

From Learning to Practice: Evaluating Collegial Leadership Training and Transfer Among Malaysian University Academics

ABSTRACT

Authors: Nurul Afiqah Zulkifly^{1*}, Ismi Arif Ismail¹ and ¹Siti Noormi Alias

Affiliation: Department of Professional and Continuing Education, Faculty of Educational Studies, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.

*Corresponding author:
nurulafiqah@upm.edu.my

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This study examines the effectiveness of a collegial leadership training programme (CLTP) delivered to academics at a Malaysian public university. Using data from one experimental cohort, changes in collegial leadership competencies were assessed using pre- and post-training measures. Training transfer readiness was captured using a validated post-training transfer scale. Repeated measures ANCOVA was conducted to determine the effect of the CLTP on post-training collegial leadership while controlling for demographic factors. Descriptive analyses were used to examine the extent of training transfer readiness. Results indicate significant improvement in collegial leadership competencies, with participants demonstrating moderate-to-high levels of readiness. Regression analysis shows that post-training collegial leadership significantly influences training transfer readiness. These findings highlight the value of structured collegial leadership training for academic staff and underscore the need for institutional support to sustain behavioural change. Implications for training design and leadership development in higher education are discussed.

Keywords: Training Transfer Readiness, Collegial Leadership, Pre- and Post-test, Academic Leaders, University, Malaysia, Kirkpatrick Evaluation Model.

1. Introduction

Collegial leadership has emerged as a pivotal competency among academics within higher education, particularly as institutions navigate increasingly complex and collaborative environments. The shift towards shared decision making, mutual respect, and professional relationships shapes both academic performance and the organisational culture of universities. A clear understanding of collegial behaviours, supported by formal leadership training, can strengthen institutional capacity to address contemporary educational challenges. This is supported by Amtu et al. (2021), which emphasises the role of leadership in fostering collaborative academic cultures that enhance educational quality in higher education institutions. Evidence further suggests that supportive environments characterised by collaboration and shared responsibilities foster professional development and enhance academic performance (Tapic & Baguio, 2024), while collegial leadership enables productive interactions that improve institutional outcomes (Zulkifly, 2023). Such environments are also associated with higher job satisfaction and faculty retention (Singh & Patel, 2025). Nonetheless, there remains a notable gap in formal training focused on collegial leadership skills among academic staff, as leadership development often prioritises managerial competencies over relational and collaborative capabilities (Anumolu & Jain, 2025).

Structured collegial leadership training programmes are increasingly recognised as important mechanisms for developing interpersonal, communication, and collaborative problem-solving skills among academics in higher education. These programmes aim to facilitate shared decision making, foster mutual respect, and strengthen professional relationships within academic communities. Their effectiveness is commonly evaluated using pre-post assessment designs to examine knowledge gains and the application of competencies in practice. Established evaluation frameworks such as Kirkpatrick's model allow for assessment across multiple levels including learning and behavioural change. Prior studies indicate that well designed training interventions can enhance both skill development and self-efficacy in applying learned competencies (Young et al., 2022), while alignment with institutional needs strengthens their relevance and impact (Zulkifly, 2023).

Training effectiveness is closely linked to the extent to which learned competencies are translated into practice. Within higher education, the application of collegial leadership behaviours is shaped by contextual factors such as workload, peer dynamics, and institutional support. Evidence from different contexts shows that pre-post training approaches can lead to improvements in leadership related self-efficacy and collaborative capabilities (Young et al., 2022). Similar patterns have been observed in peer leadership development and mentoring interventions (Merwe et al., 2025), as well as in nursing education where structured training enhances behavioural competencies required for effective leadership (Kelley et al., 2023). However, challenges remain in sustaining these outcomes, as factors such as participant engagement, varying baseline competencies, and contextual constraints may influence the extent to which learning is enacted in practice (Beiting et al., 2023; Kelley et al., 2023). These considerations highlight the importance of examining not only learning outcomes but also participants' readiness to apply collegial leadership behaviours within their professional roles. In addition, behavioural enactment may begin within the training context itself, as participants engage in structured case-based activities, providing early indications of transfer readiness prior to workplace implementation.

Therefore, this study examines the effectiveness of a Collegial Leadership Training Programme (CLTP) conducted at a Malaysian public university. Specifically, it investigates differences between pre-training and post-training collegial leadership, and examines the influence of post-training collegial leadership on training transfer readiness. The programme was designed to enhance academics' engagement in collegial practices such as constructive dialogue, conflict resolution, shared reflection, and collaborative leadership. Guided by Kirkpatrick's Training Evaluation Model, this study focuses on Level 3 behavioural outcomes by examining changes in collegial leadership competencies and their association with perceived transfer readiness. To achieve this, a one group pre-post quasi experimental design is employed to assess within participant change over time. While this design does not permit

strong causal inference due to the absence of a comparison group and potential influences such as maturation or repeated measurement effects, it is appropriate for evaluating training related change in applied academic settings. By linking post-training competencies to perceived transfer readiness, this study provides evidence of early-stage behavioural development consistent with Level 3 of Kirkpatrick's model and addresses the gap in structured collegial leadership training within the Malaysian higher education context.

2. Literature Review

2.1. Collegial Leadership in Higher Education

Collegial leadership represents a relationship-oriented approach that is vital for fostering shared decision-making, mutual respect, and academic autonomy within higher education. This collaborative framework is particularly crucial in public universities, where the practice of distributed leadership can significantly enhance teamwork, curriculum development, and research collaboration. Research has shown that collegial leadership leads to improved communication, effective conflict management, and an enriched culture of academic professionalism, all of which are essential components of a thriving academic environment (Farzana et al., 2022; Jamali et al., 2022).

The alignment of collegial leadership with effective teamwork and academic success emphasizes the necessity for structured training initiatives aimed at enhancing the interpersonal skills and collaborative abilities of academics. However, a significant gap exists in the availability of systematic training specifically focused on collegial practices. As highlighted by Almessabi (2021), there is a pressing need for induction programs tailored to equip faculty with the competencies necessary for practicing collegial leadership effectively. Absent this training, many academics experience inconsistent behaviors and are ill-prepared for leadership roles that demand collaboration and open communication.

Furthermore, studies indicate that the benefits of collegial leadership extend beyond interpersonal relationships, significantly influencing institutional outcomes. For instance, research highlights that distributed leadership models, where authority is shared among faculty, can lead to greater innovation, improved organizational effectiveness, and heightened engagement from staff (Phillips et al., 2024; Jamali et al., 2022). These findings underscore the critical importance of fostering a collegial culture, particularly in environments faced with increased challenges and pressures over recent years (Farzana et al., 2022).

Evaluating the effectiveness of leadership training programs is essential to ascertain whether these interventions appropriately enhance the competencies needed for collegial leadership. Pre-post assessment designs offer a well-established method for evaluating such training, enabling institutions to measure learning gains and the degree of behavioral change in participants' professional settings. Nonetheless, the mere existence of training programs is insufficient; they must be rigorously assessed and tailored to develop the specific relational and collaborative skills vital for academic leadership. Without such evaluations and adjustments, the potential impact of training may remain unrealized, with participants lingering in a state of limited readiness for effective leadership roles (Namutebi, 2024).

In summary, the critical need for structured collegial leadership training in higher education is evident, and an integrated approach to training evaluation is paramount for optimizing the development of essential competencies. As institutions prioritize fostering a collegial culture, they must invest in ongoing training and assessment to equip academics with the tools necessary to thrive in collaborative environments.

2.2. Leadership Development for Academics

Leadership development programs for academics, while essential, often place disproportionate emphasis on administrative and managerial skills at the expense of relational and interpersonal

competencies. This oversight can critically impede the development of leadership that is effective in collaborative and collegial academic environments. Structured leadership programs can significantly enhance various competencies among academics, such as self-awareness, interpersonal communication, decision-making skills, and overall confidence in leadership roles (Zulkifly, 2023). This forms a foundation for more effective collegiality and teamwork in academic settings.

However, despite the demonstrated importance of relational skills, many universities offer leadership development that is informal or experience-based, failing to provide a systematic trajectory for cultivating collegial behaviors (Wennerberg & McGrath, 2022). As Wennerberg and McGrath highlight, structured faculty development interactions can yield substantial personal learning; yet such reflection often remains elusive in traditional teacher training formats (Wennerberg & McGrath, 2022). This gap suggests a critical need for leadership training programs specifically tailored to the academic context, emphasizing skills pertinent to collaboration, professional dialogue, and collegiality.

Effective leadership in academic institutions is intimately connected to how faculty interact with one another. The collegial approach fosters an environment where communication and cooperative problem-solving are prioritized, ultimately enhancing institutional effectiveness (Esterhazy et al., 2021). Research has indicated that successful collaboration can lead to significant organizational improvements, which is evident in the positive impact shown through structured leadership training (Abbas et al., 2024). For example, Abbas et al. (2024) emphasize the transformative effects of in-service training, which fosters not only individual leader effectiveness but also contributes to a more collaborative school climate and stronger collective morale among staff.

A structured approach to leadership training can also address the disparities in readiness for leadership roles among academics. Recent systematic evidence further reinforces this perspective by identifying a set of core leadership competencies essential in higher education contexts, including communication skills, interpersonal abilities, critical thinking and decision-making, emotional intelligence, and digital or ICT-related competencies. These competencies are consistently associated with effective leadership development and reflect the multidimensional nature of academic leadership in contemporary university environments (Saidi & Abd Aziz, 2025). Many faculty members enter their positions with varying levels of experience and preparedness for leadership tasks, which can lead to inconsistent behavior in collaborative settings (Winebrake et al., 2024). By implementing comprehensive training programs that encompass integral relational competencies, institutions can not only improve individual leadership effectiveness but also enhance the overall academic atmosphere.

While administrative competencies are crucial, prioritizing relational and interpersonal skills in leadership development is equally important for fostering effective collegial environments in universities. Structured and contextually relevant training programs are essential to equip academics with the necessary tools for collaboration, enhancing their capabilities for professional dialogue and collegial behavior.

2.3. Training Evaluation and Pre-Post Assessment

Training evaluation is a critical component in determining whether educational interventions successfully achieve their intended outcomes. One of the most recognized frameworks for training evaluation is Kirkpatrick's Training Evaluation Model (1994), which emphasizes four levels: reaction, learning, behavior, and results. This model serves as a foundational guide for assessing the effectiveness of various training programs, especially those focusing on leadership and soft skills, where the core outcomes often hinge upon perceptions and behavioral intentions.

The alignment of evaluation practices with the Kirkpatrick model is evident in various studies, particularly those focusing on academic and leadership training for professionals. For instance,

Douphrate et al. (2024) employed the Kirkpatrick model to demonstrate how Level 3 evaluates trainee behavior change by measuring the application of new skills on the job. This level is crucial as it highlights not only whether the training was effective in a theoretical sense but also its practical implications in participants' work environments. Additionally, Cook et al. (2024) utilized a similar four-level approach to assess the leadership development of medical residents, illustrating the universality of this model across educational domains.

Pre-post assessment designs are widely utilized within this framework to objectively measure improvements in competencies. These designs are particularly well-suited for leadership training, as they allow educators to capture data on participants' perceptions before and after the training interventions, quantifying learning gains effectively (Hamid et al., 2021). Such assessments reveal how well participants absorb the training content and subsequently transfer new knowledge and skills into their daily professional practices. However, some studies highlight that many evaluations do not adequately measure Level 3 (Behavior), indicating a gap in assessment practices (Schaller et al., 2023).

Moreover, the importance of evaluating higher levels of the Kirkpatrick model, specifically Level 3 (Behavior), cannot be overstated. Historical challenges such as time constraints and perceived complexities often inhibit the thorough evaluation of these levels in training programs (Douphrate et al., 2024). Yet, successful outcomes at this level lend credibility to the training initiatives, demonstrating tangible benefits not only for participants but also for the organizations they serve. For example, research by Farhadi et al. (2023) effectively traced competency development in neonatal resuscitation training over time, showcasing the importance of sustained behavioral change as a critical measure of training success.

Utilizing Kirkpatrick's Training Evaluation Model for assessing leadership development programs facilitates a comprehensive understanding of training effectiveness. By focusing not only on reactions and learning but also on behavioral changes and organizational results, institutions can ensure their training initiatives truly prepare academics for the challenges of collaborative leadership, ultimately fostering a more collegial and effective academic environment.

2.4. Training Transfer in Academic Contexts

Training transfer, defined as the application of newly acquired knowledge and behaviors in the workplace, is a critical factor in evaluating the effectiveness of educational interventions, particularly in higher education. Transfer is inherently complex in academic settings due to the influence of autonomy, organizational culture, workloads, and peer dynamics. Research has established that factors such as trainee motivation, work-environment support, and perceived training relevance significantly affect the transfer process, aligning with Baldwin and Ford's framework Baldwin & Ford (1988). Understanding whether academics can effectively apply collegial leadership competencies after training is vital for assessing the long-term value of such interventions.

Studies have emphasized the impact of various contextual factors on training transfer. Cowman & McCarthy (2016) noted that while training transfer is crucial for organizational effectiveness, there remains a limited understanding of how demographic and situational factors influence this transfer. Their findings suggest that these factors can create variability in transfer efficacy, potentially affecting academic initiatives. Consequently, universities must consider how these variables interact within their unique organizational climates.

Motivation to transfer learning back to the job is primarily contingent on trainees' expectations regarding the utility of training. In addition, engagement in structured experiential activities has been shown to enhance participants' readiness to apply learned competencies. Empirical evidence suggests that participation in organized programmes such as volunteering or practice-based initiatives contributes to increased readiness, perceived relevance, and active involvement, all of which are critical precursors to effective training transfer. This highlights the importance of integrating experiential

elements within training design to strengthen the likelihood of behavioural application (Saidi et al., 2025). Kontoghiorghes (2008) proposed a systemic model that suggests employees are more driven to learn and apply new skills if they perceive that their training will positively impact their job performance. This aligns with findings from Yaghi and Bates (2020), which demonstrated a positive correlation between peer support and training transfer in higher education institutions. The connection between robust support systems and the successful application of training underscores the necessity for higher education institutions to foster an environment conducive to transfer.

Furthermore, Cromwell & Kolb (2004) assert that organizational factors, such as promotional opportunities and supportive leadership, play significant roles in facilitating or hindering transfer. Their assertion emphasizes that beyond immediate training programs, institutional support mechanisms are crucial for ensuring that learning is translated into practice. Similarly, Saks & Burke (2012) concluded that transfer of training involves not only the initial learning period but also the maintenance and generalization of these new skills over time.

The interplay between workload and training transfer has also garnered attention. Hughes et al. (2016) highlighted that excessive workload can pose challenges to the application of new skills, suggesting that organizations need to actively manage workload and provide opportunities for application to enhance transfer. However, their meta-analysis suggests that the acuity of a unit's patients may not significantly impact healthcare team training effectiveness, indicating that workload impacts might vary based on context. Grossman & Salas (2011) further delineated the variables related to trainee characteristics, training design, and work environment as predictors of training transfer success.

Hence, effective training transfer in higher education is influenced by a confluence of factors, including the organizational culture, supervisor and peer support, and the perceived relevance of training content. To enhance the application of collegial leadership competencies post-training, institutions must acknowledge these complexities and invest in supportive environments that facilitate ongoing learning and application of skills in real-world contexts. In the present study, training transfer is operationalised as training transfer readiness, reflecting participants' perceived ability to apply learned behaviours immediately following the training, rather than confirmed workplace enactment over time.

2.5. The Underpinning Theory

This study adopts a practical evaluation approach based on Kirkpatrick's model, focusing on changes in collegial leadership competencies and transfer behaviors. The Kirkpatrick model remains a robust framework for assessing training effectiveness, particularly in educational contexts, as it evaluates levels of reaction, learning, behavior, and results (Sim & Radloff, 2008; Alghanaim et al., 2025). This model enables the examination of how training interventions influence learning outcomes and facilitate behavior transfer, which is crucial for determining the long-term value of academic leadership development initiatives. In this context, incorporating demographic and contextual factors as controls enhances the validity of the interpretation of results. Prior research highlights the significance of contextual variables in influencing the transfer of training, affirming that customization to specific situational factors can lead to more meaningful assessments of training efficacy (Zulkifly, 2023).

The conceptual model in this study positions the training intervention as a catalyst for learning, suggesting that effective training can lead to increased self-efficacy and greater application of leadership skills in real-world settings. Studies show that training perceived as relevant within the specific organizational context tends to increase the likelihood of successful transfer behaviors (Alghanaim et al., 2025).

Furthermore, empirical evidence describes how structured training environments, when effectively designed, can positively impact learners' ability to apply new competencies, reaffirming the importance of transferring learned skills back to their work environments. Training that emphasizes practical, collegial interactions fosters a supportive learning climate that enhances participant engagement and

motivation to transfer skills learned in professional settings (Sim & Radloff, 2008; Maulidya et al., 2024; Alghanaim et al., 2025).

By leveraging Kirkpatrick’s model with a focus on contextual and demographic variables, this study aims to provide a comprehensive evaluation of the effectiveness of collegial leadership training programs in higher education. Assessing both learning outcomes and behavior changes will shed light on the efficacy of these programs in fostering lasting improvements in leadership competencies among academics.

2.6. Research Framework

The research framework of the study is presented in Figure 1.

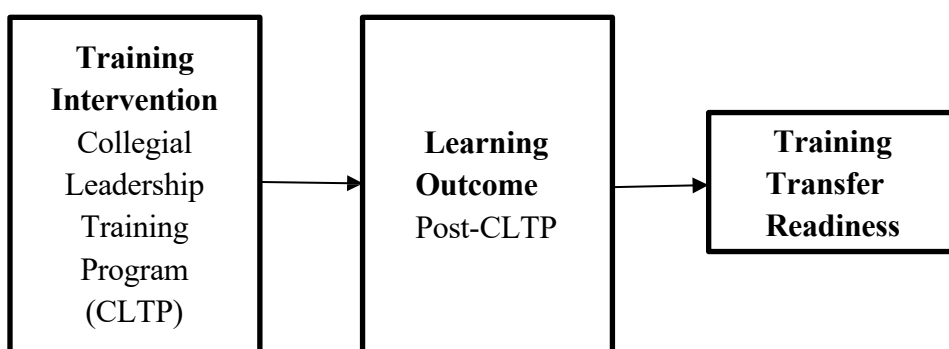


Figure 1. Research framework

2.7. Hypothesis of the Study

Based on the preceding discussion, the following hypotheses are proposed:

H₁: There is a significant difference between pre- and post-training collegial leadership readiness.

H₂: Post-training collegial leadership significantly influences training transfer readiness.

2.8. Research Gap and Study Contribution

Despite the growing body of research on collegial leadership and training transfer in higher education, several empirical gaps remain. First, much of the existing literature examines leadership development outcomes at the level of self-reported learning or satisfaction, with comparatively limited attention to behavioural evidence aligned with Kirkpatrick’s Level 3 (Behaviour/Transfer), particularly within academic settings (Wißhak et al., 2025; Sharif et al., 2022). Second, while Baldwin and Ford’s transfer framework has been widely cited, empirical studies that explicitly link post-training learning outcomes to subsequent transfer behaviours among university academics remain scarce (Chauhan et al., 2024). This is especially evident in non-Western higher education contexts, where institutional structures, collegial norms, and leadership practices may differ substantially (Nengyanti et al., 2024).

Moreover, prior studies tend to conceptualise training transfer as an outcome assessed solely after training completion, overlooking the role of behavioural practice during training itself (Lerános-Iglesias et al., 2023). There is limited empirical attention to “in-training transfer,” where participants actively enact collegial leadership behaviours through case-based or simulated academic scenarios that closely resemble their professional contexts. As a result, how behavioural practice during training relates to subsequent workplace transfer remains underexplored (Ng et al., 2024).

Addressing these gaps, the present study contributes empirical evidence from a Malaysian public university by integrating pre-post assessments of collegial leadership competencies with post-training transfer measures aligned to Kirkpatrick's Level 3 evaluation. By examining both learning gains and their relationship to training transfer, and by recognising behavioural practice embedded within the training process, this study extends existing leadership and training transfer research within higher education and provides contextually grounded evidence of how collegial leadership can be developed and enacted in academic work environments.

3. Methodology

3.1. Research Design

This study employed a quasi-experimental pre-post one-group design to evaluate the effectiveness of the Collegial Leadership Training Programme (CLTP). This design is particularly appropriate for assessing learning improvements and behavioral transfer following a structured intervention, aligning well with Kirkpatrick's Level 3 (Behavior/Transfer). The central objective of this evaluation was to determine whether participants of one experimental cohort experienced improvements in their competencies over time and whether they applied their training in their respective workplaces.

Kirkpatrick's model serves as a guiding framework in this evaluation process whereby Level 3 examines the degree to which this learning translates into behavioral changes in the workplace. The quasi-experimental design, specifically the pre-post assessment, allows for a clear measurement of the competencies before and after the intervention, thereby providing insights into the effectiveness of the training program.

Utilizing a one-group pre-and post-test quasi-experimental design facilitates the measurement of changes in specific leadership competencies that the training aimed to enhance. Previous studies have demonstrated the utility of this design in educational settings, especially in evaluating similar leadership training programs. The absence of a comparison group does present limitations; however, the focus on individual progress allows for a robust evaluation of how well the training meets its objectives in fostering collegial leadership skills.

Additionally, controlling for demographic factors (gender, age, qualification, administrative position, and duration of service), is crucial for ensuring a comprehensive understanding of the results. By accounting for these variables, the evaluation aims to mitigate confounding effects that may influence learning outcomes and behavioral transfer. This approach not only strengthens the validity of the findings but also enhances our understanding of the broader context in which the training occurs, which is essential for translating training into practical applications in academic settings.

In summary, this study's design and evaluation framework reflect a commitment to understanding the effectiveness of the collegial leadership training program (CLTP) in improving collegial leadership competencies. By employing Kirkpatrick's model, the research aims to demonstrate participants' readiness to transfer learned behaviours into real-world applications, thus contributing meaningful insights into leadership development in higher education.

3.2. Methodological Limitations and Inferential Boundaries

This study adopts a one-group pre-post quasi-experimental design to evaluate the CLTP within an authentic academic setting. While this design is appropriate for applied training evaluation (Creswell & Creswell, 2017), it is subject to several recognised threats to internal validity that necessarily constrain causal interpretation. First, history effects may have influenced participants' post-training responses. Events occurring concurrently with or shortly after the training, such as departmental discussions, institutional initiatives, or leadership related experiences, may have contributed to observed changes independently of the intervention.

Second, testing effects may have arisen from repeated exposure to the collegial leadership instrument, whereby participants' increased familiarity with the items heightened awareness of collegial behaviours rather than reflecting actual behavioural change. Third, maturation effects cannot be ruled out, as participants may have naturally developed greater leadership awareness or confidence over time irrespective of the training. Fourth, the possibility of a Hawthorne effect exists, whereby participants modified their responses or behaviours simply due to their awareness of being involved in a training programme and subsequent evaluation (Creswell & Creswell, 2017).

In light of these threats, the findings are interpreted cautiously and are not presented as definitive causal evidence of training effectiveness. Rather, the results are framed as indicative of training associated change within participants over time. By explicitly acknowledging these inferential boundaries, the study situates its findings appropriately within the training evaluation literature, providing contextually grounded evidence of behavioural development while avoiding overstatement of causal claims.

3.3. Participants

The study involved a group of 30 academics from a Malaysian public university who voluntarily participated in the CLTP. Pre- and post-training assessments were utilized to evaluate improvements in collegial leadership competencies, and various demographic factors were collected to analyze their potential influence on training outcomes. The demographic information gathered from participants included gender, age, qualification, administrative position, and duration of service.

Such demographic considerations are essential in training evaluations, as they can help interpret the results in the context of different academic backgrounds and experiences. For example, demographic factors like age and gender may influence the readiness to adopt new leadership practices or motivation levels to engage actively in training (Cadena-Povea et al., 2025).

Participation in this training program was entirely voluntary, and all participants provided informed consent, which underscores the ethical integrity of the research process. The selection of a voluntary sample may contribute to a higher level of engagement and motivation among participants, potentially resulting in more pronounced training effects (Ladyshewsky & Flavell (2011).

Further, applying Kirkpatrick's model in this context, specifically focusing on Level 3 (Behavior/Transfer), is crucial to ascertain not only whether the participants learned new competencies but also whether they effectively applied these skills within their professional environments after training. Previous research supports the assertion that demographic factors, such as academic rank and years of service, may also moderate the transfer of training, highlighting the importance of controlled analysis to draw meaningful conclusions (Zulkifly et al., 2021).

Ultimately, this research aims to contribute to the understanding of how structured leadership development initiatives can affect academic professionals in Malaysian public universities, paving the way for enhanced collegiality and collaboration in academic settings.

3.4. Training Intervention

The Collegial Leadership Training Programme (CLTP) comprises a structured session aimed at enhancing participants' collegial leadership competencies, focusing on key areas such as communication, collaborative problem-solving, reflective dialogue, and conflict management. The training program is designed with careful documentation of content, duration, facilitators, and learning activities to ensure consistency and facilitate effective evaluation.

The emphasis on communication and collaborative problem-solving through case study aligns with findings from Ayeleke et al. (2019), which noted that delivering training in a context relevant to participants' everyday work conditions significantly enhances the application of learned skills. The presence of situational cues and consequences within training settings increases the likelihood that participants will transfer skills back to their workplace. This principle is particularly vital in higher education, where fostering positive peer dynamics and effective communication can lead to improved organizational culture and performance.

Additionally, evaluation of training effectiveness is essential. Tan (2024) highlighted the importance of applying evaluation models to assess the impacts of training, considering potential weaknesses within specific cultural contexts. Such evaluation frameworks are critical for understanding how well training is received and its subsequent transfer into practice among academics. Therefore, the CLTP aims not only at knowledge acquisition but also at the sustainable application of these competencies in collaborative academic environments.

Although Kirkpatrick's Level 3 evaluation traditionally examines behavioral change in the workplace after training, contemporary training evaluation literature recognizes that behavioral application can also occur during the training when participants engage in realistic practice activities. In this program, participants completed structured case-based exercises that required them to apply collegial leadership principles to authentic academic scenarios. Through discussion, role interpretation, collaborative decision-making, and problem-solving, participants demonstrated behavioral practice of the competencies introduced in the training. These activities constitute a form of "in-training transfer," where learners apply skills in simulated environments that closely resemble their actual work settings. This idea is supported by Douphrate et al. (2024), who state that Level 3 measures behavior change by assessing how trainees apply their newly acquired knowledge and skills on the job.

Therefore, the case study discussions provide valid behavioral evidence aligned with Level 3 of Kirkpatrick's model. The significance of in-training transfer is also discussed by Walter et al., who indicate that experiential learning and simulations within training programs effectively enhance teamwork skills, demonstrating the relevance of realistic practice during training (Walter et al., 2024). Additionally, Boet et al. note that learning occurs in simulated environments, affirming that such approaches effectively mirror the conditions of actual work scenarios (Boet et al., 2014).

The structured exercises within the CLTP enable participants to engage proactively with the content, facilitating a deeper understanding and enabling the transfer of skills as advocated by the principles of Kirkpatrick's evaluation framework. This approach resonates with the findings of Miller et al. (2012), who report improvements in teamwork and communication in clinical settings through simulation training. Overall, the emphasis on behavioral practice within training contexts reflects a modern understanding of training evaluation that recognizes the dynamic interplay between learning and behavioral application during training sessions.

Furthermore, interprofessional learning is an increasingly acknowledged necessity in leadership development, as underscored by McGowan et al. (2020). This is particularly important in educational settings due to the collaborative nature of academic work, which necessitates strong communication and teamwork skills. The training incorporated in the CLTP nurtures these essential interpersonal skills while ensuring flexibility to adapt to evolving educational needs.

In conclusion, the strategic design and implementation of the CLTP prioritize enhancing collegial leadership competencies while also recognizing the significance of contextual relevance and structured evaluation. By fostering an environment conducive to peer support and effective communication, the training program aims to achieve meaningful and sustainable improvements in academic leadership effectiveness.

3.5. Instruments

(a) Collegial Leadership (Pre-Post)

Collegial leadership was measured using a five-point Likert scale instrument developed by Seigel and Miner-Rubino (2009), namely the Collegiality Climate Scale (CCS). The sample item for this instrument is “I am willing to help each other.” The Collegiality Climate Scale (CCS) was originally developed within a Western higher education context, specifically in a United States law school setting. Although developed in a different context, the CCS captures general collegial behaviours such as collaboration, communication, and mutual support, which are applicable across academic environments. For this study, items were reviewed for contextual relevance, and minor wording adjustments were made to ensure suitability for the Malaysian university setting.

(b) Training Transfer Readiness

Training transfer was measured using a five-point Likert scale instrument developed by Facticeau et al. (1995). A sample item of this instrument is “I am able to transfer the skills learned from training courses back to my actual job.” In this study, training transfer is operationalised as participants’ perceived readiness to apply learned collegial leadership behaviours immediately following the training, rather than confirmed workplace enactment over time. Minor wording adaptations were made to ensure contextual relevance to the Malaysian university setting, including replacing references to “state government” with “university.”

(c) Covariates

This study controls for demographic factors which include gender, age, qualification, administrative position, and duration of service.

3.6. Ethical Consideration

Ethical approval for this study was obtained from the Jawatankuasa Etika Universiti Putra Malaysia (JKEUPM), Universiti Putra Malaysia (Reference No. JKEUPM-2019-356). Participation in the study was voluntary, and informed consent was obtained from all participants prior to data collection. Participant email addresses were collected solely for the purpose of matching pre-training and post-training responses. These identifiers were removed after matching and were not included in the final dataset used for analysis. The data were subsequently de-identified and treated as confidential. All research data were stored securely on password protected devices and were accessible only to the research team. Findings are reported in aggregate form to minimise the risk of participant identification.

3.7. Data Collection Procedure

The data collection for this study was executed in three distinct phases, allowing for a comprehensive evaluation of the Collegial Leadership Training Programme (CLTP). The phases included:

- 1. Pre-training Assessment of Collegial Leadership:** This initial phase involved gathering baseline data on participants' collegial leadership competencies. An online questionnaire, administered via a QR code, provided a clear starting point regarding participants' skills and self-perceptions before the training intervention.
- 2. Training Delivery (CLTP):** Following the pre-training assessment, the CLTP was delivered with structured content designed to enhance critical collegial leadership competencies,

including communication, collaborative problem-solving, reflective dialogue, and conflict management. This structured approach facilitates deep engagement with relevant material, aligning with findings from Arabi and Garza (2022), which emphasized that well-designed training contributes to effective transfer of training to the workplace.

3. **Post-training Assessment and Training Transfer Readiness Questionnaire:** The final phase involved reassessing participants' competencies and gathering data on the training transfer readiness in relation to their professional environments through an online questionnaire. This post-training assessment allows for direct measurement of learning gains, while the training transfer readiness questionnaire evaluates participants' application of new skills in practice. This acknowledges the importance of contextual factors in fostering effective transfer, as identified by Martin (2010). Both the post-training assessment and the training transfer readiness questionnaire were administered immediately after completion of the training programme to capture initial behavioural enactment and readiness for transfer consistent with Level 3 (Behaviour) evaluation, with case-based activities used during the training to provide participants with opportunities to practise and demonstrate collegial leadership behaviours in realistic academic scenarios.

All questionnaires were administered online via a QR code, ensuring an efficient and accessible process for participants. The online format aligns with modern training evaluation environments, facilitating quick feedback and data collection processes. In conclusion, the structured evaluation design, based on pre- and post-assessments combined with a training transfer readiness questionnaire, provides insight into how effectively the CLTP influences participants' leadership competencies and their ability to transfer these skills into their academic work. This approach aids in understanding the immediate impacts of training and provides essential data on the long-term effectiveness of leadership development initiatives in higher education.

3.8. Data Analysis

The data analysis for this study was conducted using SPSS, providing a robust statistical foundation for evaluating the effectiveness of the Collegial Leadership Training Programme (CLTP). The analysis included several key components:

- **Reliability Assessment:** Cronbach's alpha values were computed to assess the internal consistency of the measurement scales used in the questionnaires. This step is crucial for ensuring the reliability of the data being analyzed, reflecting the extent to which the items within each scale yield consistent results across respondents. Prior research highlights the importance of establishing reliability in training assessments, as it directly relates to the legitimacy of the findings (Fernandez et al., 2016; Lacerenza et al., 2017).
- **Repeated measures ANCOVA:** The primary statistical method employed was ANCOVA, where the post-training collegial leadership competencies served as the dependent variable (DV). The demographic factors were treated as controls. Utilizing ANCOVA is a well-supported method in training research, enabling researchers to account for pre-existing variations and to ascertain the training's actual effect on the changes in competencies post-intervention (Ng, 2014).
- **Training Transfer Readiness Evaluation:** Descriptive statistics, including means, standard deviations, and distributions, were computed to assess the training transfer readiness reported by participants. This analysis serves to quantify the degree to which participants felt they could apply the skills learned during the training in their workplace settings. Understanding the

nature of training transfer is essential, as it can reveal whether the training ultimately contributes to effective changes in academic leadership behaviors, aligning with findings from studies on training transfer in similar contexts (Ng, 2014; Zulkifly et al., 2021).

- **Hierarchical Regression Analysis:** A hierarchical regression analysis was conducted to explore the influence of post-training collegial leadership on training transfer readiness. This method provides insight into how post-training collegial leadership relates to training transfer readiness. Such analyses can illuminate the connections between training outcomes and real-world applications, supporting the broader understanding of training effectiveness (Sparr et al., 2016).

An a priori power calculation was not conducted because the study evaluated one intact training cohort within an operational university setting. To support the adequacy of the sample for the primary analyses, post hoc consideration of the observed effect sizes was undertaken. The repeated measures analysis demonstrated a large training related effect, and the regression model predicting training transfer readiness explained a substantial proportion of variance. These results indicate that the study was sufficiently sensitive to detect moderate to large effects. However, the sample size may have limited sensitivity to detect small effects or subgroup differences, and nonsignificant findings should therefore be interpreted cautiously. Quasi experimental studies require a minimum of 15 participants in each group (Creswell & Creswell, 2017) for the purpose of statistical procedures, Tabachnick and Fidell (2007) suggested that each cohort consists of a minimum of 20 participants to ensure robustness in the results of the paired sample t-test and analysis of covariance (ANCOVA).

Assumptions for the repeated measures ANCOVA were assessed. Residual diagnostics indicated approximate normality. Homogeneity of regression slopes was supported by nonsignificant Time by covariate interactions. As the within participant factor comprised two levels, sphericity was not applicable. Regression diagnostics indicated no violations of key assumptions. Standardized residuals were within acceptable ranges, and inspection of Cook’s distance, leverage values, and Mahalanobis distance did not identify influential cases or multivariate outliers.

In summary, the data analysis process employed a comprehensive approach, utilizing reliability testing, ANCOVA, descriptive statistics, and optional regression analysis to assess the effects of the CLTP on collegial leadership competencies and training transfer readiness among the participants. This multi-faceted analytical strategy ensures that the study's conclusions are grounded in robust statistical evidence.

4. Findings and Discussion

4.1. Reliability Analysis

Table 1 presents the reliability coefficients for all measurement scales. The collegial leadership scale demonstrated high internal consistency at both pre-training ($\alpha = .903$) and post-training ($\alpha = .898$). The training transfer readiness scale also showed satisfactory reliability ($\alpha = .925$).

Table 1. Reliability Coefficients for Study Variables

Variable	Number of Items	Cronbach’s α
Collegial Leadership Training Program (Pre)	11	.903
Collegial Leadership Training Program (Post)	11	.898
Training Transfer Readiness	9	.925

4.2. Descriptive Statistics

Table 2 shows the descriptive statistics for the pre- and post-training collegial leadership scores. Mean post-training scores were higher than pre-training scores, indicating improvements following the intervention.

Table 2. Descriptive Statistics for Collegial Leadership (Pre & Post)

Variable	Mean	SD	Min	Max
Pre-training CL	4.245	.494	2.80	5
Post-training CL	4.542	.399	3.64	5
Training Transfer Readiness	4.196	.509	3.11	5

4.3. Repeated Measures ANCOVA for Training Effectiveness

A repeated measures ANCOVA was conducted to examine whether the training had a significant effect on post-training collegial leadership after controlling for demographic factors (gender, age, qualification, administrative position, and duration of service). The results are discussed below.

4.3.1. Pairwise Comparison

Pairwise comparisons using Bonferroni adjustment showed a significant increase in collegial leadership scores from pre-test to post-test: Mean difference = -0.297 ; SE = 0.079 ; $p < .001$. This confirms that the training yielded statistically significant improvement. Table 3 shows pairwise comparison results.

Table 3. Pairwise Comparisons Between Pre-test and Post-test Scores

(I) Time	(J) Time	Mean Difference (I-J)	Std. Error	Sig.	95% CI Lower	95% CI Upper
1 (Pre)	2 (Post)	-.297*	.079	<.001	-.459	-.135
2 (Post)	1 (Pre)	.297*	.079	<.001	.135	.459

* Significant at .05 level

4.3.2. Multivariate Test

The multivariate repeated-measures tests indicate a statistically significant difference across time, confirming that the training improved collegial leadership learning even after adjusting for all covariates (Pillai's Trace = $.373$; $F(1,24) = 14.307$; $p < .001$; Partial $\eta^2 = .373$ - large effect). This large effect size indicates that the training intervention was highly impactful.

Table 4. Multivariate Tests for the Effect of Time

Test	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Pillai's Trace	.373	14.307	1	24	<.001	.373
Wilks' Lambda	.627	14.307	1	24	<.001	.373
Hotelling's Trace	.596	14.307	1	24	<.001	.373
Roy's Largest Root	.596	14.307	1	24	<.001	.373

4.3.3. Tests of Within-Subjects Effects (Interactions with Covariates)

Interaction terms (Time × Covariates) test whether improvement over time differed across demographic groups. According to the results, none of the interactions are significant, all p-values > .157 and partial η^2 values are very small (< .081). This means the training improvement was consistent across gender, age, qualification, administrative position, and duration of service.

Table 5. Tests of Within-Subjects Effects

Source (Interaction)	F	df	Sig.	Partial η^2
Time × Gender	1.534	1	.227	.060
Time × Age	.298	1	.590	.012
Time × Qualification	.006	1	.938	.000
Time × AdminPos	.605	1	.444	.025
Time × Duration of Service	2.129	1	.157	.081

4.3.4. Tests of Between-Subjects Effects (Main Effects of Covariates)

Between-subject’s tests show whether demographic covariates influenced overall levels of learning. Based on the results, none of the covariates significantly predicted learning, all p-values are > .282, and All effect sizes are extremely small ($\eta^2 < .048$). Therefore, the training was equally effective across demographics. However, these non-significant findings (Table 5 and Table 6) should be interpreted with caution, as the relatively small sample size may limit the statistical power to detect subgroup differences, and therefore do not necessarily indicate equivalence across groups.

Table 6. Tests of Between-Subjects Effects

Covariate	F	df	Sig.	Partial η^2
Gender	1.212	1	.282	.048
Age	.422	1	.522	.017
Qualification	.495	1	.488	.020
Administrative Position	.801	1	.380	.032
Duration of Service	1.184	1	.287	.047

4.4. Hierarchical Regression Predicting Training Transfer Readiness

A hierarchical regression analysis was conducted to examine whether post-training collegial leadership predicted training transfer readiness beyond baseline levels. Baseline collegial leadership was entered in the first step and accounted for 16.1% of the variance in training transfer readiness, $R^2 = .161$, $p = .028$. In the second step, post-training collegial leadership was added to the model, resulting in a significant increase in explained variance, $\Delta R^2 = .179$, $p = .012$. In the final model, post-training collegial leadership emerged as a significant predictor of training transfer readiness ($\beta = .523$, $p = .012$, 95% CI [.161, 1.171]), whereas baseline collegial leadership was no longer significant. Collinearity diagnostics indicated no multicollinearity concerns. These findings provide Level 3 evidence of training effectiveness, consistent with Baldwin and Ford’s transfer process model, demonstrating that learning outcomes directly influence workplace application.

Table 7. Hierarchical Regression Predicting Training Transfer Readiness

Predictor	B	SE B	95% CI for B	β	t	p	VIF
Constant	0.762	0.928	-1.141, 2.666		0.822	.418	
Pre-CLTP	0.097	0.199	-0.312, 0.505	.094	0.485	.631	1.527
Post-CLTP	0.666	0.246	0.161, 1.171	.523	2.704	.012	1.527

Model statistics:

- Model 1: $R^2 = .161$, $F(1, 28) = 5.361$, $p = .028$
- Model 2: $R^2 = .340$, $F(2, 27) = 6.951$, $p = .004$
- $\Delta R^2 = .179$, $\Delta F(1, 27) = 7.310$, $p = .012$

Note. Dependent variable = Training transfer readiness. Standardized coefficients (β) are reported. Confidence intervals are based on 95% limits. No multicollinearity issues were detected ($VIF < 2$).

4.5. Discussion

While these findings indicate positive changes following the training, they should be interpreted within the boundaries of the study design. The one group pre-post evaluation captures within participant change over time but does not permit strong causal attribution at the institutional level. Accordingly, the observed improvements are interpreted as training associated gains among the participating cohort rather than definitive evidence of organisational wide impact. The repeated measures ANCOVA results indicated a significant increase in post-training collegial leadership scores after controlling for demographic factors. This suggests that the training successfully enhanced participants' knowledge, awareness, and behavioral readiness related to collegial leadership, aligning with studies indicating that targeted leadership development programs can strengthen interpersonal and collaborative competencies among academics. The empirical evidence supports the notion that such programs play a pivotal role in equipping academics with the necessary skills to navigate complex interpersonal dynamics and promote collaboration effectively.

An additional contribution of this study lies in its attention to in-training behavioural enactment through case-based activities. Rather than conceptualising transfer solely as a post-training outcome, as traditionally emphasised in training transfer frameworks (Baldwin & Ford, 1988), the findings suggest that elements of transfer may begin to emerge within the training context itself, as participants engage in simulated collegial scenarios. This extends traditional perspectives by highlighting the role of structured learning environments in facilitating early-stage behavioural application. This perspective complements existing transfer models by suggesting that behavioural application can be initiated prior to workplace implementation. This is further supported by studies demonstrating that experiential engagement through structured programmes enhances participants' readiness and capacity to apply learned skills. Such findings reinforce the argument that behavioural enactment can begin within the training environment itself, particularly when participants are actively involved in practice-oriented and contextually relevant activities. The successful enhancement of these competencies is consistent with findings from previous research indicating that leadership training, particularly when focused on practical application, can lead to significant improvements in communication, teamwork, and overall academic productivity (Hayes & Ingram, 2019). Specifically, the effective engagement with case-based practices allows for a deeper understanding and application of leadership principles in real-world academic settings, reinforcing the idea that experiential learning is essential for internalizing the behaviors required for successful collegial leadership.

The descriptive analysis of training transfer readiness further revealed that participants reported moderate-to-high levels of readiness to apply the learned collegial leadership skills in their academic roles. This indicates that the training supported participants' perceived ability to enact collegial behaviours such as improved communication, collaborative decision-making, and constructive conflict management. This is consistent with early-stage behavioural outcomes associated with Kirkpatrick's Level 3 (Behaviour), which emphasizes real-world application of learned skills. This interpretation is further supported by the regression analysis, which showed that post-training collegial leadership uniquely predicted training transfer readiness even after controlling for baseline levels, suggesting that training transfer readiness was more strongly associated with training related gains than with pre-existing collegial dispositions.

Several alternative explanations should also be considered when interpreting these outcomes. Improvements in post-training scores may partially reflect testing effects, whereby repeated exposure to the measurement instrument increased participants' awareness of collegial leadership behaviours. A Hawthorne effect may also be present, as participants' engagement in a structured leadership programme and evaluation process could temporarily heighten motivation or responsiveness. In addition, the immediate post-training measurement may capture short term novelty effects rather than sustained behavioural change. These factors do not negate the observed improvements but suggest that the findings reflect early-stage behavioural enactment rather than enduring transformation.

The extent to which collegial leadership behaviours are sustained beyond the training context is likely influenced by organisational readiness and practical constraints within academic environments. Factors such as academic workload, time pressures, departmental culture, and the level of leadership support may shape opportunities for applying collegial practices in daily work. Without supportive structures, participants may find it challenging to consistently enact collaborative decision making and reflective dialogue, despite positive learning outcomes. This suggests that training alone may be insufficient unless accompanied by enabling organisational conditions.

A closer examination of item-level patterns indicates variation in the magnitude of change across different aspects of collegial leadership. Items with relatively high pre-training scores showed smaller gains, suggesting potential ceiling effects where participants had already demonstrated these behaviours prior to the intervention. In contrast, items with lower baseline scores exhibited larger improvements, indicating that the training may have been particularly effective in strengthening less developed competencies such as structured dialogue, collaborative problem-solving, and reflective practices.

5. Conclusion

In examining the impact of a collegial leadership training program on participants' competencies and perceived transfer readiness within academic workplaces, it is crucial to analyze the underlying mechanisms whereby structured training influences relational leadership practices. This study employs a pre-post evaluation design based on Kirkpatrick's model, offering evidence on the effectiveness of such training initiatives in enhancing collegial leadership competencies.

The evaluation tactics used in leadership training frameworks can enhance collegiality by creating an environment where relational competencies are emphasized and practiced. The concept of collegiality and collaboration emerges as a dynamic component in academic settings and is essential in fostering an environment conducive to shared leadership, where structured training programs can play a role in shaping the relational dynamics necessary for academic practice.

This study further shows that academic leadership training is associated with participants' readiness to apply relational skills, suggesting that a structured educational framework can support collaborative practices among higher education staff. This relationship between training and leadership practices highlights the importance of institutional support for such programs in facilitating competence development in academic settings. Future longitudinal research is needed to examine whether these competencies are sustained over time.

In a nutshell, the Collegial Leadership Training Program (CLTP) enhances participants' leadership capabilities and supports the development of relational competencies essential in academic settings. Through structured evaluations grounded in established frameworks such as Kirkpatrick's model, perceived transfer readiness can be assessed within the immediate post-training context, reinforcing the significance of relational leadership practices in academia.

6. Implications and Recommendations

6.1. Theoretical Implications

This study provides empirical support for the relevance of collegial leadership as a competency in Malaysian public universities, particularly in enhancing academic collaboration and communication. By establishing collegial leadership as an essential competency, this study contributes to a growing body of literature emphasizing the need for relational skills in educational environments where teamwork and shared decision-making are paramount.

The findings also contribute to the training evaluation literature by demonstrating that behavioral indicators can be captured during training through case-based practice, not only through post-training assessments. Traditional evaluations often emphasize post-training performance, but the ability to measure behavioral changes during training contexts provides new insights into effective teaching methodologies. This approach aligns with findings that support the use of authentic, context-specific case studies to enhance the internalization of leadership behaviors. The study's results underscore the importance of situational engagement in learning, thereby reinforcing models of situated learning and experiential leadership development, which advocate for transformative learning experiences in real or simulated contexts.

6.2. Practical Implications

From a practical perspective, the findings suggest that structured collegial leadership training can support academics' readiness to practise collaborative behaviours, but such training should not be assumed to automatically translate into sustained workplace change. Human Resource and training units may play a facilitative role by aligning leadership development initiatives with organisational conditions, such as workload allocation, peer support mechanisms, and leadership endorsement. However, institutions should avoid assuming that short duration training alone can resolve deeper structural or cultural challenges affecting collegial practice.

Furthermore, Human Resources and Training Units in Malaysian public universities can use pre-post testing as a straightforward method to track competency growth among academics. This method allows institutions to quantitatively assess the effectiveness of their leadership development initiatives, ensuring that training investments yield tangible benefits. The CLTP demonstrates potential for scaling up as a cost-effective, short-duration intervention that can improve relational dynamics in academic departments (Ladyshevsky & Flavell, 2011). By keeping training interventions concise yet impactful, universities can foster continuous professional development without burdening participants' schedules or budgets.

Academic leaders, such as Heads of Department and Programme Coordinators, should integrate collegial behaviors into daily decision-making practices. The evidence from this training shows that these behaviors can be learned and are not solely driven by individual personality traits. Thus, leaders can create a more collaborative and supportive environment that encourages ongoing development in collegial practices.

6.3. Recommendations for Future Research

Looking forward, future studies should incorporate longitudinal follow-up to examine sustained behavioral change in the workplace, as understanding long-term impacts is critical for validating training effectiveness (Asaari et al., 2016). This would provide insights into how training influences academic professionals over time, guiding improvements in program design and delivery.

Utilizing observation or 360-degree feedback could enrich understanding of behavioral transfer beyond self-reported measures (Chiaburu et al., 2010). Such methodologies can provide a more comprehensive picture of how newly acquired skills are integrated into daily practices, establishing a multi-faceted evaluation approach that captures the intricacies of behavior change.

Additionally, conducting comparative analyses between disciplines (e.g., STEM vs. Social Sciences) may reveal variations in the practice of collegial leadership. Different academic fields may emphasize distinct aspects of collaboration and leadership; understanding these differences can inform tailored training programs that resonate with specific departmental cultures.

Finally, future research could examine organizational outcomes such as team climate, productivity, and conflict resolution following the training, providing a more comprehensive view of the training's broader impact on organizational performance (Ladyshevsky & Flavell, 2011). Seeking to understand the effects of training on overall institutional environments can guide strategic decisions that enhance faculty engagement and collaboration.

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Data Availability Statement

The data supporting the findings of this study are not publicly available due to ethical considerations related to participant confidentiality and the small, context specific sample drawn from a single institution. Public deposition of the dataset could increase the risk of participant re identification. Anonymized data and analysis syntax may be made available by the corresponding author upon reasonable request, subject to institutional approval.

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Appendix A

Collegial Leadership Training Programme Curriculum

The Collegial Leadership Training Programme (CLTP) was designed as a structured professional development intervention aimed at enhancing collegial leadership competencies among university academics. The programme was delivered in a single training cycle and comprised four integrated sessions conducted within one training day, with a total contact time of eight hours.

Session 1: Introduction to Collegial Leadership
Duration: 1.5 hours

This session introduced the concept of collegial leadership in higher education, focusing on shared decision making, professional respect, and collaborative academic practice. Participants engaged in guided discussion on common collegial challenges in academic departments and reflected on their own leadership experiences.

Session 2 Communication and Constructive Dialogue
Duration: 2 hours

This session focused on interpersonal communication skills, including active listening, constructive feedback, and respectful disagreement in academic contexts. Case-based scenarios drawn from typical university settings were used to facilitate discussion and peer learning.

Session 3: Collaborative Problem Solving and Conflict Management
Duration: 2.5 hours

Participants worked in small groups to analyse realistic academic leadership cases involving conflict, role ambiguity, and shared responsibility. The session emphasised collaborative decision making, perspective taking, and collegial resolution strategies.

Session 4: Reflective Practice and Application to Academic Roles
Duration: 2 hours

The final session focused on reflective dialogue and application of collegial leadership principles to participants' own academic roles. Participants developed individual action reflections outlining how collegial behaviours could be enacted within their departments following the training.

Across all sessions, active learning strategies were prioritised, including group discussion, case analysis, and guided reflection, to encourage behavioural practice aligned with collegial leadership principles.

Appendix B

Training Delivery and Fidelity Assurance

To ensure consistency and fidelity in programme delivery, the CLTP followed a standardised training outline specifying session objectives, content coverage, time allocation, and learning activities. All sessions were delivered according to the planned schedule, and no deviations from the core curriculum were reported. The programme was facilitated by members of the research team with expertise in academic leadership, human resource development, and training evaluation. Facilitators had prior experience delivering leadership and professional development programmes in higher education settings. Their role was to guide discussion, facilitate case-based activities, and ensure alignment between session activities and intended learning outcomes.

Fidelity was supported procedurally through the use of common training materials, identical case scenarios across groups, and consistent facilitation approaches across sessions. Although formal observer-based fidelity checklists were not employed, adherence to the planned curriculum was maintained through structured session guides and facilitator coordination before and during programme delivery. This approach ensured that all participants were exposed to comparable learning experiences, supporting the internal consistency of the training intervention evaluated in this study.

Attendance records were maintained throughout the Collegial Leadership Training Programme to ensure full exposure to the intervention. All 30 participants attended the complete training programme, with no attrition observed across sessions. As the programme was delivered within a single training cycle, full attendance ensured that all participants received identical content, learning activities, and contact hours. The facilitators comprised senior academic staff with backgrounds in educational leadership, professional development, and training transfer research. All facilitators held doctoral qualifications and had prior experience in designing and delivering leadership development programmes for university academics.

Appendix C

Sample Case-Study

Case Title

Navigating Collegial Decision Making in a Teaching Allocation Dispute

Case Context

Dr A is a senior academic in a public university department and has recently been appointed as a programme coordinator. The department comprises academics with varying levels of seniority, disciplinary backgrounds, and administrative responsibilities. While the department values collegiality and shared decision making, tensions occasionally arise due to workload distribution and competing priorities.

Scenario

At the beginning of the semester, the department faces a shortage of lecturers for a core undergraduate course due to an unexpected staff transfer. As programme coordinator, Dr A proposes reallocating teaching responsibilities to ensure the course can proceed smoothly. The proposed allocation requires two senior academics to take on an additional tutorial group. During the departmental meeting, one senior academic expresses dissatisfaction, arguing that teaching allocations should prioritise research active staff and that the decision was made without sufficient consultation. Another colleague supports Dr A's proposal but remains hesitant to speak openly. The discussion becomes tense, and several members disengage from the conversation. Dr A must decide how to respond in a way that maintains collegial relationships while ensuring that departmental responsibilities are met.

Discussion

Participants were asked to discuss the following questions in small groups:

1. How should Dr A facilitate the discussion to ensure all voices are heard while maintaining a respectful and constructive tone?
2. What collegial leadership behaviours are relevant in managing disagreement in this situation?
3. How can shared decision making be practised without delaying necessary action?
4. What strategies could help rebuild trust and collaboration following the disagreement?
5. How might this situation be handled differently to prevent similar issues in the future?

Learning Focus

This case was designed to encourage participants to practise collegial leadership behaviours, including constructive dialogue, perspective taking, collaborative problem solving, and conflict management within a realistic academic context. The scenario reflects common challenges faced by academic leaders and allows participants to rehearse responses that balance task requirements with relational considerations.

Appendix D Instruments and Item-level Statistics

Collegiality Leadership

		1	2	3	4	5
1.	I honor agreements.	1	2	3	4	5
2.	I “pull my own weight.”	1	2	3	4	5
3.	I am willing to help each other.	1	2	3	4	5
4.	I comment on each other’s work.	1	2	3	4	5
5.	I am encouraging and empowering.	1	2	3	4	5
6.	I create a cooperative and supportive environment.	1	2	3	4	5
7.	I initiate and participate in informal conversations about the organizations (about teaching, research, etc.)	1	2	3	4	5
8.	I share product of my own effort with each other.	1	2	3	4	5
9.	I work to foster harmony.	1	2	3	4	5
10.	I take on special assignments (given to me by head of department, deputy dean or dean).	1	2	3	4	5
11.	I participate in all aspects of organizational life (e.g., attend functions).	1	2	3	4	5

1-Strongly disagree; 2-Disagree; 3-Somewhat agree; 4-Agree; 5-Strongly Agree

Item-Level Descriptive Statistics for Collegial Leadership Scale at Pre- and Post-Training

Item	Pre Mean	Pre SD	Post Mean	Post SD
I honor agreements.	4.50	0.63	4.77	0.43
I pull my own weight.	4.47	0.63	4.73	0.45
I am willing to help each other.	4.70	0.47	4.80	0.41
I comment on each other’s work.	3.60	0.77	4.23	0.68
I am encouraging and empowering.	4.43	0.57	4.60	0.50
I create a cooperative and supportive environment.	4.37	0.67	4.57	0.57
I initiate and participate in informal conversations about the organization (about teaching, research, etc.).	4.07	0.69	4.53	0.63
I share product of my own effort with each other.	4.17	0.79	4.30	0.70
I work to foster harmony.	4.37	0.61	4.60	0.50
I take on special assignments (given to me by head of	4.20	0.85	4.50	0.57

department, deputy dean or dean).					
I participate in all aspects of organizational life (e.g., attend functions).	3.83	0.83	4.33	0.71	

Training Transfer

	1	2	3	4	5
1. Peers have told me that my behavior has improved following a training course.	1	2	3	4	5
2. The productivity of my peers has improved due to the skills that I learned from training courses.	1	2	3	4	5
3. Absenteeism in my group has decreased due to the skills that I developed from training courses.	1	2	3	4	5
4. Turnover intention in my group has decreased due to the skills that I developed from training courses.	1	2	3	4	5
5. Morale of my work group is higher due to the skills that I developed from training courses.	1	2	3	4	5
6. My peers are more committed to the mission of the university due to the skills that I developed from training courses.	1	2	3	4	5
7. I am able to transfer the skills learned from training courses back to my actual job.	1	2	3	4	5
8. I have changed my job behavior in order to be consistent with the material taught in training courses.	1	2	3	4	5
9. My actual job performance has improved due to the skills that I learned from training courses.	1	2	3	4	5

1-Strongly disagree; 2-Disagree; 3-Somewhat agree; 4-Agree; 5-Strongly Agree

Item-Level Descriptive Statistics for Training Transfer Scale (Post-Training)

Item	Mean	SD
Peers have told me that my behavior has improved following a training course.	4.10	0.71
The productivity of my peers has improved due to the skills that I learned in training courses.	4.17	0.59
Absenteeism in my group has decreased due to the skills that I developed in training courses.	3.90	0.61
Turnover intention in my group has decreased due to the skills that I developed in training courses.	3.87	0.68