Factors Affecting Student-Teacher Relationship in a Private University of Technology in Taiwan

Dinesh Chandra Agrawal
Chaoyang University of Technology, Taiwan, R.O.C.

Hsing-Yu Hou *
National Taichung University of Science and Technology, Taiwan, R.O.C.,
E-mail: *ttc050@gmail.com*

Tao-Ming Cheng
Chaoyang University of Technology, Taiwan, R.O.C.

Long-Sheng Chen
Chaoyang University of Technology, Taiwan, R.O.C.

Sung-Chi Hsu
Chaoyang University of Technology, Taiwan, R.O.C.

ABSTRACT

Several factors may lead to students' lack of interest in the process of learning in universities. Poor interest can undermine the learning motivation of students, thereby increasing the risk of dropping out. It is essential that the tutors can receive first-hand information, and are responsible for guiding students through the college experience. Tutoring is beneficial in supporting and enhancing students' motivation and academic performance. A good relationship between students and teachers can predict social, behavioral, and academic outcomes throughout the learning period. This study analyzed data in the 'Class Tutors and Students' Relationship Questionnaire (CTSRQ)' collected by the Center of Students' Development, and Grade Point Average (GPA) records (4,782) in the Office of Academic Affairs of the case university. We carried out reliability and validity analysis of the questionnaire, basic statistical analysis, correlation, chi-squared test, ANOVA, Post-Hoc test, and regression analysis. The results showed that gender, grade, and college were significant factors affecting the student-teacher relationship in the university. The correlation analysis showed that the score of the student-teacher relationship and the GPA had a positive relation. The stepwise regression analysis indicated that male freshmen needed teacher's initiative for a higher degree of concern and communication, while juniors showed more anxieties about internship opportunities and careers. Also, the study indicated that tutors needed attributes like good communication, a higher degree of concern, understanding, and access, and willingness to help in solving students' problems. Findings in the present study may help teachers in improving class management; enhance students' learning performance and satisfaction, thus resulting in higher retention rates in the university.

Keywords: Student-teacher relationship, Classroom management, Tutor, Grade point average

Introduction

Several factors may lead to students' lack of interest in the process of learning in universities. For example, teaching materials may be too difficult or boring, teachers may be too strict, and there are fewer activities and resources offered to students. Poor interest can undermine the learning motivation of students, thereby increasing the risk of dropping out (Cheng et al., 2018). It is essential that the tutors can receive first-hand information, and are responsible for guiding students through the college experience. Tutors play an important role in caring for students at different stages of their schooling. A tutor can guide, support, teach, help, and encourage students in a class (Lauland, 1998). In addition, the teacher's attributes and personality significantly affect students' performance (Steinert, 2004; Yam and Burger, 2009). Tutoring is beneficial in supporting and enhancing students' academic performance; therefore, it is important to ensure quality tutoring in improving retention rates of students especially in the first year (Zimitat, 2006), and increasing resiliency (Baker, 2006).

The university in the present study lays special emphasis on the establishment of a sound tutoring system and the functions of a teacher. So that students can receive proper care through consultation and communication channels. In student-centric management, teachers' role is to support a comfortable atmosphere for student's expression, to model good problem-solving skills in them, and to share the responsibility for students' learning outcomes (Keiler, 2018; Moustafa et al., 2013; Yukhymenko et al., 2014). To enhance the focus on students' resources and welfare, the issue of improving the student-teacher relationship is worthy of discussion. A student-teacher relationship is one of the important factors that affect students' adjustment, learning, and career competencies. The more supportive teachers are, the more comfortable and engaged students are in the classroom (Reeve, 2006). A student-teacher relationship is particularly important for students' adaption (Arbeau, Coplan, and Weeks, 2010; Birch and Ladd, 1997; Murray and Greenberg, 2000, 2001; Pianta and Stuhlman, 2004; Silver et al., 2005). Riley (2009) stated that the adult attachment model of reciprocal caregiving and care-seeking is a more appropriate lens through which to view the teacher-student relationship. An attached relationship includes open communication, warmth, and influence. Also, it has been associated with higher participation in the class, greater engagement in school activities, and students higher academic achievements (Archambault et al., 2017; Birch and Ladd, 1997; Middleton and Midgley, 2002; Pianta, 1999; Pianta and Stuhlman, 2004; Roorda et al., 2011; Wentzel, 1998). Also, a good student-teacher relationship influences the persistence of learning in the same school. A positive student-teacher relationship can have a "pacifying" effect on students (Galand et al., 2006). It favors positive feedback and explicit consulting and teaching (Baker, 2008; Pianta, 1997). A good relationship between students and teachers could predict social, behavioral, and academic outcomes throughout the learning period.

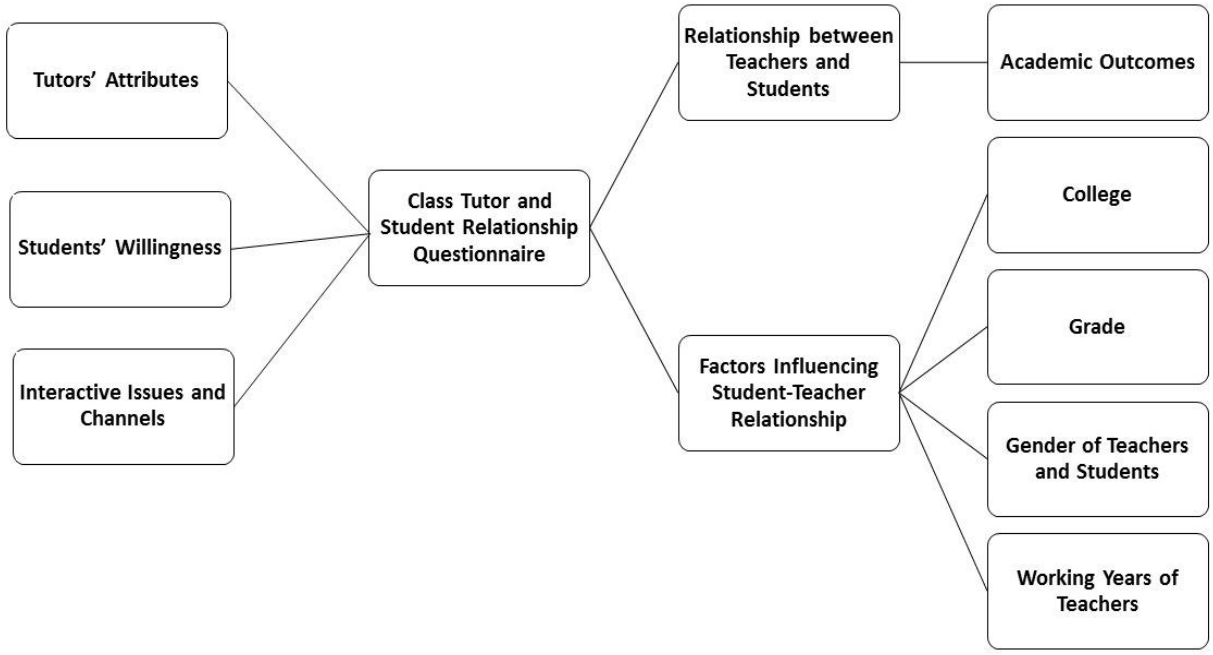

Figure 1: Research Structure

In the present study, we have analyzed data collected by the Center of Students' Development through a 'Class Tutors and Students Relationships Questionnaire' (CTSRQ) in 2018. It includes tutors' attributes, students' willingness to contact tutors, interactive issues, and channels. The main purpose of our research was: (1) to understand the relationship between teachers and students in the case of university, (2) to analyze factors influencing the student-teacher relationship and predict popular tutors' attributes, (3) to evaluate the correlation between academic outcomes and student-teacher relationship. The research structure is shown in Figure 1. The findings of the study can be of help to tutors in assessing the effectiveness of their teaching, in improving their class management, and student's performance.

Literature Review

Classroom Management

A tutor plays multiple roles to guide, support, teach, help, and encourage students in a classroom. Therefore, classroom management includes setting up an orderly and effective learning environment. It also includes actions taken to promote change in students' behaviors or measures to help students fulfill their tasks (Woolfolk and Weinstein, 2006). Also, the ways teachers interact with their students and manage their classrooms, have been verified as sources of student motivation and engagement (Midgley, 2002). Senior teachers have more experience and the ability to prioritize and distinguish tasks and to selectively deal with several important classroom matters (Hagger and McIntyre, 2000), and they know how to face complex classroom issues better than the junior teachers. They are generally able to manage and control effectively the most salient aspect of classroom unpredictability (Doyle, 1986). Therefore, their experience is very important in formulating classroom management strategies for junior teachers. Several

researchers earlier had discussed the attributes of good teachers or tutors such as affective characteristics, skills, classroom management techniques, and academic knowledge (Inan, 2014; Miller, 2012; Plavšic and Dikovic, 2016). From the Class Tutors and Students Relationships Questionnaire, the attributes of good tutors can be predicted by the design of variables.

Student-teacher Relationship

A good student-teacher relationship is needed to have a secure and satisfying relationship (Furrer and Skinner, 2003; Hughes and Chen, 2011). The supportive relationships in turn lead to improved academic behavior (Murray and Malmgren, 2005; Wentzel, 1993), reduces student's behavioral problems (Driscoll et al., 2011; Morrison and Bratton, 2010; Tsai and Cheney, 2012), and enhances successful teaching and learning (Aultman et al., 2009). A positive student-teacher relationship scores high in closeness and low in conflict and dependency, whereas a negative student-teacher relationship scores low in closeness and high in conflict and dependency (Pianta et al., 1995; Sabol and Pianta, 2012).

Regarding student's age, some researchers have suggested that teachers become less caring, less warm, less friendly, and less supportive as students get older (Feldlaufer et al., 1988; Midgley et al., 1989). However, students become more independent, and their relationships with peers become more important as they grow up (Lynch and Cicchetti, 1997). Students are more likely to see teachers as disciplinary experts who can offer career guidance and self-sufficiency (Ryan et al., 1994). Therefore, in the present research, we have tried to factor in different issues and study different variables in the student-teacher relationship. In previous studies, researchers had studied factors like gender, age, academic performance, or teaching experience to explore the correlation between teaching and learning in a classroom setting (Amenkhienan and Kogan, 2004; Goodwin and Stevens, 1993; Theresia, 2013). Therefore, in the present research, factors like gender, grade, and work experience among teachers in five colleges in the case university were studied.

Evaluations, conceptual and methodological frameworks on the student-teacher relationship have been reported (Kennedy, 2008; Sabol and Pianta, 2012). Troop-Gordon and Kopp (2011) used a regression analysis to determine which elements of the student-teacher relationship would predict students' subsequent victimization and aggression. In our research, we applied regression to figure out good personality traits in tutors in the case of university.

Methodology

Samples and Procedure

In this study, we have used data from the 'Class Tutors and Students' Relationship Questionnaire (CTSRQ)' collected by the Center of Students' Development in the University. The participants at 201 tutor classes answered the questions online from April 30 to May 31 in 2018. Data pertained to the day system in five colleges (Management, Science and Engineering, Design, Humanities, and Social Sciences, and Information). In addition, we collected 4,782 records of Grade Point Average (GPA) available in the Office of Academic Affairs of the University. Then

we carried out reliability and validity analysis of the questionnaire, basic statistical analyses, correlation, chi-squared test, ANOVA, post hoc test, and regression analysis.

Measures and Variables

The "Class Tutor and Student Relationship Questionnaire" contained the following eight items:

1. I think the tutor cares about me.
2. I think the tutor is willing to help classmates in solving problems.
3. I think the tutor will take the initiative to understand my situation.
4. I think the tutor has a good communication channel with classmates.
5. When I need it, I know how to contact the instructor.
6. When I have difficulty, I am willing to discuss with the tutor or request assistance.
7. Usually, I want to talk to the instructor about (multiple options), e.g., coursework, life-related issue, emotional issues, career planning, interpersonal relationship, family issues, and others.
8. I look forward to the ways to have a good student-teacher relationship (multiple options), e.g., class meetings, individual interviews, visits, participation in activities organized by classmates, social activities, knowledge activities, counseling classes, communication with classmates through websites, and others.

Students answered using a five-point scale, the options were "strongly agree", "agree", "neutral ", "disagree" and "strongly disagree". The scoring order was 5,4,3,2 and 1 point, respectively. The higher the score, the more satisfied the student was with the tutor.

In order to predict the characteristics of reachable tutors, we applied regression analysis in the study. The independent variables were college, gender of students and tutors, grade, working years, and the scores of Q1 to Q5. The dependent variable was the score of Q6 (student's willingness). Independent variables were coded as follows: College (Management: (0,0,0); Science and Engineering: (0,1,0); Design: (1,0,0); Human and Society: (0,0,1); Information: (0,1,1)). Grade: (G1, G2) was coded as Freshman: (0,0); Sophomore: (1,0); Junior: (0,1); Senior: (1,1). Gender (student) and gender (teacher) were coded as male: 1, female: 0.

Results

Basic Statistics in Single-option Questions

Totally 4,782 students filled the questionnaire. In internal consistency adapted scales, the samples fit the population rate 1:3:1:1:1 in the five colleges: Science and Engineering, Management, Humanities, and Social Sciences, Information, and Design (shown in **Table 1**). The rate of grades from the freshman, sophomore, and junior to the senior had equal distribution. The rate of gender (male to a female) was 1:2. Therefore, the internal consistency was good. From **Table 2**, the values of the mean (Q1 to Q6) were over 4.18. It means that the student-teacher relationship was good at the University.

Reliability and Validity Analysis of the Questionnaire

Because the "Class Tutors and Students Relationship Questionnaire" was created by the Center of Students Development in the University, therefore, first we carried out the reliability and the validity of the scale. For the whole questionnaire, Cronbach's α values were found to be greater than 0.9 (**Table 3**), indicating that the internal consistency between the items was high and met the reliability requirement. Average Variance Extraction (AVE) values, representative of the percentage values of the observed variables were measured by the latent variables. AVE values of six facets in the present study were greater than 0.7. It represented all AVE, Mean and Standard Deviation (SD) in convergent validity. The AVE value of each facet was larger than the shared variance between the constructs, which means that the square root value of the average variation of the potential variables was larger than the correlation coefficient. It represents "divergent validity." From the value of the mean, all are greater than 4. It means that the relationship between class tutors and students is satisfied by the participants.

Table 1: Frequency Table in Five Colleges

College	Frequency	Percent	Cumulative
Science and Engineering	606	12.7	12.7
Management	2029	42.4	55.1
Humanities and Social Sciences	827	17.3	72.4
Information	666	13.9	86.3
Design	654	13.7	100
Total	4782	100	

Table 2: Basic Statistics

	Q1	Q2	Q3	Q4	Q5	Q6
Number	4782	4782	4782	4782	4782	4782
Mean	4.30	4.47	4.19	4.38	4.30	4.49
SD	.779	.704	.853	.750	.801	.681

Table 3: Reliability and Validity Analysis

Item	Convergent Validity		Mean	SD	Discriminant Validity					
	Cronbach's Alpha	AVE			Q1	Q2	Q3	Q4	Q5	Q6
Q1	.937	.840	4.30	.779	**.916**	.783**	.863**	.788**	.785**	.708**
Q2	.941	.807	4.47	.704	.783**	**.899**	.730**	.798**	.764**	.762**
Q3	.942	.801	4.19	.853	.863**	.730**	**.895**	.779**	.770**	.672**
Q4	.938	.837	4.38	.750	.788**	.798**	.779**	**.915**	.792**	.764**
Q5	.947	.738	4.49	.681	.708**	.762**	.672**	.764**	**.859**	.731**
Q6	.941	.809	4.30	.801	.785**	.764**	.770**	.792**	.731**	**.900**

Note: **. p<0.01

Basic statistics of multiple-option questions

About the multiple option questions, the frequencies are shown in Table 4. As we apply the Chi-squared test on question 7 (Usually I want to talk to the instructor about the coursework and career planning) to check the effect between the grade and discussion topics (Table 5), it shows a significant difference. The freshmen and sophomore (83%) of them had course-related problems, while seniors had career-related problems more than others. The freshmen discussed with tutors more about their life, emotion, interpersonal relationship, and family-related problems to adjust to the new environment in the first year.

Table 4: Frequency Table of Discussion Topics

		Responses		
		N	Percent	Percent of Cases
Topics	Coursework	3737	40.9%	78.1%
	Life	955	10.4%	20.0%
	Emotion	205	2.2%	4.3%
	Career	3292	36.0%	68.8%
	Interpersonal relationships	618	6.8%	12.9%
	Family	207	2.3%	4.3%
	Others	133	1.5%	2.8%
Total		9147	100.0%	191.3%

Table 5: Cross Table of Discussion Topics with Grade

			Grade				Total
			1	2	3	4	
Topics	Coursework	Count	988	1083	883	783	3737
		% within grade	83.0%	83.2%	79.0%	66.8%	78.1%
	Life	Count	273	270	212	200	955
		% within grade	22.9%	20.8%	19.0%	17.1%	20.0%
	Emotion	Count	73	61	30	41	205
		% within grade	6.1%	4.7%	2.7%	3.5%	4.3%
	Career	Count	826	875	755	836	3292
		% within grade	69.4%	67.3%	67.5%	71.3%	68.8%
	Interpersonal Relationships	Count	195	164	124	135	618
		% within grade	16.4%	12.6%	11.1%	11.5%	12.9%
	Family	Count	70	69	30	38	207
		% within grade	5.9%	5.3%	2.7%	3.2%	4.3%
	Others	Count	30	33	31	39	133
		% within grade	2.5%	2.5%	2.8%	3.3%	2.8%

In **Table 6**, regarding question 8 (I look forward to the way instructors improve the good relationship with students), it was found that class meetings and participation in activities were two major options chosen by the students.

Table 6: Frequency Table of the Way Instructors to Improve the Good Relationship

		Responses		
		N	Percent	Percent of Cases
The way instructors improve the good relationship	Class meetings	3030	32.0%	63.4%
	Individual interviews	1611	17.0%	33.7%
	Visit	354	3.7%	7.4%
	Participation in activities	1784	18.9%	37.3%
	Social activities	768	8.1%	16.1%
	Knowledge activities	411	4.3%	8.6%
	Counseling classes	573	6.1%	12.0%
	Websites	798	8.4%	16.7%
	Others	132	1.4%	2.8%
Total		9461	100.0%	197.8%

Table 7: Cross Table of the Way Instructors to Improve the Good Relationship

			Grade				
			1	2	3	4	Total
Ways	Class meetings	Count	744	808	738	740	3030
		% within grade	62.5%	62.1%	66.0%	63.1%	63.4%
	Individual	Count	416	456	370	369	1611
	interviews	% within grade	34.9%	35.0%	33.1%	31.5%	33.7%
	Visit	Count	87	85	78	104	354
		% within grade	7.3%	6.5%	7.0%	8.9%	7.4%
	Participation in	Count	532	512	350	390	1784
	activities	% within grade	44.7%	39.4%	31.3%	33.3%	37.3%
	Social	Count	210	242	180	136	768
	activities	% within grade	17.6%	18.6%	16.1%	11.6%	16.1%
	Knowledge	Count	122	131	94	64	411
	activities	% within grade	10.2%	10.1%	8.4%	5.5%	8.6%
	Counseling	Count	177	173	122	101	573
	classes	% within grade	14.9%	13.3%	10.9%	8.6%	12.0%
	Others	Count	214	227	166	191	798
		% within grade	18.0%	17.4%	14.8%	16.3%	16.7%

As we apply the Chi-squared test to check the effect between the grade and discussion topics (**Table 7**), it also shows a significant difference. Class meetings are agreeable methods to enhance their interaction during all four years of study.

ANOVA and Post Hoc Test

ANOVA analysis and post hoc test can determine whether there is a significant factor to detect the differences between each facet of variance.

Gender

In gender, the values of the student-teacher relationship are higher for male students (Average=4.45) than females (Average=4.31). About the gender of tutors, female tutors (Average=4.43) were more popular than male teachers (Average=4.29). The P-value was significantly smaller than 0.05.

Gender combinations

In the gender combinations between students and tutors (**Table 8**), it was found that female teachers were more popular with both male and female students. The combination between female students and male tutors has a significant difference. It demonstrates that gender influenced the student-teacher relationship.

Table 8: ANOVA and Post Hoc Test Analyses in Gender Combinations

Items	Gender	N	Mean	SD	F	p-value	Scheffe
Q1	1.m&M	1062	4.32	0.805	36.720	0.000	1>3
	2.m&F	522	**4.57**	0.673			2>1;2>3;2>4
	3.f&M	1703	4.18	0.817			
	4.f&F	1495	4.33	0.720			4>3
Q2	1.m&M	1062	4.47	0.728	27.314	0.000	1>3
	2.m&F	522	**4.67**	0.577			2>1;2>3;2>4
	3.f&M	1703	4.37	0.754			
	4.f&F	1495	4.50	0.647			4>3
Q3	1.m&M	1062	4.23	0.854	40.115	0.000	1>3
	2.m&F	522	**4.51**	0.723			2>1;2>3;2>4
	3.f&M	1703	4.06	0.886			
	4.f&F	1495	4.19	0.824			4>3
Q4	1.m&M	1062	4.39	0.774	27.306	0.000	1>3
	2.m&F	522	**4.61**	0.641			2>1;2>3;2>4
	3.f&M	1703	4.28	0.782			
	4.f&F	1495	4.39	0.709			4>3
Q5	1.m&M	1062	4.47	0.718	22.597	0.000	1>3
	2.m&F	522	**4.66**	0.584			2>1;2>3;2>4
	3.f&M	1703	4.40	0.723			
	4.f&F	1495	4.53	0.619			4>3
Q6	1.m&M	1062	4.34	0.818	30.104	0.000	1>3
	2.m&F	522	**4.55**	0.697			2>1;2>3;2>4
	3.f&M	1703	4.19	0.823			
	4.f&F	1495	4.31	0.774			4>3

Note: gender of students (m: male; f: female); gender of tutors (M: male; F: female)

Table 9: ANOVA and Post Hoc Test Analyses in Grade

Items	Grade	Mean	SD	F	p-value	Scheffe
Q1	1.Freshmen	4.25	0.785	5.400	0.001	
	2.Sophomore	4.35	0.750			2>1; 2>3
	3.Junior	4.26	0.784			
	4.Senior	4.33	0.795			
Q2	1.Freshmen	4.44	0.688	2.792	0.039	
	2.Sophomore	4.51	0.701			
	3.Junior	4.45	0.690			
	4.Senior	4.46	0.734			
Q3	1.Freshmen	4.14	0.840	6.006	0.000	
	2.Sophomore	4.25	0.831			2>3; 2>1
	3.Junior	4.12	0.868			
	4.Senior	4.22	0.872			4>3
Q4	1.Freshmen	4.35	0.743	6.211	0.000	
	2.Sophomore	4.45	0.727			2>3; 2>1
	3.Junior	4.33	0.753			
	4.Senior	4.37	0.773			
Q5	1.Freshmen	4.42	0.715	7.939	0.000	
	2.Sophomore	4.55	0.661			2>1
	3.Junior	4.47	0.673			
	4.Senior	4.51	0.668			4>1
Q6	1.Freshmen	4.27	0.780	3.169	0.023	
	2.Sophomore	4.36	0.796			
	3.Junior	4.28	0.790			
	4.Senior	4.28	0.836			

Grade

From **Table 9**, it is evident that students' grades significantly varied over four years. The mean score value in the case of a sophomore in the student-teacher relationship was significantly higher compared to others. Also, results from Q1 and Q5 (**Table 9**) indicated that tutors lacked the degree of concern and contact in the case of freshmen. While answers to questions Q3 and Q4 (**Table 9**) indicated that tutors for junior grade students lacked understanding and had poor communication.

Table 10: ANOVA and Post Hoc Test Analyses in Colleges

Items	College	Mean	SD	F	p-value	Scheffe
	1. Science and Engineering	4.32	0.812	21.817	.000	1>5
	2. Management	4.36	0.740			2>5;2>3
Q1	3. Humanities and Social Sciences	4.21	0.785			
	4. Information	4.41	0.708			4>5
	5. Design	4.09	0.871			
	1. Science and Engineering	4.47	0.755	15.738	.000	1>5
	2. Management	4.51	0.666			2>5;2>3
Q2	3. Humanities and Social Sciences	4.4	0.707			
	4. Information	4.56	0.615			4>5
	5. Design	4.31	0.812			
	1. Science and Engineering	4.25	0.841	24.828	.000	1>5;1>3
	2. Management	4.24	0.817			2>5;2>3
Q3	3. Humanities and Social Sciences	4.05	0.892			
	4. Information	4.33	0.777			4>5;4>3
	5. Design	3.96	0.936			
	1. Science and Engineering	4.39	0.776	24.703	.000	1>5;1>3
	2. Management	4.44	0.703			2>5;2>3
Q4	3. Humanities and Social Sciences	4.25	0.780			
	4. Information	4.51	0.663			4>5;4>3
	5. Design	4.19	0.851			
	1. Science and Engineering	4.44	0.749	12.375	.000	
	2. Management	4.53	0.642			2>5
Q5	3. Humanities and Social Sciences	4.46	0.667			3>5
	4. Information	4.55	0.624			4>5
	5. Design	4.34	0.776			
	1. Science and Engineering	4.34	0.815	18.323	.000	1>5;1>3
	2. Management	4.35	0.755			2>5;2>3
Q6	3. Humanities and Social Sciences	4.18	0.851			
	4. Information	4.42	0.719			4>5;4>3
	5. Design	4.13	0.895			

College

In **Table 10**, college as a variable was a significant factor. From Q1 to Q5, the College of Design was significantly inferior to the other four colleges. On the contrary, the student-teacher relationship in the colleges of Information and management was better than others.

Correlation

ANOVA and post hoc analysis indicated that the gender of a tutor, the gender of the student, the grade, and the college are the four variables that affected the relationship. Therefore, in this study, we tried to explore a correlation between the grade point average (GPA) and student-teacher relationships in one tutor class. Department of Accounting, a sophomore and female tutor, was selected because the sample size was larger than 30 (N=53; male=20, female=33) and

it could fit the significance criterion. The analysis of data collected from the Office of Academic Affairs showed that the higher the score of the student-teacher relationship, the better was the GPA (**Table 11**) indicating a positive relationship.

Table 11: Pearson Correlations

	Q1	Q2	Q3	Q4	Q5	Q6	GPA
Q1	1	.847**	.818**	.804**	.820**	.825**	0.056
Q2	.847**	1	.855**	.937**	.952**	.980**	0.172
Q3	.818**	.855**	1	.916**	.822**	.833**	0.129
Q4	.804**	.937**	.916**	1	.862**	.916**	0.183
Q5	.820**	.952**	.822**	.862**	1	.933**	0.134
Q6	.825**	.980**	.833**	.916**	.933**	1	0.169
GPA	0.056	0.172	0.129	0.183	0.134	0.169	1

Note: ** p-value is significantly smaller than 0.01

Regression Analysis

To explore students' eagerness for seeking tutors' help, regression analysis could predict important factors and create an influential model. The independent variables were: college, the gender of students and tutors, grade, working years, and the scores of questions Q1 to Q5. The dependent variable was the score of question Q6. Through the stepwise regression, the adjusted R square was .73. The results (**Table 12**) matched the post hoc test analysis.

The equation was:

Y=-.129-.03*G1+.192*Q1+.179*Q2+.183*Q3+.257*Q4+.193*Q5+0.003*Experience

From Table 12 we can find that Q1-Q5, tutor teaching experience, grade, and gender are significant variables to Q6 because of their p-value (<0.05). The standardized coefficients of Q1 to Q5, experience, and gender are all positive to Q6. It means that as the satisfaction of a student-teacher relationship was higher; the students were more willing to discuss with tutors. Besides, tutors with more teaching experience were preferred by the students, and male students were willing to discuss or seek guidance from them. However, in our study, the coefficient of grade (G1) was negative to Q6. It means that sophomore and senior students lacked the motivation to discuss with tutors. The results are similar to the post hoc test analysis in Table 9. The freshmen and the junior students were more eager to discuss different issues with tutors.

Table 12: Coefficients in Stepwise Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.129	0.045		-2.857	0.004
Q4	0.257	0.016	0.241	15.886	0.000
Q1	0.192	0.017	0.186	10.994	0.000
Q5	0.193	0.015	0.164	12.829	0.000
Q3	0.183	0.015	0.195	12.358	0.000
Q2	0.179	0.017	0.158	10.853	0.000
Experience	0.003	0.001	0.022	2.979	0.003
G1	-0.03	0.012	-0.018	-2.442	0.015
Gender(s)	0.027	0.013	0.016	2.113	0.035

Discussion

Gender

The analysis results show that female teachers were more popular with both male and female students. Similar to the present study, Jones and Wheatley (1990) found that female teachers and male students were a better combination for a good student-teacher relationship. In our gender combinations, male tutors had the lowest scores with female students. Cavallo and Laubach (2001) stated that female students felt natural with classmates but felt uneasy interacting with teachers directly. In our study, the values of the tutor-student relationship were higher for male students compared to females. Studies by other researchers have demonstrated that male students interacted more with teachers compared to females' (Barba and Cardinale, 1991; Sun et al., 2007).

Grade

Several reports are demonstrating that the student-teacher relationship affects students' grades (Lewis et al., 2005; Riley, 2009; Wubbles et al., 1988). In the present study, it was found that tutors lacked a higher degree of concern and communication with freshmen. Since it is the first year of university, freshmen discussed with tutors more about 'life', 'emotion', 'interpersonal relationship', and 'family-related problems to adapt to the new environment on campus. Therefore, tutors' needed to have a higher degree of concern and communication with freshmen compared to other students. In separate research, first-year nursing students considered the role of tutors as very important and instrumental in the first-year transition that helped to reduce dropouts (Potolsky et al., 2003).

Experience

In the present study, regression analysis results showed that students were willing to discuss with tutors or request guidance from senior tutors. In two different studies, Wubbles et al. (1988), and Martin and Shoho (2000) have reported that experienced teachers could effectively handle emotional and, behavioral issues, academic outcomes, and classroom management.

Academic Ability

In our study, it was observed that the better the student-teacher relationship, the higher was the GPA. It conforms with other studies (Liew et al., 2010; Hamre and Pianta, 2001; Hughes et al., 1999). A good relationship leads to higher stability (Ladd et al., 1997). However, an emotional bond between students and teachers may not be enough to affect students' enthusiasm for learning. Instead, other factors, such as students' pedagogical strategies and distinctive activities, may significantly affect their performance and interest.

Implications and Recommendations

Students and teachers are the two most important constituents of an academic institution, and their relationship affects each other and the institution in so many ways. Therefore, it is important to understand the factors affecting the student-teacher relationship in a given institution so that corrective measures can be taken for the benefit of all the stakeholders. The ability to forge a positive and powerful relationship between a student and teacher may seem like a difficult task, but can be accomplished by taking care of the factors affecting the desired outcome. In the present study, it was found that the gender of the teacher had a significant effect on the teacher's popularity. Female teachers were more popular with both male and female students. Therefore, the university may not shy away from recruiting a higher number of female teachers if necessary.

Regarding the grade factor, freshmen discussed with tutors more about adaptive problems, while seniors focused more on their career-related problems. Given this, the office of students' affairs can create a set of forums where students' multifarious concerns can be resolved. According to Rumberger (2011), student's individual characteristics such as attitude, behavior, and performance play a vital role in student's dropout rates. Results in the present study demonstrate that a good student-teacher relationship leads to higher stability and better student GPA, especially for freshmen. The office of students' affairs not only can arrange popular tutors to care and support first-year students at the beginning of their learning in the university, but also design and plan more resources for the tutors to enhance their motivation in devoting more time and efforts to improving the retention of students in the university.

About the variables of college and teachers' experience, to improve the relationship among students and teachers, the office of students' affairs in the case university can plan and arrange on-job training for tutors. Also, the office can arrange interactive sessions in the form of workshops and class demonstrations for new teachers so that senior teachers can share their experiences with them. Besides, the administrative units can support the tutors to set up a knowledge management database to solve students' problems related to coursework, life-related issues, emotional issues, career planning, interpersonal relationship, family issues. Such a system will facilitate tutors to have access to immediate suggestions to solve students' problems.

Results of the multiple-option questionnaire in our study showed that class meetings and tutors' participation in activities were two ways to enhance a good student-tutor relationship throughout the four years. In the case of freshmen, a tutor who participated in activities paid higher attention and interacted more with the students. Therefore, the university must encourage teachers to have consistent communication to create a connection between the two. A teacher who understands the problems of his or her students and then shapes his or her teaching style to interact better with the student can see success. The more the teacher communicates, the higher is the chance of effective learning by students'. Also, creating an open learning environment where different opinions are equally respected, and there is no fear of ridicule from teachers is crucial for building a good student-teacher relationship.

Good feedback depends on the student's positive outlook about the school and the student's interest in school activities (Ladd et al., 1997; Stipek and Miles, 2008). Weimer (2017) stated that feedback during midterm rather than at the end of the semester allows teachers to know problems earlier and take corrective measures. Feedback reflects students' immediate responses to questions and can help them in reducing their anxieties in the first year itself (Surjan et al., 2010). Therefore, an efficient evaluation of the student-teacher relationship in an academic institution is highly desirable.

Further Research

Because of the traditional pedagogy, class instructors in Taiwan are considered to have a major role in the students' learning process. In a student-centric scenario, the outcome of collaborative learning from peers has shown positive impacts on the cognitive performance, social behavior, and affective perceptions of students (Chad et al. 2017; Fawcett and Garton 2005; Johnson et al. 2001; Marzano et al. 2001). It would be of advantage to explore how different cultures and age groups affect the student-teacher relationship.

Conclusions

The student-teacher relationship is one of the important factors that affect students' adaptation, learning, and career competencies. Coursework and career planning were the two topics most discussed with teachers. Freshmen and sophomores had course-related problems, while seniors showed more concern about career-related issues. Since freshmen need to adapt to the new environment on the campus; they had more questions related to 'life', 'emotion', 'interpersonal relationship', and 'family' issues. Therefore, tutors need to have a higher degree of concern and communication with freshmen. Also, class meetings and teacher's participation in activities were found to be two preferred ways to improve the student relationship.

In ANOVA, gender, grade, and college were significant factors in a student-teacher relationship in the case of university. Female teachers were more popular with both male and female students. The score value of the sophomore in the student-teacher relationship was significantly higher compared to other students. The student-teacher relationship in the colleges of Information and Management was found to be the best among the five colleges in the case university. The correlation analysis showed that the scores of student-teacher relationships and GPA were positively related. The stepwise regression analysis indicated that male freshmen

needed teacher's initiative for a higher degree of concern and communication, while juniors showed more anxieties about internship opportunities and careers. The popular attributes of tutors were found to be good communication, a higher degree of concern, communication and access, willingness to help in solving students' problems. Findings in the present study may be of help to teachers in improving class management, enhance students' learning performance and satisfaction, thus resulting in higher retention rates in the university.

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