



Managing Teacher Education: The Development of Transformational Leadership Competency Model

Sugunah Supermane

Department of Technic and Vocational Education, Institut Pendidikan Guru Kampus Temenggong Ibrahim, 80500 Johor bahru, Johor, Malaysi., E-mail: sugunah559@gmail.com

Abstract

Transformational leadership is an important competency that should be honed by all the leaders in order to assist teacher educators in upholding the transformation of teacher education. Particularly, transformational leaders play significant roles in communicating and visualising the transformation vision and missions among teacher educators. Thus, this study aimed to develop a substantiated Transformational Leadership Competency Model (TLCM) to capitalize on transformational leadership practice in teachers training colleges. Structural equation modelling was employed to test the models. All the good fit measurement models were validated through confirmatory factor analysis (CFA). Moreover, the study discovered an acceptable convergent validity, discriminant validity, construct validity and internal consistency for the TLCM.

Key words

Transformational Leadership, Teacher Educators, Exploratory Factor Analysis, Confirmatory Factor Analysis

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1. Introduction

Transformational leadership should be in the limelight in order to produce leaders that are more capable in leading the transformation of teachers training colleges. Specifically, transformational leaders can inspire, motivate and stimulate teacher educators to work efficiently (Supermane *et al.*, 2018). As the innovative teaching and learning culture is the crucial weapon to transform the teacher education, leaders play prominent roles in facilitating teacher educators to accomplish the transformation in teachers training colleges. Leaders are found to be very significant in transforming teacher education. Appropriate guidance given through mentoring, encouragement and sharing of best practices by leaders can strengthen the culture of innovative teaching and learning among teacher educators (PPPM 2013-2015 -KPM, 2013).

Furthermore, Zakhiry (2014); Darwish (2014) emphasized the crucial role of leaders in promoting knowledge sharing and knowledge dissemination in order to prevent brain drain because of the retirement process of existing senior educators in teachers training colleges. Consistent with the above statements, Saadat (2015) found that effective leaders play prominent roles in transferring and disseminating individual knowledge in order to enhance the capacity of educational institutions to accomplish the transformation. Aligned with this, leadership is one of the six elements that has been emphasized in the New IPG Ideas or known as Malaysian Teacher Education Transformation Plan. However, there is lack of guidelines and strategies to implement transformational leadership which is they key element in initiating transformation in teacher education (IPGM, 2011).

As far as policy and teacher education transforming plans are unable to move leaders and teacher educators towards the achievement of the transformation. In relation to that, Supermane (2019) also stressed that transformational leaders should be engaged to influence and encourage the implementation of knowledge management among teacher educators to produce teaching and learning innovation and transformation. Therefore, it turns out that transformational leadership element should be prioritized to develop more competent leaders in order to coordinate the knowledge resources to accomplish the transformation in Malaysian Teachers Training Colleges.

2. Literature review

2.1. Transformational Leadership

The paradigm shift in leadership has led to the discovery of the concept of transformational leadership by James McGregor Burns in 1978. Furthermore, Bass has made improvements to the theory in 1985 by integrating the elements of psychological needs of members in achieving organizational goals (Politis, 2002) as well as introducing transformation leadership measurement instruments (Bass & Riggio, 2006).

Transformational leadership is a style of leadership that drives its followers without selfishness through the dimension of idealized influence, inspirational motivation, individual consideration and intellectual stimulation (Bass, 1999). Noruzy *et al.* (2013) also pointed out that transformational leadership is a management style that inspires the subordinates through passionate speeches, motivations and intellectual stimuli in order to enhance their performance (Soliman, 2014). In this regard, the application of individual individual consideration and intellectual stimulation enable the transformational leaders to generate various methods of thinking, identifying opportunities, problem solving and adopting exploratory thinking processes (García-Morales *et al.*, 2008).

Most of the leaders have achieved remarkable achievements by practicing idealized influence, inspirational motivation, individual consideration and intellectual stimulation. Besides, the practice of transformational leadership contributed directly to the development of subordinates and organizations without the involvement of any legal bondage and barter system (Bass & Riggio, 2006).

Pounder (2014) found that idealized influence is the central dimension of transformational leadership that drives leaders in sharing the organization's vision and missions among subordinates. The dimension of inspirational motivation exemplifies the leader as a model that needs to be emulated. Through individual consideration, leaders provide persistent personal feedbacks to the subordinates. In addition, consideration on personal needs, capabilities and aspirations is also given attention. On the other hand, intellectual stimulation enables the leaders to guide the subordinated to think creatively and critically to obtain optimum results.

In conclusion, the Transformational Leadership Model by Bass (1985) comprising four major dimensions namely: i) idealized influence ii) inspirational motivation iii) individual consideration and iv) intellectual stimulation in order to enhance the capabilities of an organization. The practice of idealized influence leads the leader to become a role model. The vision and missions of an organization communicated and visualized well among the subordinates through the practice of inspirational motivation. Individual consideration refers to the readiness of leaders to pay attention and give feedbacks to the subordinates. While intellectual stimulation is the ability of the leader to cultivate creative and critical thinking among the subordinates when making decisions.

Hallinger (2003) argued that the focus of transformational leadership in the context of education is to innovate through the enhancement of organizational capabilities in determining goals as well as encouraging the development of improvements in teaching and learning practices. Thus, the transformation leadership led by Bass (1985) is the main variable in this study.

3. Methodology of research

The population of this study encompassed 3109 of teacher educators from 27 teachers training colleges across Malaysia. The clustered random sampling method was employed to identify the samples of this study. Gay *et al.* (2009); claimed that clustered random sampling method is greatly recommended for its efficiency in homogenous population as in education institutions. As for this study, six teachers training

colleges were chosen randomly based on the different zones (north, south, west, east, Sabah and Sarawak) across Malaysia.

560 questionnaires were distributed to all the teacher educators in the six selected teachers training colleges. Seventy two percent (401) of the samples completed the survey. Unfortunately, the data from 42 samples were excluded from the data analysis as they sent incomplete questionnaires. Thus, the remaining data from 359 samples were used to conduct further analyses. The main instrument of this study was a self-administered questionnaire. Primarily, 26 items were constructed to measure factors such as idealized influence, inspirational motivation, individual consideration and intellectual stimulation. Thereafter, four items were discarded as the derived factor loadings through Exploratory Factor Analysis (EFA) were all below 0.5. Finally, 22 items were retained to develop TLMC through CFA.

3.1. Confirmatory factor analysis

Structural equation modelling (SEM) using AMOS version 21 was engaged to test the proposed model. Aligned with the suggestion of Brown (2006), confirmatory factor analysis (CFA) with maximum likelihood estimation was employed to validate the factors and items in the first and second order measurement models. The measurement model was modified in order to demonstrate the best fit. The reliability and validity of the measurement model was confirmed based on the criteria of model fit, convergent validity, discriminant validity and internal consistency. Table 1 below shows all the 22 items included in CFA.

Table 1. Items of TLMC for CFA

| Item Code (CFA) | Item | Factors | Factor loadings | Cronbach's Alpha |
|-----------------|--|--------------------------|-----------------|------------------|
| PT1 | is able to obtain the trust of educators | idealized influence | 0.776 | 0.902 |
| PT2 | maintains sense of respect | | 0.768 | |
| PT3 | is dedicated to the educators | | 0.819 | |
| PT4 | acts as the role model | | 0.744 | |
| PT5 | exhibits a high level of self-confidence | | 0.754 | |
| IM1 | takes the initiative to explain IPG's vision | inspirational motivation | 0.859 | 0.928 |
| IM2 | visualises the IPG's vision using a simple method | | 0.911 | |
| IM3 | explains how to realise IPG's vision | | 0.908 | |
| IM4 | explain the importance of each task given to the educators | | 0.653 | |
| IM5 | motivates educators in order to achieve IPG's vision | | 0.584 | |
| PI1 | pays attention to the educators' needs on an individual basis | individual consideration | 0.649 | 0.912 |
| PI2 | assign individual tasks | | 0.566 | |
| PI3 | gives personal feedback on given tasks | | 0.666 | |
| PI4 | gives special attention to passive educators | | 0.802 | |
| PI5 | allocates time for assisting educators | | 0.837 | |
| PI6 | allocates time for guiding educators | | 0.807 | |
| PI7 | takes effort to develop the educators' potential | | 0.617 | |
| RI1 | encourages educators to think creatively when implementing daily tasks | intellectual stimulation | 0.569 | 0.904 |
| RI3 | encourages use of various methods when implementing the lecturer's daily tasks | | 0.834 | |
| RI4 | encourages the lecturer to think out of the box | | 0.852 | |
| RI5 | creates a flexible working environment | | 0.655 | |
| RI6 | encourages a self reflection among educators | | 0.585 | |

3.2. The First Order Measurement Model of TLMC

CFA was conducted to test the structure of TLMC by employing the maximum likelihood estimation method using AMOS 21 software. A few indices were used to test the good fit of the knowledge

management model according to the TLCM structure. As shown in Figure 1, the CFA analysis revealed an adequate level of model fit for the proposed model, $\chi^2/df=4.031$, CFI= 0.904, TLI=0.891 and RMSEA=0.092. As for this proposed model, all the residuals were assumed uncorrelated. However, fit indexes for the proposed model were not adequate to meet the good fit thresholds. The well-fitting model is indicated by $\chi^2/df\leq 5$, $RMSEA\leq 0.080$, $CFI\geq 0.9$, and $TLI\geq 0.90$ [Hair *et al.*, 2014; Hu & Bentler, 1998].

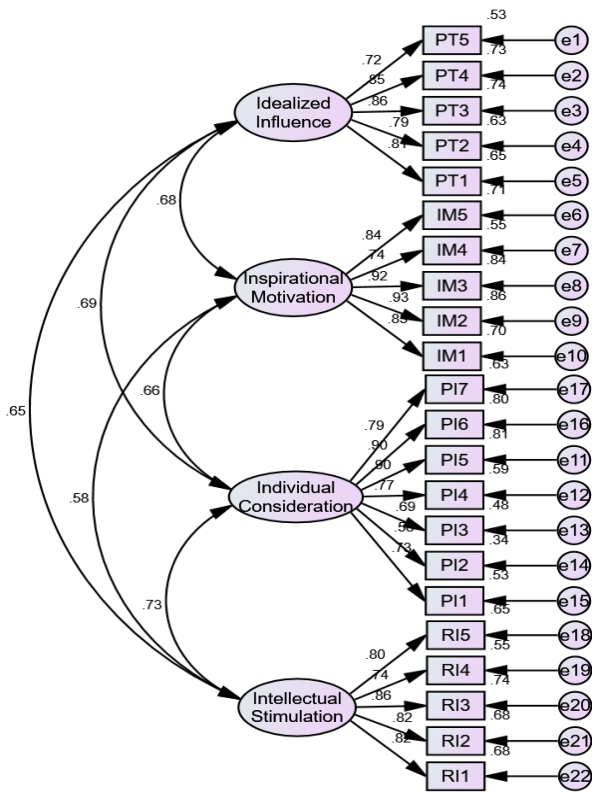


Figure 1. Estimated Factor Loadings for TLCM

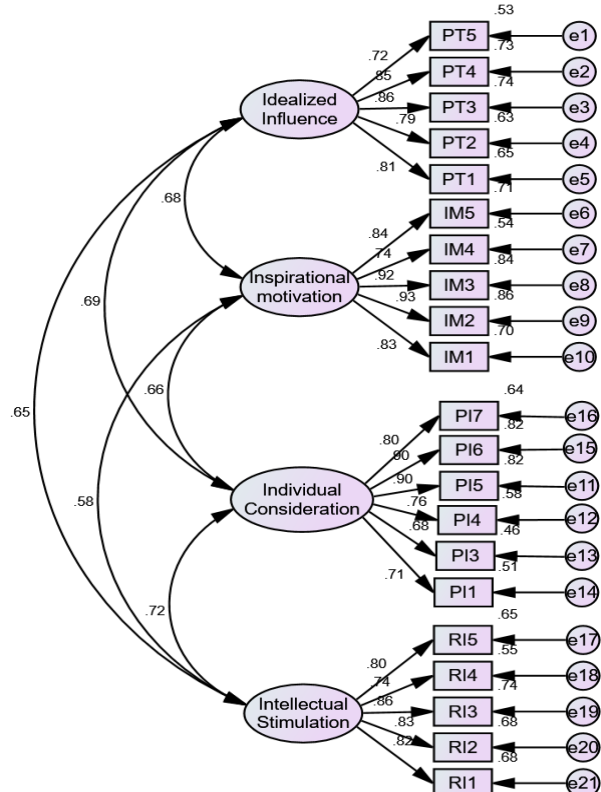


Figure 2. TLCM's First Order Measurement Model 1

Hence, overlapping and low factor loading items needed to be discarded to get a better model fit. In this study, One item (PI2) was discarded for the same reason. Yet, CFA analysis revealed an unacceptable result, $\chi^2/df=3.915$, CFI= 0.914, TLI=0.901 and RMSEA=0.090. Figure 2 shows the first order measurement model of TLCM without PI2.

In order to get a parsimonious model, modification indices were considered. The findings revealed that correlating the residuals for $e4\leftrightarrow e5$ ($MI=37.317$), $e11\leftrightarrow e15$ ($MI=34.978$) and $e19\leftrightarrow e20$ ($MI=26.579$) would improve the model fit. After the three residuals were correlated, a good fit model was obtained with $\chi^2/df=3.190$, CFI= 0.936, TLI=0.926 and RMSEA=0.078.

Generally, derived results supported the four-factor structure of TLCM. Figure 3 represents a good fitting of first order model of TLCM.

3.3. The Second Order Measurement Model of EKMC

The second order model of TLCM needed to be validated as the construct of transformational leadership consists of four different factors. Figure 4 represents a good fitting second-order measurement model of TLCM. The obtained $CMIN/df$ value of 3.210 met the threshold level of < 5 . Moreover, a high goodness of the model fit also proven with the obtained values of CFI (0.935) and TFI (0.925), which exceeded 0.90. In addition, RMSEA (0.079) showed a complete fit of the model.

The CFA of the four-factor TLCM revealed a good factorial validity, proposing that the fundamentals of the TLCM could be best represented by the four factors (idealized influence, inspirational motivation, individual consideration, intellectual stimulation).

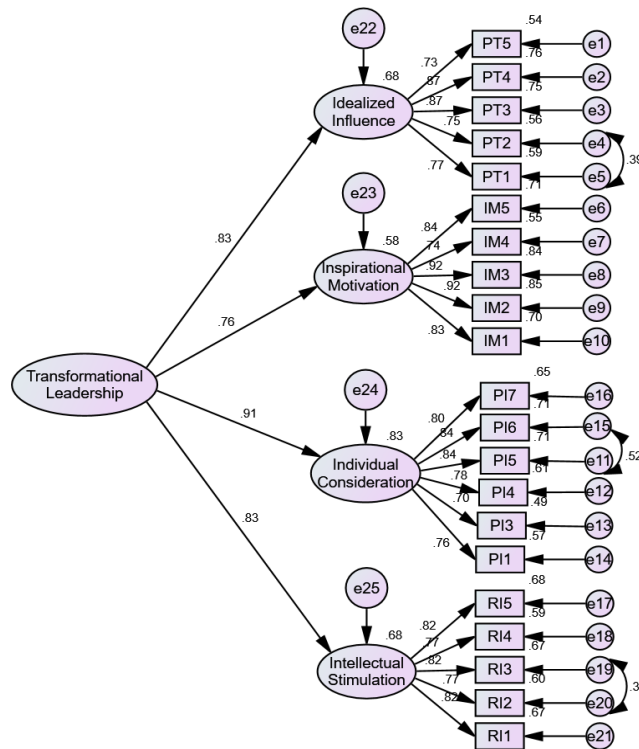
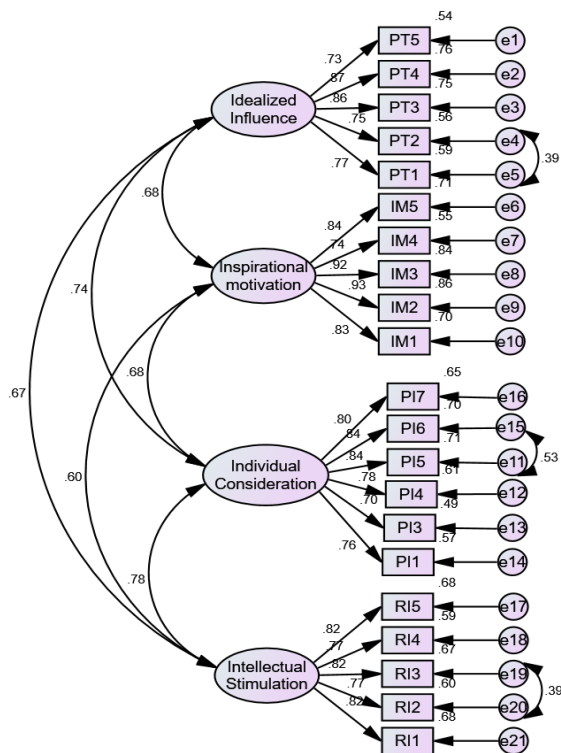


Figure 3. TLMC's First Order Measurement Model 2 Figure 4. TLMC's Second Order Measurement Model

3.4. The Validity of TLMC

The convergent validity for TLMC has been attained as the Average Variance Extracted (AVE) for all four factors of transformational leadership were above 0.60. Precisely, the AVE indexes for idealized influence, inspirational motivation, individual consideration and intellectual stimulation were 0.637, 0.731, 0.621 and 0.634 respectively. In addition, construct validity was achieved earlier as the model obtained a good model fit ($\chi^2/df=3.190$, CFI= 0.936, TLI=0.926 and RMSEA=0.078). According to Hair et al. (2014), discriminant validity can be attained if the correlations between factors are less than 0.90. Table 2 represents the results of the correlation analysis done on the four factors. All four factors were not highly correlated as their coefficients were less than 0.90. Thus, each and every factor was unique and different from each other.

Table 2. Discriminant Validity Index

| Factors | Idealized Influence | Inspirational Motivation | Individual Consideration | Intellectual Stimulation |
|--------------------------|---------------------|--------------------------|--------------------------|--------------------------|
| Idealized Influence | 0.80 | | | |
| Inspirational Motivation | 0.68 | 0.85 | | |
| Individual Consideration | 0.74 | 0.68 | 0.79 | |
| Intellectual Stimulation | 0.67 | 0.60 | 0.78 | 0.80 |

The findings proved that all the four factors were able to measure the construct of transformational leadership effectively.

3.5. The Reliability of TLMC

A couple of reliability tests demonstrated a high level of reliability on the factors of idealized influence (PT), inspirational motivation (IM), individual consideration (PI) and intellectual stimulation (RI). Table 3 represents the composite reliability and Cronbach's Alpha coefficient values for all the above-mentioned factors. The Cronbach's Alpha coefficient values were in the range of 0.902 to 0.928 (PT=0.902,

IM=0.928, PI=0.912, RI=0.904). Whereas, the composite reliability (CR) values for all the four factors were in the range of 0.873 to 0.931.

Specifically, inspirational motivation (IM) was the most reliable factor in transformational leadership as the derived composite reliability value was 0.931. Next, idealized influence obtained the value of 0.897, while intellectual stimulation and individual consideration obtained 0.896 and 0.873 respectively.

Table 3. Composite Reliability and Cronbach's Alpha Coefficient Values

| Factors | Item | Factor Loadings (FL) | (FL) ² | Variance Error (VR) = 1-(FL) ² | Composite Reliability (CR) | Cronbach Alpha |
|-------------------------------|-------|----------------------|-------------------|---|---|----------------|
| Idealized Influence (PT) | PT1 | 0.77 | 0.5929 | 0.4071 | $\frac{\sum(FL)^2}{\sum(FL)^2+\sum(RV)}$ $=\frac{(3.98)^2}{(3.98)^2+1.8152}$ $=0.897$ | 0.902 |
| | PT2 | 0.75 | 0.5625 | 0.4075 | | |
| | PT3 | 0.86 | 0.7396 | 0.2604 | | |
| | PT4 | 0.87 | 0.7569 | 0.2431 | | |
| | PT5 | 0.73 | 0.5329 | 0.4671 | | |
| | Total | 3.98 | 3.1848 | 1.8152 | | |
| Inspirational Motivation (IM) | IM1 | 0.83 | 0.6889 | 0.3111 | $\frac{\sum(FL)^2}{\sum(FL)^2+\sum(RV)}$ $=\frac{(4.26)^2}{(4.26)^2+1.3466}$ $=0.931$ | 0.928 |
| | IM2 | 0.93 | 0.8649 | 0.1351 | | |
| | IM3 | 0.92 | 0.8464 | 0.1536 | | |
| | IM4 | 0.74 | 0.5476 | 0.4524 | | |
| | IM5 | 0.84 | 0.7056 | 0.2944 | | |
| | Total | 4.26 | 3.6534 | 1.3466 | | |
| Individual Consideration (PI) | PI1 | 0.76 | 0.5776 | 0.4224 | $\frac{\sum(FL)^2}{\sum(FL)^2+\sum(RV)}$ $=\frac{(3.96)^2}{(3.96)^2+2.2728}$ $=0.873$ | 0.912 |
| | PI3 | 0.70 | 0.4900 | 0.5100 | | |
| | PI4 | 0.78 | 0.6048 | 0.3916 | | |
| | PI5 | 0.84 | 0.7056 | 0.2944 | | |
| | PI6 | 0.84 | 0.7056 | 0.2944 | | |
| | Total | 3.96 | 3.7272 | 2.2728 | | |
| Intellectual Stimulation (RI) | RI1 | 0.80 | 0.6400 | 0.3600 | $\frac{\sum(FL)^2}{\sum(FL)^2+\sum(RV)}$ $=\frac{(3.98)^2}{(3.98)^2+1.8294}$ $=0.896$ | 0.904 |
| | RI2 | 0.77 | 0.5929 | 0.4071 | | |
| | RI3 | 0.82 | 0.6724 | 0.3276 | | |
| | RI4 | 0.77 | 0.5929 | 0.4071 | | |
| | RI5 | 0.82 | 0.6724 | 0.3276 | | |
| | Total | 3.98 | 3.1706 | 1.8294 | | |

As for this study, high consistency for all the items when measuring the factors has been proven by the findings from reliability tests. Comprehensively, these findings provide satisfactory evidence of TLM's reliability based on the thresholds suggested by Hu and Bentler (1998).

4. Conclusions

Despite the implementation of ideas, plans and strategies to transform teacher education, leaders in teachers training colleges need to be exposed to transformational leadership competency to lead the transformation. Thus, intensive efforts need to be taken by teachers training colleges in equipping leaders with this competency before they can uphold the vision and missions of teacher education transformation among teacher educators. It will be impossible to lead the transformation if leaders themselves are not competent enough in transformational leadership.

Hence, optimistic leaders can adapt TLM as primary guidelines to implement transformational leadership as an initial effort to lead teacher educators towards teacher education transformation. By developing an empirically tested model and a validated instrument to identify leaders' transformational leadership competency, the researchers expect that this study contributes to a better understanding of transformational leadership in teachers training colleges.

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