 3 in Figure 6_C, and cluster 2 in Figure 6_D.

- The L_cluster, which includes programs with lowest values in X, Y and Z axis, this cluster comprises cluster 0 in Figure 6_B, cluster 1 in Figure 6_C, and cluster 0 in Figure 6_D.

The detailed results of the Clustering algorithm will provide us with a list of these two counter program clusters. The middle level clusters also contain valuable information. Sharing the results with SMEs and program managers would be useful to distill more insights not previously detected. Figure 7 illustrates how the average pass_, certified_ and cumulative pass_EFTSL of the H_ and L_clusters represent their aforementioned behavior with the magnitudes of their bar charts. The beauty of Clustering as an unsupervised machine learning algorithm is that it can clearly detect and group the UGRD programs based on their EFTSL load behavior and provide new and valuable insights for institutional researchers.

Figure 7: Bars illustrates how the highest and lowest average values are aligned with the Clustering results. The highest and lowest clusters are highlighted.

Conclusion

It is a fact that during the system design of institutional databases, the entities correlated to each other are detected and put together to form database tables. The normalization process in database design forces designers to avoid considering all the attributes in a flat single table, because this increases redundancy which is a red line in RDBMSs. Hence the result of the normalization process is the division of the data into correlated subgroups of data, a process which forms numerous tables in databases. However, it is possible to extract the different attributes from separated tables by applying joins on tables. It is well known that this cliché-structured data does not guarantee that all the possible correlations among the attributes (data columns) within the entities or among them (Tables) will be

obvious or easily extractable utilizing conventionally designed database views and conventional structured data analysis.

With respect to the above-mentioned limitation and the unavoidable exponential growth of institutional data, utilizing Machine Learning (ML) algorithms is a bonus to overcome these barriers and to assist knowledge extraction and insight distillation. Unsupervised ML learning algorithms can analyze and cluster unlabeled datasets. these algorithms, such as Clustering, enables us to step further and go beyond the limitations of structured data. They are capable of automatically measuring the distances and grouping the datapoints into new clusters, without human interference. This process will help to detect hidden correlations among data, which will enable their grouping in a creative way.

The current research focuses on insight extraction based on the EFTSL (pass and certified load) patterns of students in the undergraduate programs in a given year. This research is just a sample of the Clustering techniques applied to student program data and resulting challenges. However, it can be applied on any level of institutional entities, such as course level data, human resources, equity groups, finances, etc. Finally, the 3 essential skills which enable us, when dealing with structured data, to perform the insight extraction process successfully are: accessibility to subject matter experts (SMEs) for extracting appropriate data; data preprocessing before applying Clustering algorithms; and, selecting the appropriate Clustering algorithms.

REFERENCES

Huang, Z. *Extensions to the k-means algorithm for Clustering large data sets with categorical values*. Data mining and knowledge discovery, 2(3), pp.283-304. 1998

Kogan, J. Nicholas, C. & Teboulle, M., *Grouping Multidimensional Data Recent Advances in Clustering,* Springer Book, 2006.

Alzate, C. & Suykens, J.A., *Multiway spectral Clustering with out-of-sample extensions through weighted kernel PCA*. IEEE transactions on pattern analysis and machine intelligence, 32(2), pp.335-347, 2008.

Zhao, Q., Hautamaki, V. & Fränti, P., *Knee point detection in BIC for detecting the number of clusters.* In International conference on advanced concepts for intelligent vision systems (pp. 664-673). Springer, Berlin, Heidelberg, 2008.

Ayodele, T.O., Types of machine learning algorithms. *New advances in machine learning*, 3, pp.19-48, 2010.

Maimon, O. & Rokach, L., *Data Mining and Knowledge Discovery Handbook*, Springer Book, 2010.

Hastie, T., Tibshirani, R. & Friedman, J., *The Elements of Statistical Learning: Data Mining, Inference, and Prediction.* Springer, New York, 2011.

Liang, Y., Balcan, M.F. & Kanchanapally, V., *Distributed PCA and k-means Clustering.* In The Big Learning Workshop at NIPS , 2013.

Jordan, M.I. & Mitchell, T.M., *Machine learning: Trends, perspectives, and prospects.* Science, 349(6245), pp.255-260, 2015.

Rouhi, A. & Calderon, A., *Vector-based Models for Educational Institution Shape Analysis.* SEAAIR, 2017.

Potdar, K., Pardawala, T.S. & Pai, C.D. *A comparative study of categorical variable encoding techniques for neural network classifiers.* International journal of computer applications, *175*(4), pp.7-9. 2017

Estiri, H., Omran, B.A. & Murphy, S.N., *Kluster: an efficient scalable procedure for approximating the number of clusters in unsupervised learning*. Big data research, 13, pp.38-51, 2018.

Delua, J., *Supervised vs. Unsupervised Learning: What's the Difference?* IBM Analytics, Data Science/Machine Learning. https://www.ibm.com/cloud/blog/supervised-vs-unsupervised-learning. IBM Blog, 2021.

Scikit Learn Organization, https://scikit-learn.org/, Clustering examples

Acknowledgments

SUB-THEME 5:
National Education Agenda

Measurement of Psychometric Trait of Athletic Identity and Mental Health on Career Planning among Sports High Schools' Student-Athletes

Wong Kai Yan[1], Tajularipin Sulaiman[2]* and Wan Marzuki Wan Jaafar[3]

[1]Universiti Putra Malaysia, Malaysia (k.yan.0822@gmail.com)
[2]Universiti Putra Malaysia, Malaysia (tajulas@upm.edu.my)
[3]Universiti Putra Malaysia, Malaysia (wanmarzuki@upm.edu.my)

ABSTRACT

To become a professional player or other sports-related profession, the life span of the career is very shorts and competitive. Moreover, Malaysia student-athletes' endeavours are still uncertain toward career planning due to the lack of research in Malaysia on the role and benefits of career planning in helping and assisting student-athletes in managing academics and sports concurrently. Several psychometrics including Athletic Identity Measurement Scale (AIMS), Mental Health Continuum – Short Form and a new instrument, Career and Tertiary Education Readiness Inventory (CaTERI) is developed through the adoption of a few well-established career counselling instrument, specifically to measure the career planning of student-athletes. The proposed methodology is to apply Structural Equation Modelling (SEM) to investigated the association between variables as well as the psychometric trait of each instrument. Career planning is of great significance to student-athletes, same go to psychometric tests, through psychometrics, early identification of the underlying issues may benefit these "special and talented minority" and enable them to make meaningful contributions to society and enable them to engage in careers related to their profession. Therefore, the purpose of this conceptual paper is to highlight the use of psychometric and the importance of investigating the relationship between student-athletes' athletic identity, mental health and career planning.

Keywords: Psychometric, Athletic Identity, Mental Health, Career Planning, Student-Athlete

INTRODUCTION

Psychometrics is a scientific subject that measure the construction of psychological models, usually disseminated in the form of tests, inventories, assessments or questionnaire (Borsboom & Molenaar, 2015), and is often called as a tool or an instrument. Every instrument derives from a theoretical structure, and every instrument contains items (known as questions). Each item is a part of the construct to measure, and is used to measure the content to be measured in psychometric instrument, such as psychological characteristics (for instance, self-esteem, attitude or personality traits) (Anunciação, 2018). Hereafter, through statistical and advances in software technology, the total value of each assigned value item could be obtained, hence, the result of psychometric could be evaluated and documented (Borsboom & Molenaar, 2015; Anunciação, 2018). In the current research, several psychometrics would be used to measure the athletic identity and mental health on career planning among high school student-athletes.

Career planning is of great significance to student-athletes, same go to psychometric tests. The application of psychometrics highlights the students-athletes' abilities, talents and skills in get solutions to find a job, maintain a job, manage work politics and social pressure, meanwhile, career planning could make students aware of their strengths, understand the career skills needed for employment, and career planning options (Rashid, 2011; Assessment, 2013).

Career planning related to career skills are part of student skills in the 21st century (Kay,2010). The purpose of school education is not only to pursue knowledge, but also to emphasizes the learning of skills to promote their future career development, especially in the 21st century today. At the same time, previous researches have discussed the importance of career planning to student life. For instance, a career planning study was conducted in Pakistan, and the results showed that there is a significant

relationship with high school students as a proper career planning will enable them to succeed in their career life (Zafar, 2019). Meanwhile, in Jakarta, Indonesia, career planning is significant not only for high school students but also for vocational high school students (Suryadi, Sawitri & Hanifa, 2018). Hence, career planning is very important for students to explore their career interest and possibilities. At the same time, career counsellor would be playing an important role in assisting and motivating students to develop career plans, because a proper planning will bring success to their careers (Hilling, 2017). Therefore, this conceptual paper aims to explore the psychometric component in career counselling of athlete identity and mental health status pertaining to high school student-athletes.

PROBLEM STATEMENT

To become a professional player or other sport-related profession, the life of the profession is very short and competitive. For instances, the sport of badminton itself has a certain degree of competitiveness, because it involves a limited number of player, and the professional career of badminton players considers the service year is too short, but the retirement age is still too early. Generally, it is recommended that athletes retire from the profession when they are above 30 years old. In addition, not all the students are eligible or chosen as a professional player. According to a reported in the New Straits Times (Mansor, Aznan, Said & Hashim, 2018), student-athletes who graduated from sports schools have become fisherman, lorry drivers, factory workers and other heart-broken career prospects. This may perhaps Malaysia student-athletes' endeavours are still uncertain career planning due to the lack of research in Malaysia on the role and benefits of career planning in helping and assisting student-athletes in managing academics and sports concurrently (Wong & Baki, 2020). Hence, this is an emergence issue in sports schools. It is necessary to instruct student-athletes and clearly taught their future in sports schools.

Athletics identity is an athlete's level of awareness of their own athletics identity, which includes the role of the athlete and the recognition of the athlete's role from others. Thus, athletic identity is an athlete's strong self-recognition of continuing to participate in sports, an athlete with a sports career, he/she is reflecting a strong athletic identity. Therefore, national athletes have a stronger athletic identity (Brewer, Van Raalte, & Linder, 1993; Anderson, 2004; Turkeli, 2020). Meanwhile, the level of self-recognition and the level of athletics identity among student-athlete would determine the sustainability of student-athletes staying on the sport field, as well as the indicators that predict student-athletes' maintenance on the sports field or quit once the sports school life has ended (Chen, Snyder, & Magner, 2010). Therefore, it is important to find out the athletic identity among high school student-athletes in Malaysia in order to provide better career planning for all the sports stakeholders in Malaysia.

On the other hand, compared with athletes, in the past, athletes have less research intervention on the mental health of student-athletes (Puri & Sood, 2018). But in fact, mental health problems among student-athletes is raising precipitously. This is because life as a student-athlete is not easy, as they are engaged in sports while working for academics (Gomez, Bradley & Conway, 2018). Due to the various risks and challenges, young and naïve student-athletes might feel too burdened because of the coexistence of academic and athletic needs. As a result, they may develop psychological and psychosocial problems, especially those related to mental illness. Therefore, it is necessary to determine its contribution to health and positive mental health as early as possible to ensure the long-term success of student-athletes (Puri & Sood, 2018).

THEORETICAL FRAMEWORK

The theoretical framework proposed by the research is based on two theories, Social Career Cognitive Theory (SCCT) and Cognitive Information Processing Theory (CIP). SCCT is used to discover the interconnection between athletic identity and career planning. At the same time, CIP is being applied to determine the mental health of student-athletes.

SCCT was developed by Lent, Brown & Hackett, (1994) based on the Bandura's Socio-Cognitive Theory (1977, 1986). The SCCT introduced 25 years ago comprises five models, namely, career and academic interest development; choice making; performance, educational and occupational satisfaction or well-being, and the process of career self-management (CSM) (Brown & Lent, 2019). In the context of this present study, SCCT is applied to determine the relationship between athletic identity and student-athletes career planning. These two variables are related to self-efficacy which refers to an individual's belief in himself that he can perform successfully in a given task and performance (Betz, & Luzzo, 1996). As far as career counselling is concerned, the core foundation of SCCT is career development preparation. i) career interest and development; ii) career choice; iii) career success achieved (Lent, Brown & Hackett, 2002). Besides, SCCT advocates that individual's choice or selection of career should also be based on their own or others' motivation and self-efficacy in decision-making and problem-solving to enhance the expectation for themselves (Casas, & Blanco-Blanco, 2017; Chan, Chen, Lin, Liao & Lin, 2018). However, in the current study, athletic identity would be used as a measure of athletic self-efficacy for student-athletes' career planning.

Nevertheless, the inner part of student-athletes is the most crucial because humans will be influenced, driven and dominated by their psychological and emotional values (Robinson & Minikin, 2012). CIP can be utilised in the manner that are beneficial to the student-athletes not only in enhancing their academic and sport performance, and also mental health problems that they may have through the development of cognitive engagement. In this context, Puri & Sood (2018) propose that cultivation, development, and nurturing of cognitive strategies based on CIP to enhance positive functioning in the community, psychological and psychosocial positivity that may lead to personal well-being, realization of personal potential, having sense of purpose in life, and comfort in social interaction.

Therefore, another kind of psychometric would be applied to measure another core of the mental health of sports high school's student-athletes. This is another glaring issue that needs to be addressed. This is because student-athletes' mental health issues might harm student-athletes' performance and affect their career plans (Bradley, Marina, Julia, Bern, Nina, Joanne, Arianna, Daniel, 2019).

RESEARCH QUESTIONS

This research aims to examine the relationships of athletic identity, mental health status and career planning among high school student-athletes. Thus, the proposed research is intended to answer one(1) central question: What is the relationship between athletic identity, mental health status and career planning among high school student-athletes?

LITRATURE REVIEW

STUDENT-ATHLETES AND CAREER PLANNING

It is best to plan and design future careers from the very beginning based on a one's capacity, talent, intelligence and physical qualities, especially to student-athlete. Athletes' lives are full of challenges and pressure as they may get entangled with stressors like injuries, performance pressure, high expectations, and transition difficulties, etc. (Jewett; Kerr & Tamminen, 2019). Since adolescent student-athletes are young, active, inexperienced and naïve, they need all the guidance and advice possible to create the path of their career. And, the task is to be carried out by one who is educated, trained and practise the exact role.

On top of that, Stout (2018) elaborates that a sports career can unexpectedly end because of injury and some even life-threatening injury. They have to face the daunting journey of transition accompanied by a lot of sadness, stress, anxiety, low-self-confidence, even depression. In fact, there is very little attention in assisting student-athletes through this transition period, in the end, the student athletes were confused, lost motivation, and indirectly gave up their efforts in training and withdrew from the field. Thus, career counsellor need to play a role in assisting student-athlete to engage in career planning,

which helps to ease and make the students feel comfortable and safe, because the work alliance is related to student's satisfaction with interventions and mental training skills that can help relieve anxiety problems, which will help alleviate their excessive worries in formulating career plan during the transition period (McMahon & Hanrahan, 2020).

The duration of athletic careers normally ends over a short period of time. It is even shorter if the student-athletes have to accept foreclosure as the consequence of injury, unsatisfactory performance and social problems. As such they have to look for other career opportunities. It is crucial that they have knowledge and skills for career transition and dual-career to assist them in making decision about their career. Surprisingly, the result of the survey conducted by Condello et al. (2019) on 426 respondents shows that even university student-athletes are not familiar with dual career and career transition. Most of them are more engaged and focused on their athletic activities. Based on this survey it is very critical that career counselling be integrated into student-athletic program. If most of student-athletes at tertiary level are not still not aware about dual-career and career transitions, it can only be assumed that school level student-athletes are in much worse position. It is high time that officials at all level in the student-athletes program implementation look into this seriously for the betterment of the student-athletes, the sport programs and the nation at large. It is the right time to integrate career counselling as a component of the support system to guide, advice and interact with the student-athletes in amicable, safe, secured and helping environment.

In this context, everyone concerned must play their part with the awareness that the student-athletes' future career is of utmost importance. The psychometric instrument that would be using to conduct this study to measure the student-athletes' career planning is a new instrument developed specifically to fit into the current study. The instrument named Career and Tertiary Education Readiness Inventory (CaTERI), it is adopting from several well established career counselling instrument, which is from Career Future Inventory (CFI), Career and College Readiness Self-Efficacy Inventory (CCRSI) as well as Career Decision Self-Efficacy Scale (CDSE). The items ask about their perspective, action, reaction to their career optimism, career adaptability, career knowledge, potential to achieve future goals and planning.

STUDENT-ATHLETES AND ATHLETIC IDENTITY

Sport has its own identity, namely athletic identity. According to Stets & Burke, (2014), identity is the outcome of self-esteem. Student-athletes tend to rely on athletic performance and glory to improve their self-esteem and self-worth. They tend to dream of becoming sports professionals based on their good performance. Nevertheless, athletic identity is correlated to the role identity, especially as an athlete. Athletes would acquire a certain sense of "I am an athlete" throughout their competitions life in sport, no matter how strong or weak, for instance, the successful performance of an athlete in the game might help improve self-esteem, so the athlete would have a strong sense of athletic identity and vice versa (Martin, Mushett, & Eklund, 1997).

According to Chang, Wu, Kuo & Chen, (2018) argues that although athletes with low psychological identity are positively correlated with the development of emotional exhaustion over time, they are negatively correlated with athletes with high athletic identity. There are many relationships with athletes, including their mental health, so that they can grow and sustain the demands and the requirement of athletes' lives. Nevertheless, Murphy, Petitpas & Brewer, (1996) reported that athletic identity has a negative impact on the future career development of student-athletes. For student-athletes, it is important to prepare for other careers because, for instance, due to static performance, injuries and attitudes make many of student-athlete not become professional player. However, there are many lags in career planning, which means they lack career maturity, because they are more engaged in building their personal athletic identity in the later part of adolescence. In order to develop an athletic identity, student-athletes must explore possible roles and behaviours that best match their personal values, needs, interests and skills and career ideology. Because they are engaged in various specializations, they might limit athletes' opportunities to explore multiple possibilities of career that may suit their status.

The psychometric instrument that would be using to conduct this study to measure the athletic identity of student-athletes' is the "Athletic Identity Measurement Scale" (AIMS), this is a 10-item inventory. Through AIMS, social identity, negative affectivity and exclusivity can be measured. The higher the AIMS scores, reflect the stronger the individual's athletic role in sports. In addition, social identity is a measure of the one's degree as an athlete; exclusivity is the self-worth of athletes participating in sports roles; negative affectivity is that athlete experience negative emotions in uninteresting sports results (Lamont-Mills & Christensen, 2006).

STUDENT-ATHLETES AND MENTAL HEALTH

Mental health refers to the state of overall wellbeing. Individuals who able enhance self-awareness and recognize positive emotions or positive feelings in any stressful environment or pressure situation, and this positive mind-set plays a role in representing good mental health (Galderisi, Heinz, Kastrup, Beezhold, & Sartorius, 2015). However, the factors that influence the mental health of student-athletes are fickle, because their training activities often lead to injury or illness. Student-athletes need more personal assistance to sustain under enormous pressure, such as inconsistency performance due to anxiety, fear of incompetence, overcoming bad experiences, lack of self-confidence, and recovering from injuries in previous competitions can cause to inability to improve skills and performance (Undiyaundeye, & Ukwayi, 2015).

Traditionally, sports are often associated with positive improvement in mental health among adolescents, but nowadays, athletes are likely to experience mental health issue such as stress, anxiety, depression, eating disorder and substance use (Rice, Purcell, De-Silva, Mawren, McGorry & Parker, 2016; Brenner, LaBots, Sugimoto& Stracciolini, 2019). Especially for student-athlete, their life has never been an easy task, constant training makes their lives different from those of their peers, and faces more life challenges than the other students, thus making them more prone to mental health problems (Holt & Neely, 2011; Chyi, Lu, Wang, Hsu & Chang, 2018; Loevass, Lydersen, Sunds, Neumar, Martinsen, Holen, Patras, Adolfsen, Rasmussen & Reinfjell, 2020). However, due to their athlete identity, they might not be encouraged to discuss their emotional problems to other people or even professionals. Narrative study on a group of elite athletes reveals that they are experiencing emotional problems and ongoing stress, and performance pressure ultimately leads to overtraining and pain, and the suffering is hard to distinguish whether it is a mental disorder or just an ordinary stress (Souter, Lewis & Serrant, 2018). Since sport is often associated with injury, it is a threat that make them worried and cautious, which will shake their mental health condition and they may suffer from sport-related concussions (Rice, Gwyther, Santesteban-Echarri, Baron, Gorczynski, Gouttebarge, Reardon, Hitchcock, Hainline & Purcell, 2019). Thus, early identification of mental health conditions could beneficial to student-athlete because it could reduce the health burden of student-athletes'.

Furthermore, the psychometric instrument would be use to conduct this study to measure the mental health of student-athletes' is the Mental Health Continuum- Short Form (MHC-SF) consists of 14 items measuring emotional well-being, psychological well-being, and social well-being. There are three (3) items measure emotional well-being, six (6) items measure psychological well-being, and five (5) items measure social well-being (Keyes, 2009). All and all, in this psychometrics, mental health is a measurement standard, which aims to guide student-athletes to maintain a healthy mental state, so as to enhance student-athletes well-being as well as career success.

PROPOSED METHODOLOGY

The present study would be conduct in quantitative way, and made use of Structural Equation Modelling (SEM) to investigated the association between variables as well as the psychometric trait of each instrument. SEM is the most suitable data analysis method as SEM nature used to provide information about frequency of the variables, to determine the causal relationships between variables towards a bigger population and bigger sample size, for instance, instead of high school student-athletes in West Malaysia, the researcher can study high school student-athletes in whole Malaysia in a more reasonable

and manageable sample yet does not incur a high cost to execute it (Crockett, 2012; Thomas, Nelson & Silverman, 2015; Ary, Jacobs, Irvine & Walker, 2018). Furthermore, survey questionnaire was used to collect data for analysis, in addition, this study employed a few of researcher-adopt instrument based on the target population is sport school student-athletes.

The population interested in the study were Malaysia sports high school student-athletes and the sampling technique in the current study is Cluster Sampling method. Cluster sampling method is a random sampling methods, and the method is employed due to the sample is only available to collect data from the form 4 students, as it is not possible to select sample of individuals from population due to administrative or other restriction, therefore, all of the subjects from the chosen clusters will be into the final sample (Fraenkel, Wallen & Hyun, 2016). The sports high schools divided into 5 zone based on the state, which is in the Malaysia regions of Northern (e.g. Kedah), Southern (e.g. Johor), Eastern (e.g. Sarawak), Western (e.g. Kelantan), and Central Region (e.g. Selangor and Kuala Lumpur). According to the power analysis, the minimum targeted respondents are 300 young athletes. Therefore, through "fishbowl" method, the researcher will select one zone for each sports school would be then rolled up and shuffled in the bowl. The researchers took the rolled paper from the bowl once for each zone. From this, the researcher gets to decided which sports schools as a sample to collect data.

CONCLUSION

In the context of this study, psychometric is used to identify student-athletes' athletic identity, mental health and their career planning. Through the results obtained from the psychometrics, the information can be used by counsellors and sports education stakeholders to design a better planning for student-athletes. At the same time, planning for student-athletes helps to adapt to the development of human capital development in the 21st century (Abdul Khatab, 2016).

Sports can not only bring benefits to individuals, but can also bring multiple returns to the to the reputation of the country. Therefore, a country is willing to spend huge amounts of money on sports to promote the development of its own athletes. Attention must be paid to the relevant psychometrics instrument, because through psychometric, this is the fastest way to identify the physical, psychological and emotional well-beings of student-athletes in a short time frame. Therefore, they can be taken care of in the following aspects: provide them with the best chance in academic and sport, so that they can pursue in the career of their choice in the future.

A good athlete is requisite to be physically, psychologically and emotionally fit (Britton, Kavanagh & Polman, 2019). Through psychometric instrument, the quality of student-athletes' could be obtained. In summary, through several psychometrics to meet their needs and purposes (Crişan, Pavelea & Ghimbuluţ, 2015). Therefore, the purpose of this conceptual paper is to highlight the use of psychometric and the importance of investigating the relationship between student-athletes' athletic identity, mental health status and career planning.

REFERENCE

Abdul Khatab, Z. (2016). The Role of Psychometrics Test on the Sustainability of Human Capital Development. Retrieved from, http://www.researchgate.net/publication/292148601_The_Role_of_Psychometrics_Test_on_the_Sustainability_of_Human_Capital_Development

Anderson, C. B. (2004). Athletic identity and its relation to exercise behavior: Scale development and initial validation. Journal of sport and exercise psychology, 26(1), 39-56.

Anunciacao, L. (2018). An overview of the history and methodological aspects of psychometrics- history and methodological aspects of psychometrics. Journal for ReAttach Therapy and Developmental Diversities, 1(1), 44-58.

Ary, D., Jacobs, L. C., Irvine, C. K. S., & Walker, D. (2018). Introduction to research in education. Cengage Learning.

Assessment, H. M. I. A. (2013). Ability and aptitude assessment in career counseling. Career development and counseling: Putting theory and research to work, 449.

Betz, N. E., & Luzzo, D. A. (1996). Career assessment and the career decision-making self-efficacy scale. Journal of career assessment, 4(4), 413-428.

Borsboom, D., & Molenaar, D. (2015). Psychometrics. In International Encyclopedia of the Social & Behavioral Sciences (Second Edition) (pp. 418-422). Elsevier.

Bradley, D., Marina, G., Julia, M., Bern, L., Nina, P., Joanne, P., Arianna, C., & Daniel, N.A. (2019). Empirical development of a screening method to assist mental health referrals in collegiate athletes, Journal of clinical Sport Psychology, 13(4), 561-580.

Brenner, J. S., LaBots, M., Sugimoto, D., & Stracciolini, A. (2019). The psychosocial implications of sport specialization in pediatric athletes. Journal of Athletic Training, 54(10), 1021-1029.

Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? International Journal of Sport Psychology, 24(2), 237–254.

Britton, D. M. Kavanagh, E. J. & Polman, R. C. J. (2019). A Path Analysis of Adolescent Athletes' Perceived Stress Reactivity, Competition Appraisals, Emotion, Coping, and Performance Satisfaction. Frontiers in Psychology, 10(1151). http://doi.org/10.3389/fpsyg. 2019. 01151.

Brown, S. D., & Lent, R. W. (2019). Social Cognitive Career Theory at 25: Progress in studying the domain satisfaction and career self-management models. Journal of Career Assessment, 27(4), 563-578.

Casas, Y., & Blanco-Blanco, Á. (2017). Testing Social Cognitive Career Theory in Colombian adolescent secondary students: a study in the field of mathematics and science. Revista Complutense de Educación, 28(4), 1173.

Chan, C. C., Chen, S. C., Lin, Y. W., Liao, T. Y., & Lin, Y. E. (2018). Social cognitive perspective on factors influencing Taiwanese sport management students' career intentions. Journal of Career Development, 45(3), 239-252.

Chang, W. H., Wu, C. H., Kuo, C. C., & Chen, L. H. (2018). The role of athletic identity in the development of athlete burnout: The moderating role of psychological flexibility. Psychology of Sport and Exercise, 39, 45-51.

Chen, S., Snyder, S., & Magner, M. (2010). The effect of sport participation on student-athletes' and non-athlete students' social life and identity. Journal of Issues In Intercollegite Athletics, 3, 176-193.

Chyi, T., Lu, F. J. H., Wang, E. T., Hsu, Y. W., & Chang, K. H. (2018). Prediction of life stress on athletes' burnout: the dual role of perceived stress. PeerJ, 6, e4213. https://doi.org/10.7717/peerj.4213

Condello, G., Capranica, L., Doupona, A., Varga K., Burk CV. (2019). Dual-Career through the Elites University Student-Athletes' Lenses: The International FISU-EAS Survey. PLoS ONE, 14 (10). https://doi.org/10.1371/journal.pone.0223378

Crişan, C., Pavelea, A., & Ghimbuluţ, O. (2015). A need assessment on students' career guidance. Prosedia-Social and Behavioral Sciences, 180, 1022-1029.

Crockett, S. A. (2012). A five-step guide to conducting SEM analysis in counseling research. Counseling Outcome Research and Evaluation, 3(1), 30-47.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2016). How to design and evaluate research in education (9th edition). New York: McGraw-Hill.

Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Toward a new definition of mental health. World Psychiatry, 14(2), 231-233.

Gomez, J., Bradley, J., & Conway, P. (2018). The challenges of a high-performance student athlete. Irish Educational Studies, 37(3), 329-349.

Hilling, E. (2017). The importance of career counseling and post-secondary readiness for high school students. Counselor Education Capstone, 37, 1-30.

Holt, N. L., & Neely, K. C. (2011). Positive youth development through sport: A review.

Jewett, R.; Kerr, G. & Tamminen, K. (2019). University Sport Retirement and Mental Health: A Narrative Analysis. Qualitative Research in Sport, Exercise and Health, 11 (3), 416-433. http://doi.org/10.1080/2159676X.2018.1506497

Kay, K. (2010). Enriching minds for the 21st Century. Leading edge anthology on, 21, 1-14.

Keyes, C. L. (2009). Brief description of the mental health continuum short form (MHC-SF). Available: http://www.sociology.emory.edu/ckeyes/. [On–line, retrieved 23rd April 2021].

Lamont-Mills, A., & Christensen, S. A. (2006). Athletic identity and its relationship to sport participation levels. Journal of Science and Medicine in Sport, 9(6), 472-478.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. Journal of Vocational Behavior, 45(1), 79-122.

Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. Career choice and development, 4, 255-311.

Loevass, M. E. S., Lydersen, S., Sunds, A. M., Neumar, S-P., Martinsen, K. D., Holen, S., Patras, J., Adolfsen, F., Rasmussen, L-M. P. & Reinfjell (2020). A 12-Month Follow-up of A Transdiagnostic Indicated Prevention of Internalizing Symptoms in School Age Children: The Result fron the Emotion Study. Child and Adolescent Psychiatry and Mental Health, 14 (15), 1-13.

Mansor, Z., Aznan, S., Said, N. N., & Hashim, F. (2018, October 15). The sad side of sports schools, New Straits Times, Retrieved 24 November, 2019, from https://www.nst.com.my/sports/others/2018/10/421404/sad-side-sports-schools

Martin, J. J., Eklund, R. C., & Mushett, C, A. (1997). Factor structure of the athletic identity measurement scale with athletes with disabilities. Physical Activity Quarterly, 14, 74-82.

McMahon, M. G. & Hanrahan, S. J. (2020). Life Matters: Exploring Influence of Games and Mental Skills on Relatedness and Social Anxiety Levels on Disengaged Adolescent Students. Journal of Applied Sport Psychology, 32 (2), 205-219. http://.doi.org/ 10.1080/10413200.2018.1557764

Murphy, G. M., Petitpas, A. J., & Brewer, B. W. (1996). Identity foreclosure, athletic identity, and career maturity in intercollegiate athletes. The sport psychologist, 10(3), 239-246.

Puri, D. & Sood, S. (2018). Significance of positive mental health in student athletes. Indian Journal of Health and Well-being, 9(3), 609-615.

Rashid, A. M. (2011). Career development interventions in technical and vocational schools in malaysia. The Journal of Human Resource and Adult Learning, 7(2), 23-33.

Rice, S. M., Gwyther, K., Santesteban-Echarri, O., Baron, D., Gorczynski, P., Gouttebarge, V., Reardon, C, L., Hitchcock, M. E., Hainline, B. & Purcell, R. (2019). Determinants of anxiety in elite athletes: a systematic review and meta-analysis. British Journal of Sports Medicine, 53, 700-707.

Rice, S. M., Purcell, R., De-Silva, S., Mawren, D., McGorry, P. D., & Parker, A., G. (2016). The mental health of elite athletes: a narrative systematic review. Sports Medicine. 46(9), 1333-1353. http://doi.org/10.1007/s40279-016-0492-2

Robinson, L., & Minikin, B. (2012, September). Why hasn't Malaysia won a gold medal at the Olympics?. In The 20th EASM conference. Sport between business and civil society.

Souter, G., Lewis, R., & Serrant, L. (2018). Men, mental health and elite sport: a narrative review. Sport Medicine,4(57). http://doi.org/10.1186/s40798-018-0175-7.

Stets, J. E., & Burke, P. J. (2014). Self-esteem and identities. Sociological Perspectives, 57(4), 409-433. http://doi.org/10.1177/0731121414536141

Stout, M. (2018). Does participation in college athletics prepare student-athletes for careers and life after college sport? a review of literature. Kinesiology, Sport Studies, and Physical Education Synthesis Project, 42.

Suryadi, B., Sawitri, D. R., & Hanifa, F. (2018). Career orientation of senior secondary school students. SHS Web of Conferences, 42 (5). https://doi.org/10.1051/shsconf/20184200005

Thomas, J. R., Nelson, J. K., & Silverman, S. J. (2015). Research methods in physical activity (7th edition). Human kinetics.

Turkeli, A. (2020). An examination of the athletic identities of high school students. Asian Journal of Education and Training, 6(3), 426-432.

Undiyaundeye, F., & Ukwayi, G. U. (2015). Counselling approaches and sport issues in athletics. International Journal of Social Science and Humanities Research, 3(1), 166-168.

Wong, K. Y. & Baki, R. (2020). Career Counselling for Malaysia Sports Schools: Possibility and Subjectivity. International Research Journal of Education and Sciences, 4(1), 34-40.

Zafar, M. (2019). Career Guidance in Career Planning among Secondary School Students. Asian Journal of Education and Social Studies, 1-8.