

# Academic Collegial Leadership Training Transfer: An Integrated Evaluation Approach

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### Abstract

Collegial leadership is essential for good university governance. To nurture collegial leadership among faculty academic leaders, universities invest considerably in leadership training and development. Therefore, it is crucial to evaluate the effects of collegial leadership training programmes. The success of a training programme can be manifested by participants' behavioural change, reflecting their ability to practice the newly acquired knowledge and skills at the workplace. This study is aimed at examining the effects of a collegial leadership training (CLT) programme for faculty academic leaders using a one group pre- and post-test quasi-experimental research design. This paper offers an integrated approach to evaluate training programme through evidence based CLT and training transfer research, controlling for covariates. The participants were thirty academic leaders who were enrolled in a structured CLT programme as an intervention. The results showed significant differences between pre- and post-CLT test scores, thus indicating effective collegial leadership and training transfer.

**Keywords:** Training Transfer, Collegial Leadership, Faculty, Academic Leaders, University Governance

### Introduction

University academic leaders play unique and complex roles as they have to deal with the challenges of balancing administrative control with faculty autonomy while trying to create an open and conducive atmosphere for learning and research (Williams, 2007). Academic leaders include deans, deputy deans, heads of departments and subject coordinators (Branson et al., 2016). They are tasked with both management and supervisory responsibilities (Heng & Marsh, 2009). In the academic arena, it is difficult to say which role is more important. Nevertheless, according to Bieletzki (2018), collegial leadership should come first because universities are knowledge-based institutions and academics have their own areas of expertise and experience.

Countries across Southeast Asia, such as Vietnam, Taiwan, Indonesia, and Thailand have been conducting leadership training and development programmes to nurture collegial leadership of academic leaders and faculty members (Phuong et al., 2015; Phuong et al., 2018). In the United Kingdom and France, there have been concerted efforts at ensuring that collegial

leaders in universities distance the academic arena from the concept of industrialisation and corporate governance (Peters, 2020). In Malaysia, since universities are mostly under a substantial level of government control (universities are under the Ministry of Higher Education), university governance (involving rules, regulations, policies and, to a certain extent, its culture) mirrors that of a government agency (Christopher, 2012).

Undoubtedly, success in nurturing collegial leadership in universities primarily relies on training and development programmes (Daniëls et al., 2021). Hence, conducting leadership training for academic leaders is prioritized by universities (Taylor, 2018). As training and development can evolve to become one of the key components to unleash human potentials, the Ministry of Higher Education (MOHE) of Malaysia requires universities to conduct impactful collegial leadership training and development programmes for academic leaders. An effective training programme focuses on two critical outcomes, namely learning and behavioural change (Holton et al., 2000). Ineffective training is not only poor return on investment, but also makes leaders assume that they are capable of implementing change just because they have attended training and development programmes, thus delaying the realisation that they themselves must lead the change (Beer et al., 2016).

According to Kirkpatrick's (1994) evaluation model, evaluation of new learning is not a sufficient measure or evidence to determine the effectiveness of a training programme as learning is bound within the confinement of cognitive aptitude; one has to look further at participants' ability to practice the learned knowledge i.e., behavioural change evaluation (Kirkpatrick & Kirkpatrick, 2016). Ultimately, an effective training programme must translate to positive and meaningful behavioural change at the workplace. A very pertinent question is this: How can we evaluate behavioural change that reflects training effectiveness? According to Ng & Ahmad (2018), there is no consensus among scholars regarding the most effective way to assess behavioural change of participants after a training programme (i.e., learners' ability to practice at the workplace what they have been taught). Training transfer is a crucial reflection of effective training to avoid 'training robbery' – hefty investment in training and development without expected return (Beer et al., 2016).

Baldwin and Ford (1998) identify three key components of training transfer, namely trainee characteristics, training design, and work environment. A hefty 65% of training transfer is explained by training design (Kasim & Ali 2011; Salahuddin et al., 2020). Training transfer is maximised when the overall training design, content, and instructional strategies are aligned with the objectives of transfer (Bhatti & Kaur, 2010). Training design generally refers to a systematic blueprint for training programme development to achieve the targeted training objectives (Lacerenza et al., 2017). Because training design covers important elements such as objectives, activities, delivery, and instructional methods of a training programme, it should be uniquely designed to suit targeted participants' needs. In this study, the training programme was designed to enable participants relate collegial leadership to their respective academic leadership roles such as deans, departmental heads, and so forth. It was hoped that the intervention would facilitate the transfer of newly acquired knowledge and skills to improve work performance and contribute to better university governance.

Academics across different faculties in a university culturize different practices of collegial leadership; this shows that collegial leadership dynamics exist within faculties across a single

university (Mathews, 2019). Therefore, this study seeks to answer the following research questions: 1) Do levels of collegial leadership and training transfer increase post-CLT attainment? and 2) Are there significantly positive differences between pre- and post-CLT test scores in training design (perceived content validity and transfer design), collegial leadership, and training transfer of academic leaders, while controlling for covariates? The next section of this study presents the conceptualization of collegial leadership and training, the underpinning theory of this study, followed by research hypotheses, methodological procedures, results, and discussion and conclusion.

# Literature Review

### **Collegial Leadership**

Collegial leadership and collegiality are used interchangeably by many scholars (Bieletzki, 2018). Nevertheless, Howze (2003, p. 40) draws a fine distinction between the two; collegial leadership is defined as the effectiveness of sharing power, while collegiality is defined as "the sharing of authority among colleagues". Dill et al (1996, p. 4) define collegial leadership as "power and responsibility for the assurance of educational quality in higher education resting with the collegial parties on every campus responsible for designing, reviewing, delivering, and monitoring students' programmes of study that lead to academic degrees."

Siebert et al (1997, p. 251) view collegial leadership as "shared authority among colleagues." The American Association of University Professors (AAUP) defines collegial leadership as a community of scholars (Schimmel et al., 2013) who work together as equals through the practice of academic freedom and faculty self-governance. According to Kwiek (2015), collegial leadership is an unfading leadership approach governing universities as academics are, to date, still highly influential in the university's decision-making. However, academics are likewise confronted with governance reforms grounded in the university's instrumental vision. As a result, powerful value-driven clashes continually occur between the academic community and the community of policymakers (Kwiek, 2015). Hence, the following hypothesis is put forward:

**H1:** There is a significant difference between pre- and post-CLT test scores of collegial leadership, controlling for covariates.

### Training design and training transfer

Researchers have highlighted training design as one of the major factors affecting training transfer (Baldwin & Ford, 1988; Alvarez et al., 2004; Renta-Davids et al., 2014; Noe, 2017). Noe (2017) explains that training design is a systematic process that increases the occurrence of training transfer. It is suggested that since training is often not designed to complement trainees' job context, it therefore prevents them from transferring the learned knowledge, skills, and abilities (KSA) during training to their work setting (Holton, 2005). Training design explains 65% of transfer of training (Kasim & Ali, 2011) and is the most likely element to be controlled (Chauhan et al., 2017; Meinel & Leifer, 2021).

Three theories are commonly embedded in training design, viz. the identical elements theory, stimulus generalisation theory or principle theory, and cognitive theory (Noe, 2017). The identical elements theory suggests that training transfer occurs when the KSA learned are identical to the trainee's job scope and the training material is similar to the job performed

at the trainee's workplace. Training transfer is maximised when the training materials, tools, equipment, and environs share similarities with the work setting (Kim & Lee, 2001; Noe, 2017). This theory supports near transfer (Kim & Lee, 2001; Tiruneh et al., 2018), which deals with a transfer environ that is similar to the training context. Baldwin and Ford (1988) suggest that when similarity exists between training content and work context, training transfer increases.

The stimulus generalisation or principle theory suggests that training programmes should focus on the general principle (which is crucial for skill acquisition) in such a way that trainees are able to apply the skills acquired for solving problems at the workplace (Goldstein & Ford, 2002; Sala et al.; 2019). Unlike the identical elements theory, the principle theory supports far transfer as the general principle to be applied in work situations that are different from the training content (Noe, 2017). Tiruneh et al (2018) argue that, taking into consideration the principle theory, trainees should be able to learn concepts and principles in order to engage in dissimilar situations they might face outside of the training programme.

The cognitive theory explains that the possibility of training transfer depends on trainees' capability to retrieve learned information after being provided with meaningful material to allow a linkage between what they encounter in their work setting with the newly acquired information. The cognitive theory suggests two instructional strategies that may encourage learners to engage in potential application of training content to work environs. One strategy is to facilitate trainees in identifying work issues and discussing potential application of training content to solve the issues. The second strategy is to assign relevant application of workplace problems so that trainees might be able to apply training content to solve problems (Noe, 2017).

### The Transfer Process Model

Figure 1 illustrates the research framework of this study. According to Baldwin and Ford's (1988), transfer process model – the underpinning theory of this study, trainee characteristics (such as ability, personality, and motivation to learn), training design (e.g., principles of learning, sequencing, and training content) and work environment (support from supervisor and opportunity to use the acquired KSA at the workplace) are categorised as training inputs. On the other hand, training outputs include learning (i.e., learning KSA) and retention (i.e., the extent of KSA that remains after a training programme). Generalisation (i.e., the ability to apply learned KSA in different settings) and maintenance (i.e., remembering what is learned) are categorised under conditions of transfer.

The transfer process model noticeably indicates that training inputs and training outputs both directly/indirectly affect conditions of transfer. In the context of this study, training inputs referred to the training design variable, consisting of two dimensions, viz. perceived content validity and transfer design. The other two training input variables (trainee characteristics and work environment), however, are treated as covariates. Training output refers to the CLT programme provided for the participants, while condition for transfer refers to training transfer. Thus, the following hypothesis is put forward:

**H2:** There is a significant difference between pre- and post-CLT test scores of training transfer, controlling for covariates.

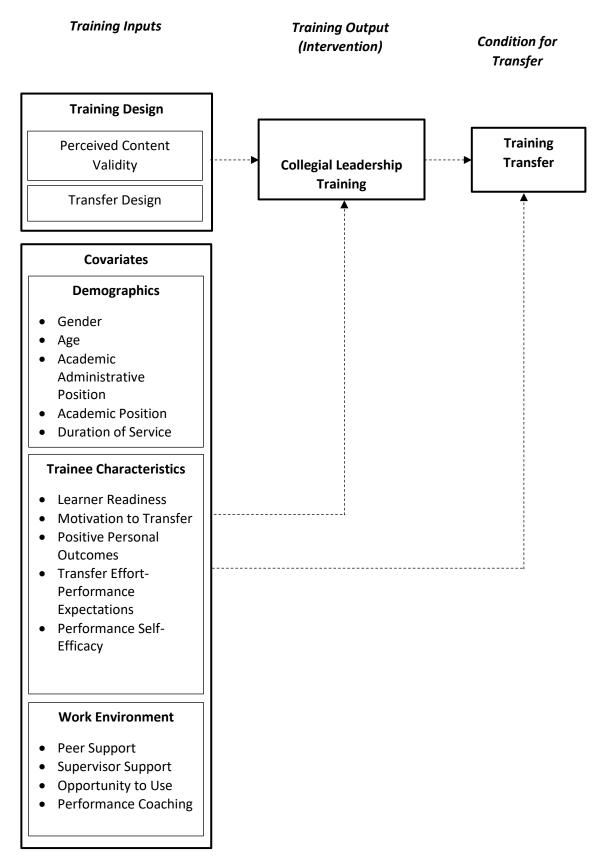


Figure 1. Research Framework

### Methods

# **Research Design**

The design of this study was quasi-experimental (one group pre-test and post-test design). This study did not use a control group, i.e., only one experimental group was involved. According to Bärnighausen et al (2017), whenever randomisation is not possible, quasiexperimental studies critically serve to generate strong causal evidence. Nevertheless, this study collected data at two points in time (prior to the CLT training programme and six weeks afterwards). Our aim was to establish the effects of the CLT programme measured in terms of collegial leadership and training transfer. The purpose of the experimental design in social sciences research is to establish causality, and this is determined by two characteristics: 1) the presence of intervention (in this case, intervention in training design variable), and 2) control for covariates (Creswell & Creswell, 2017). In this study, the participants underwent the CLT programme as treatment/intervention. In a quasi-experimental research design, one of the key elements that ensures a strong cause-and-effect relationship is control for covariate influence (Creswell & Creswell, 2017). By controlling the influence posed by covariates, we were able to eliminate external factors contributing to the effects of the CLT programme. Therefore, conclusions could be made to ascertain the extent to which the CLT design was the true cause of effects on academic leaders' change of collegial behaviours, without interference from the influence posed by covariates (demographics, trainee characteristics, and work environment).

# Population and Sampling

The population of this study comprised academic leaders in a public research university in Malaysia (N = 227). They were aged 30 years and above and had been working in the university for a minimum of 12 months; they were Doctor of Philosophy (PhD) degree holders and had not attended any collegial leadership related training programme prior to this study.

A non-random sampling procedure was adopted for the study population. Since this research involved training intervention, the selected sample had to fit a particular profile. A list of names of deans, deputy deans, heads of departments and subject coordinators was retrieved from the university's registrar office. The academic leaders were invited to participate in the CLT programme as part of the current study based on their availability and eligibility.

Scholars indicate that experimental studies generally require a minimum of 15 participants in a group (Creswell & Creswell, 2017; Bujang et al., 2017; Ary et al., 2018). For the purpose of statistical procedures, however, Tabachnick and Fidell (2007) suggest that one group must consist of at least 20 participants to ensure robustness in the results of the paired sample t-test and multivariate analysis of covariance (MANCOVA). With 30 participants, the requirements for this study were fulfilled.

### Study Instrument

In this study, we adopted several widely used validated instruments.

# Training Transfer

A five-point Likert scale instrument developed by Facteau et al. (1995) was used to assess the level of academic leaders' training transfer before and after attending the training

programme. This is a sample item of this instrument: "I am able to transfer the skills learned from training courses back to my actual job."

# Training Design

Holton et al.'s (1998) Learning Transfer System Inventory (LTSI) was used to measure training design that comprised two dimensions, viz. perceived content validity and transfer design. The LTSI is a five-point Likert scale instrument that is widely used by other scholars in their training transfer research (e.g., Diaz, 2013; Alvelos et al., 2015; Ng & Ahmad, 2018). Sample items and Cronbach's alpha coefficients of the instrument are as follows:

- Perceived content validity. A sample item of this instrument: "What is taught in training closely matches my job requirements." The Cronbach's alpha for this instrument from the literature is .84.
- Transfer design. A sample item of this instrument: "The activities and exercises the trainers used helped me know how to apply my learning on the job." The Cronbach's alpha from the literature is .85.

# Collegial Leadership

Collegial leadership was measured using a five-point Likert scale instrument developed by Seigel and Miner-Rubino (2009) called the Collegiality Climate Scale (CCS). A sample item for this instrument: "I am willing to help others".

# Trainee Characteristics

A five-point Likert scale of Holton et al.'s (1998) LTSI was used to measure trainee characteristics; it consists of five dimensions: (i) learner readiness; (ii) motivation to transfer; (iii) positive personal outcomes; (iv) transfer effort-performance expectations; and (v) performance self-efficacy. Sample items and Cronbach's alpha coefficients of the instrument are as follows:

- Learner readiness. A sample item: "Before the training I had a good understanding of how it would fit my job-related development." The Cronbach's alpha for this instrument from the literature is .73.
- Motivation to transfer. A sample item: "I get excited when I think about trying to use my new learning on my job." The Cronbach's alpha for this instrument from the literature is .83.
- Positive personal outcomes. A sample item: "Employees in this organisation receive various 'perks' when they utilise newly learned skills on the job." The Cronbach's alpha for this instrument from the literature is .69.
- Transfer effort-performance expectations. A sample item: "My job performance improves when I use new skills that I have learned." The Cronbach's alpha for this instrument from the literature is .81.
- Performance self-efficacy. A sample item: "I am confident in my ability to use newlylearned skills on the job." The Cronbach's alpha for this instrument from the literature is .76.

# Work Environment

The five-point Likert scale of Holton et al.'s (1998) LTSI was used in this study to measure work environment that comprises four dimensions: (i) peer support; (ii) supervisor support; (iii) opportunity to use; and (iv) performance coaching. Sample items and Cronbach's alpha coefficients of the instrument are as follows:

- Peer support. Sample item: "My colleagues encourage me to use the skills I have learned in training." The Cronbach's alpha for this instrument from the literature is .83.
- Supervisor support. A sample item: "My supervisor set goals for me that encourage me to apply my training on the job." The Cronbach's alpha for this instrument from the literature is .91.
- Opportunity to use. A sample item: "The resources I need to use what I learned will be available to me after the training." The Cronbach's alpha for this instrument from the literature is .70.
- Performance coaching. A sample item: "After the training, I get feedback from people about how well I am applying what I learned." Cronbach's alpha for this instrument from the literature is .70.

# Data Collection Procedures

Figure 2 illustrates the data collection procedures. First, research ethics approval was obtained. Then, a name list of deans, deputy deans, heads of departments and subject coordinators at the university was obtained from its registrar office for training invitation purposes. Invitations through email were sent to the academic leaders, together with a consent form. Academic leaders who were interested to participate in the CLT programme were required to fill in the consent form provided and revert to the researcher. Preparatory materials were then provided to the participating academic leaders for pre-reading purposes. Then, on the training day, the participants were provided with a pre-test questionnaire via two methods: hardcopy and online soft copy, whereby the training participants were provided with a barcode that gave them access to an online survey after the barcode was scanned using their smartphones. The participants had the option to choose their preferred method. They were required to complete the pre-test questionnaire prior to the start of the training session. Immediately after the participants answered the pre-test questionnaire, the CLT programme began and learning activities were conducted.

According to Campbell and Stanley (2015), the optimal time to administer the post-test is one month after the pre-test. Brown et al (2008); Creswell and Creswell (2017) opine that the best time to conduct the post-test is between three to six weeks in order to ensure the elimination of memory effect and also to allow some time for participants to attempt training transfer at their workplace. Therefore, six weeks after the training programme was held, an online posttest questionnaire was sent to the same group of participants via email. Again, by scanning a bar code, the participants could access the online survey. Only participants who had completed the training programme from start to finish were contacted for the post-test. Towards this end, the participants' attendance during each session of the 8-hour training programme was recorded. Upon obtaining the post-test data, the process was completed.

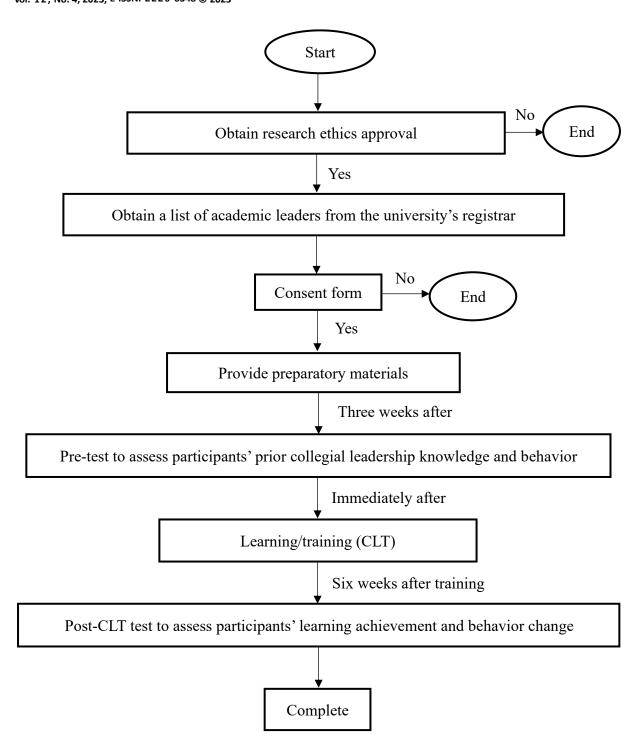


Figure 2. Data collection procedures

# Quasi-experimental procedures

Figure 3 illustrates the quasi-experimental procedures involved in this study. First, the deans of various faculties, deputy deans, heads of departments and subject coordinators were invited to attend the CLT programme. Based on their availability, they were non-randomly assigned to the experimental group. Three weeks prior to the implementation of the CLT programme, the participants were provided with preparatory materials in the form of Microsoft PowerPoint slides that illustrated the content of the CLT programme and surface-level definitions of collegial leadership. The preparatory materials were intended at

developing the participants' initial perception of collegial leadership and training transfer so that they would be able to complete the pre-test questionnaire.

Preparatory self-learning materials enabled pre-practiced KSA to facilitate participants' learning and ability to relate to the subject-matter during the actual training (Dirani, 2012; Stuns & Heaslip, 2019; Tyerman et al., 2019). Nonetheless, the adult learning theory suggests that adult learners come to training with pre-existing sets of KSA (Knowles et al., 2014; Kelly, 2017). Therefore, the researcher did not assume that the participants' collegial leadership KSA was an absolute/true zero prior to the CLT programme. Thus, referring to the participants' pre-practiced collegial leadership based on the preparatory materials, the pretest assessment procedure was then conducted (Salas & Cannon-Bowers, 2017). Although counter-intuitive, the pre-test covered items that the participants were not expected to know since the training had not yet taken place (Berry, 2008), but the pre-test assessment using the same post-test questionnaire (identical instruments) was necessary to establish a comparative basis/baseline scores of variables prior to the CLT programme (Berry, 2008; Bhanji et al., 2012; Shivaraju et al., 2017; Al-Mughairi, 2018; Geldholf et al., 2018). Since the participants had yet to attend the CLT programme, the pre-test ratings/values were expected to be low (Geldholf et al., 2018).

The post-test assessment was then administered six weeks after the CLT programme took place to ensure elimination of memory effect and to allow some time for the participants to attempt training transfer at their workplaces (as discussed in the previous sub-chapter) (Brown et al., 2008; Creswell & Creswell, 2017). Subsequently, the pre- and post-test data were analysed to determine whether the training design affected the participants' collegial leadership and training transfer. At the same time, the effects of extraneous variables or covariates were controlled to establish a causal relationship between the pre- and post-scores. Thus, through the intervention in training design and control for covariates, the quasi-experimental method and procedures were established (Creswell & Creswell, 2017).

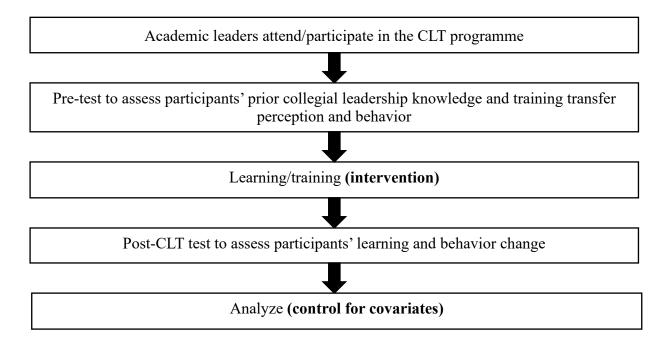


Figure 3. Quasi-experimental procedures

# Covariates

The factors identified as covariates in this study included demographic factors (gender and age), professional factors (academic administration position, academic position, and duration of service), and other theory-based variables that affected the training transfer variables. In terms of gender, scholars have suggested that gender influences trainees' training transfer and, therefore gender is included as a covariate in their research analysis (Zhao et al., 2018). Thus, following the general consensus, gender was also regarded as a covariate in the MANCOVA analysis of this study. MANCOVA is a technique to increase the precision of the estimation of cause-and-effect of experimental data and therefore increases the power to detect such effects (Li et al., 2020).

According to Cowman and McCarthy (2017), there are mixed results from previous studies concerning the effect of age on training transfer. For instance, Bier et al (2018) found that older-aged trainees benefited more in training and were better at transferring new learning at their workplace compared to younger trainees. However, according to Walter et al (2019), there is no significant effect of age on training transfer pre- and post-scores. Nevertheless, in this study, age was included as a covariate in the MANCOVA analysis.

Furthermore, scholars also argue that different work positions represent different roles and functions, and as such, this might influence the trainees' capability to transfer what is learned in training to their job (Chen et al., 2006; Cowman & McCarthy, 2017). Previous research has found that the trainee's duration of service in an organisation is relevant to training transfer (Donovan et al., 2001; Cowman & McCarthy, 2017). Thus, duration of service was included as a covariate in this study's MANCOVA analysis as well.

We also included theoretical covariates such as the trainee's characteristics and the work environment. Prior research has indicated that both trainee characteristics and work environment have significant influence on training transfer (Baldwin & Ford, 1988; Ng & Ahmad, 2018). Therefore, to control the influence of these two variables on training transfer, they were treated as covariates in the MANCOVA analysis of this study. MANCOVA ruled out the effects generated by the trainee's characteristics and work environment to establish a strong cause-and-effect relationship between CLT programme and training transfer.

Finally, whilst determining the significant difference between pre- and post-CLT test scores, this study simultaneously included the pre-test scores of training design (perceived content validity and transfer design), collegial leadership and training transfer as covariates. Considering the pre-test scores as a covariate allowed control for pre-existing differences between participants (All et al., 2017).

# Results

Objective 1: To determine the levels of collegial leadership, and training transfer, pre- and
post-CLT programme

#### Table 1

Levels of collegial leadership and training transfer of

	Pre-te	st (n=30)		Post-test (n=30)		
Variable	Freq.	Percent	Mean (S.D)	Freq.	Percent	Mean (S.D)
Collegial Leadership			4.25			4.54
			(.49)			(.40)
Low	0	0.00		0	0.00	
Moderate	3	10.00		1	3.30	
High	27	90.00		29	96.70	
Training Transfer			3.10			4.20
-			(.67)			(.51)
Low	4	13.30		0	0.00	
Moderate	21	70.00		3	10.00	
High	5	16.70		27	90.00	

Scale rating: Low (1.00 – 2.33); Medium (2.34 – 3.66); High (3.67 – 5.00)

Pre-CLT scores in Table 1 revealed that 90.00% of the academic leaders showed a high level of collegial leadership and 10.00% were rated moderate. Post-CLT scores indicated that 96.70% of the academic leaders had high level of collegial leadership and only 3.30% were rated moderate. The majority (70.00%) of the academic leaders scored a moderate level of training transfer pre-CLT, while 16.70% were rated high. The remaining 13.30% had a low level of training transfer. In contrast, post-CLT, 90.00% had a high level of training transfer, while only 10.00% were rated moderate.

<b>Objective 2: To determine the significant difference between pre- and post-CLT test scores</b>
of collegial leadership, and training transfer, controlling for covariates

Tabl	e 2
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Multivariate Analysis of Covariance (MANCOVA)							
Variable	SS	df	MS	F	р	partial η2	
Collegial Leadership	.740	1	.740	7.113	.015	.272	
Training Transfer	.976	1	.976	6.833	.017	.265	

MANCOVA analysis of collegial leadership among academic leaders, as shown in Table 2, indicated a positive, significant difference between pre- and post-scores. The p value was .015 with a small effect size of .272. Similarly, there was a positive, significant difference between the pre- and post-scores of training transfer, with a p value of .017 and a small effect size of .265. Thus, hypotheses 1 and 2 were supported.

# **Discussion and Conclusion**

The findings above indicated that the levels of variables among academic leaders mostly increased from moderate to high after they attended the CLT programme. Descriptive

analysis supports the notion that any related new input, huge or not, that is exposed to training participants will produce a certain degree of influence on their knowledge and experience. In this study, this was translated through the increased levels of these variables and was further supported by findings from previous research (Levine et al., 2015).

Furthermore, there were significant differences between pre- and post-CLT test scores for collegial leadership and training transfer, thus reflecting the positive effects of the CLT programme. Based on the Kirkpatrick's (1994) evaluation model, significant differences in collegial leadership and training transfer before and after the CLT programme are indicative of a collegial behavioural change among the academic leaders and their ability to transfer what they have learned during the CLT programme to their workplace. Theoretically, an integrated evaluation using both collegial leadership and training transfer concepts strengthens the findings of this study, i.e., positive effects of the CLT programme.

Conclusively, this paper offers a better insight to the problem of constant learning transfer in training and development in HRD. Generally, this study evaluates the effects of a CLT programme in improving collegial leadership of academic leaders in a Malaysian university. More specifically, this paper is aimed at examining the levels and the significant differences between the pre- and post-CLT test scores of collegial leadership and training transfer, before and after the CLT programme. To address these concerns, the study used a holistic evaluation which integrated both collegial leadership and training transfer concepts and instruments to evaluate academic leaders' change in behaviour, before and after they attended the CLT programme. The findings indicated that there was a positive, significant change in academic leaders' collegial behaviour and that training transfer successfully occurred. We evaluated change in behaviour in accordance with the Kirkpatrick's (1994) four-levels evaluation model which emphasises the importance of behavioural change. When designing and developing a training program, one should ensure that it promotes training transfer, and structured, well-founded training design is crucial for this purpose.

### References

- All, A., Plovie, B., Castellar, E. P. N., & Van Looy, J. (2017). Pre-test influences on the effectiveness of digital-game based learning: A case study of a fire safety game. *Computers* & *Education*, 114, 24-37. https://doi.org/10.1016/j.compedu.2017.05.018
- Alvarez, K., Salas, E., & Garofano, C. M. (2004). An integrated model of training evaluation and effectiveness. *Human resource development Review*, 3(4), 385-416. https://doi.org/10.1177/1534484304270820
- Alvelos, R., Ferreira, A. I., & Bates, R. (2015). The mediating role of social support in the evaluation of training effectiveness. *European Journal of Training and Development*, 39(6), 484-503. https://doi.org/10.1108/EJTD-12-2014-0081
- Al-Mughairi, A. M. (2018). *The evaluation of training and development of employees: The case of a national oil and gas industry* (Doctoral dissertation, Brunel University London).
- Ary, D., Jacobs, L. C., Sorensen, C., & Walker, D. (2013). *Introduction to research in education*. Cengage Learning.
- Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel psychology*, 41(1), 63-105. https://doi.org/10.1111/j.1744-6570.1988.tb00632.x

- Barnighausen, T., Tugwell, P., Rottingen, J. A., Shemilt, I., Rockers, P., Geldsetzer, P., ... & Atun,
  R. (2017). Quasi-experimental study designs series—paper 4: uses and value. *Journal of clinical epidemiology*, *89*, 21-29. https://doi.org/10.1016/j.jclinepi.2017.03.012
- Beer, M., Finnstrom, M., & Schrader, D. (2016). The great training robbery. *Harvard Business* School Research Paper Series, 16-121. https://dx.doi.org/10.2139/ssrn.2759357
- Berry, T. (2008). Pre-test assessment. American Journal of Business Education (AJBE), 1(1), 19-22. https://doi.org/10.19030/ajbe.v1i1.4633
- Bess, J. L. (1992). Collegiality: Toward a clarification of meaning and function. *Higher* education: Handbook of theory and research, 8, 1-36.
- Bhanji, F., Gottesman, R., de Grave, W., Steinert, Y., & Winer, L. R. (2012). The retrospective pre-post: A practical method to evaluate learning from an educational program. Academic emergency medicine, 19(2), 189-194. https://doi.org/10.1111/j.1553-2712.2011.01270.x
- Bhatti, M. A., & Kaur, S. (2010). The role of individual and training design factors on training transfer. *Journal of European industrial training*, 34 (7), 656-672. https://doi.org/10.1108/03090591011070770
- Bieletzki, N. (2018). *Power of collegiality*. Springer Fachmedien Wiesbaden GmbH.
- Bier, B., Ouellet, É., & Belleville, S. (2018). Computerized attentional training and transfer with virtual reality: Effect of age and training type. *Neuropsychology*, 32(5), 597-614. https://doi.org/10.1037/neu0000417
- Branson, C. M., Franken, M., & Penney, D. (2016). Middle leadership in higher education: A relational analysis. *Educational Management Administration & Leadership*, 44(1), 128-145. https://doi.org/10.1177/1741143214558575
- Brown, G., Irving, S., & Keegan, P. (2008). An Introduction to Educational Assessment, Measurement, and Evaluation: Improving the Quality of Teacher-Based Assessment. Pearson Education New Zealand.
- Bujang, M. A., Sa'at, N., & Bakar, T. M. I. T. A. (2017). Determination of minimum sample size requirement for multiple linear regression and analysis of covariance based on experimental and non-experimental studies. *Epidemiology, Biostatistics, and Public Health*, 14(3), 1-9. https://doi.org/10.2427/12117
- Campbell, D. T., & Stanley, J. C. (2015). *Experimental and quasi-experimental designs for research*. Ravenio books.
- Chauhan, R., Ghosh, P., Rai, A., & Kapoor, S. (2017). Improving transfer of training with transfer design: does supervisor support moderate the relationship?. *Journal of Workplace Learning*, *29*(4), 268 285. https://doi.org/10.1108/JWL-08-2016-0079
- Chen, H. C., III, E. F. H., & Bates, R. A. (2006). Situational and demographic influences on transfer system characteristics in organizations. *Performance Improvement Quarterly*, *19*(3), 7-25. https://doi.org/10.1111/j.1937-8327.2006.tb00375.x
- Christopher, J. (2012). Governance paradigms of public universities: An international comparative study. *Tertiary Education and Management*, *18*(4), 335-351. https://doi.org/10.1080/13583883.2012.724705
- Cowman, M. C., & McCarthy, A. M. (2016). The impact of demographic and situational factors on training transfer in a health care setting. *The Irish Journal of Management*, *35*(2), 129-142. https://doi.org/10.1515/ijm-2016-0009
- Diaz, K. (2013). *Hybrid learning: A study of training environment and training transfer in Ecuador* (Doctoral dissertation, Capella University).

- Dill, D. D., Massy, W. F., Williams, P. R., & Cook, C. M. (1996). Accreditation & academic quality assurance: can we get there from here?. *Change: The Magazine of Higher Learning*, *28*(5), 17-24. https://doi.org/10.1080/00091383.1996.9937136
- Dirani, K. M. (2012). Professional training as a strategy for staff development: A study in training transfer in the Lebanese context. *European Journal of Training and Development*, *36*(2/3), 158-178. https://doi.org/10.1108/03090591211204698
- Donovan, P., Hannigan, K., & Crowe, D. (2001). The learning transfer system approach to estimating the benefits of training: empirical evidence. *Journal of European Industrial Training*, 25(2), 221-228. https://doi.org/10.1108/EUM000000005447
- Facteau, J. D., Dobbins, G. H., Russell, J. E., Ladd, R. T., & Kudisch, J. D. (1995). The influence of general perceptions of the training environment on pretraining motivation and perceived training transfer. *Journal of management*, 21(1), 1-25. https://doi.org/10.1016/0149-2063(95)90031-4
- Geldhof, G. J., Warner, D. A., Finders, J. K., Thogmartin, A. A., Clark, A., & Longway, K. A. (2018). Revisiting the utility of retrospective pre-post designs: the need for mixedmethod pilot data. *Evaluation and program planning*, 70, 83-89. https://doi.org/10.1016/j.evalprogplan.2018.05.002
- Goldstein, I. L., & Ford, J. K. (2002). *Training in organizations: needs assessment, development, and evaluation*. Wadsworth.
- Heng, M. A., & Marsh, C. J. (2009). Understanding middle leaders: A closer look at middle leadership in primary schools in Singapore. *Educational Studies*, 35(5), 525-536. https://doi.org/10.1080/03055690902883863
- Holton III, E. F. (2005). Holton's evaluation model: New evidence and construct elaborations. *Advances in developing human resources*, 7(1), 37-54. https://doi.org/10.1177/1523422304272080
- Holton III, E., Bates, R. A., Ruona, W. E., & Leimbach, M. (1998). Development and validation of a generalized learning transfer climate questionnaire: Final report. *In*: R. Torraco (Eds.), *AHRD 1998 Conference Proceedings*, Academic of Human Resource Development, 428-489.
- Holton III, E. F., Bates, R. A., & Ruona, W. E. (2000). Development of a generalized learning transfer system inventory. *Human resource development quarterly*, *11*(4), 333-360. https://doi.org/10.1002/1532-1096(200024)11:4%3C333::AID-HRDQ2%3E3.0.CO;2-P
- Howze, P. C. (2003). Collegiality, collegial management, and academic libraries. *The Journal* of Academic Librarianship, 29(1), 40-43. https://doi.org/10.1016/S0099-1333(02)00402-0
- Kasim, R. S. R., & Ali, S. (2011). The influence of training design on training transfer performance among support staff of higher education institution in Malaysia. *International Journal of Innovation, Management and Technology*, 2(5), 377-382.
- Kelly, J. (2017). Professional learning and adult learning theory: A connection. *Northwest Journal of Teacher Education*, *12*(2), 1-16. https://doi.org/10.15760/nwjte.2017.12.2.4
- Kirkpatrick, D. (1994). Great ideas revisited: techniques for evaluating training programs: Revisiting Kirkpatrick's four-level model. *Training and Development, 50*(1), 54-59.
- Kirkpatrick, J. D., & Kirkpatrick, W. K. (2016). *Kirkpatrick's four levels of training evaluation*. Association for Talent Development.
- Kim, J. H. & Lee, C. (2001). Implications of near and far transfer of training on structured onthe-job training. *Advances in Developing Human Resources*, *3*(4), 442-451.

https://doi.org/10.1177/15234220122238508

- Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2014). *The adult learner: The definitive classic in adult education and human resource development*. Routledge.
- Kwiek, M. (2015). The unfading power of collegiality? University governance in Poland in a European comparative and quantitative perspective. *International Journal of Educational Development*, 43, 77-89. https://doi.org/10.1016/j.ijedudev.2015.05.002
- Lacerenza, C. N., Reyes, D. L., Marlow, S. L., Joseph, D. L., & Salas, E. (2017). Leadership training design, delivery, and implementation: A meta-analysis. *Journal of Applied Psychology*, 102(12), 1-33. https://psycnet.apa.org/doi/10.1037/apl0000241
- Li, L., McLouth, C. J., & Delaney, H. D. (2020). Analysis of covariance in randomized experiments with heterogeneity of regression and a random covariate: The variance of the estimated treatment effect at selected covariate values. *Multivariate Behavioral Research*, 55(6), 926-940. https://doi.org/10.1080/00273171.2019.1693953
- Levine, R. B., González-Fernández, M., Bodurtha, J., Skarupski, K. A., & Fivush, B. (2015). Implementation and evaluation of the Johns Hopkins University School of Medicine leadership program for women faculty. *Journal of Women's Health*, 24(5), 360-366. https://doi.org/10.1089/jwh.2014.5092
- Mathews, K. (2018). Growing our own: Cultivating faculty leadership. *Change: The Magazine* of Higher Learning, 50(3-4), 88-92. https://doi.org/10.1080/00091383.2018.1509617
- Meinel, C., & Leifer, L. (Eds.). (2021). *Design Thinking Research: Interrogating the Doing*. Springer Nature.
- Ng, K. H., & Ahmad, R. (2018). Personality traits, social support, and training transfer: The mediating mechanism of motivation to improve work through learning. *Personnel Review*, 47(1), 39-59. https://doi.org/10.1108/PR-08-2016-0210
- Noe, R. A. (2017). *Employee training and development*. McGraw-Hill.
- Peters, M. A. (2020). *Knowledge socialism: The rise of peer production: Collegiality, collaboration, and collective intelligence*. Springer Nature.
- Phuong, T. T., Cole, S. C., & Zarestky, J. (2018). A systematic literature review of faculty development for teacher educators. *Higher Education Research & Development*, *37*(2), 373-389. https://doi.org/10.1080/07294360.2017.1351423
- Phuong, T. T., Duong, H. B., & McLean, G. N. (2015). Faculty development in Southeast Asian higher education: a review of literature. *Asia Pacific Education Review*, 16(1), 107-117. https://doi.org/10.1007/s12564-015-9353-1
- Renta-Davids, A. I., Jiménez-González, J. M., Fandos-Garrido, M., & González-Soto, Á. P. (2014). Transfer of learning: Motivation, training design and learning-conducive work effects. *European Journal of Training and Development*, 38(8), 728-744. https://doi.org/10.1108/EJTD-03-2014-0026
- Sala, G., Aksayli, N. D., Tatlidil, K. S., Tatsumi, T., Gondo, Y., & Gobet, F. (2019). Near and far transfer in cognitive training: A second-order meta-analysis. *Collabra: Psychology*, 5(1), 1-22. https://doi.org/10.1525/collabra.203
- Salas, E., & Cannon-Bowers, J. A. (2017). Design training systematically. *The Blackwell* handbook of principles of organizational behaviour, 43-62. https://doi.org/10.1002/9781119206422.ch4
- Schimmel, T., Johnston, P. C., & Stasio, M. (2013). Can" Collegiality" Be Measured?: Further Validation of a Faculty Assessment Model of Discretionary Behaviors. *Research in Higher Education Journal*, 21, 1-7.

- Shivaraju, P. T., Manu, G., Vinaya, M., & Savkar, M. K. (2017). Evaluating the effectiveness of pre-and post-test model of learning in a medical school. *National Journal of Physiology*, *Pharmacy and Pharmacology*, 7(9), 947-947.
  - http://dx.doi.org/10.5455/njppp.2017.7.0412802052017
- Siebert, E. D., Caprio, M. W., & Lyda, C. M. (Eds.). (1997). *Methods of effective teaching and course management for university and college science teachers*. Kendall Hunt Publishing Company.
- Seigel, M. L., & Miner-Rubino, K. (2009). Measuring the value of collegiality among law professors. *Faulkner L. Rev.*, *1*, 257-287.
- Stuns, K. K., & Heaslip, G. (2019). Effectiveness of humanitarian logistics training: The Finnish Red Cross (FRC) Emergency Response Unit (ERU). Journal of Humanitarian Logistics and Supply Chain Management, 9 (2), 196 – 220.

https://doi.org/10.1108/JHLSCM-12-2018-0080

- Tabachnick, B., & Fidell, L. (2007). Using multivariate statistics. Pearson/Allyn & Bacon.
- Taylor, T. M. (2018). *Exploring factors that influence employee motivation to transfer training from a leadership development program: A qualitative case study*. Drexel University.
- Tiruneh, D. T., Gu, X., De Cock, M., & Elen, J. (2018). Systematic design of domain-specific instruction on near and far transfer of critical thinking skills. *International Journal of Educational Research*, 87, 1-11. https://doi.org/10.1016/j.ijer.2017.10.005
- Tyerman, J., Luctkar-Flude, M., Graham, L., Coffey, S., & Olsen-Lynch, E. (2019). A systematic review of health care presimulation preparation and briefing effectiveness. *Clinical Simulation in Nursing*, *27*, 12-25.

https://doi.org/10.1016/j.ecns.2018.11.002

- Walter, C. S., Hengge, C. R., Lindauer, B. E., & Schaefer, S. Y. (2019). Declines in motor transfer following upper extremity task-specific training in older adults. *Experimental* gerontology, 116, 14-19. https://doi.org/10.1016/j.exger.2018.12.012
- Williams, J. R. (2007). The conceptualization of leadership and leadership development by academic department heads in colleges of agriculture at land grant institutions: A qualitative study. Oklahoma State University.
- Zhao, X., Chen, L., & Maes, J. H. (2018). Training and transfer effects of response inhibition training in children and adults. *Developmental Science*, *21*(1), e12511, 1-12. https://doi.org/10.1111/desc.12511