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The Validated Learning Transfer Factors among Malaysian Public Sector

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Abstract

Learning transfer has become a main issue in training as it symbolizes the effectiveness of the training programme and the return of the organization's investment. Therefore, researches in this area are rapidly gaining the attention of researchers in Malaysia but a much deeper investigation is still required in the Malaysian context. The most cited model that often used in literatures is Holton Conceptual Learning Transfer Model that can be generalized across organizations. The utilization of that model by some of the Malaysian researchers was due to the nature of the cross-cultural instrument and has been used by most scholars, particularly in the west. The model consist four categories namely secondary influences, motivation, environment and ability that covered sixteen learning factors; self-efficacy, learner readiness, motivation to transfer, transfer effort-performance expectations, performance outcomes expectations, feedback, peer support, supervisor support, supervisor sanctions, positive personal outcomes, negative personal outcomes, openness to change, personal capacity for transfer, perceived content validity, transfer design and opportunity to use factors. This article contributes to the identification of validated learning transfer factors among Malaysian public servants. A total of 348 sets of questionnaires were distributed among 411 public servants who had attended the training programme between April and June 2014 at the Institute of Public Administration (INTAN) south branch. The return rate was 78.45% and the confirmatory factor analysis (CFA) was conducted in order to identify the validated learning transfer factors.

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In addition, other psychometric analysis, such as convergent validity, discriminant validity and construct reliability were examined and revealed that only fifteen out of sixteen learning transfer factors was validated in the Malaysian public sector. The positive personal outcomes factor was not validated as learning transfer factors among the respondent due to two possibilities; first, no extrinsic rewards were offered after improving their performance as a result of attending a training programme and second, the position of employment among respondents. The findings also showed an impact on HRD function, specifically in the Malaysian public sector and contribute to the learning transfer concepts and theories through the validated factors.

Keywords: learning transfer; learning transfer factors

1. Introduction

In the wake of a rapidly changing world and increasingly complex national challenges, the public service is demanded to meet the customers or stakeholder expectations. Therefore, the public service needs to improve service delivery to meet this challenge and Malaysian public service is also not spared. The new introduced thrusts of "1 Malaysia: People First, Performance Now" showed that Malaysian public servants need to deliver public services beyond the expectation and spearhead the country to achieve Vision 2020. Hence, one of the Malaysian government effort was reinforced the public servants by the activities of training and development in the public service sector to be taking place as an event [15]. For instance, the Malaysian government has announced 2011 as the Malaysia Skills Year to support the workers in improving the performance of their work. In addition, the Malaysia government sets a minimum of seven days of training per year per employee in the Service Circular 2005, Public Service Department [29]. Besides that, the 10th Malaysia Plan also covered the investment in the training and development (T&D) area which the government aspires to develop, attract and retain a first-world talent employee [11]. Hence, the investments provided in training activities are certainly worth it when employees can use what they have learned during the training in the workplace effectively.

As mentioned by [16], the main key of successful training programme initiatives is the extent to which trainees apply the training content in their job. This is also supported by [39] who stated the importance of training in contributing value to the organisation, particularly when there is an application of the training content to the workplace. Therefore, investments provided in training activities are worth it when employees can use to learn skills and knowledge in the workplace effectively. [26] stressed that the impact of learning can be enhanced to 186 per cent if all learning transfer factors are utilized. In addition, [10] revealed that practitioners found that less than 20 percent of the skills and knowledge acquired in training were applied on the job. This was in line with the results of the research by [23] that showed the estimated range was between 10 and 20 percent of the applied training content. The researches in the learning transfer area are significant for HRD practices [13] due to contribute to the organizational sustainability and personal survival [5]. Therefore, the previous findings have proven the requirement to investigate the learning transfer area due to the importance of learning transfer in the workplace.

The scenario in Malaysia showed that the learning transfer factor areas have been discussed by previous researchers such as [1, 9, 16, 20, 29, 33 and 36]. Some of the researches [9, 20 and 29] were focused on selected

learning transfer factors only and others [1, 14, 21 and 33] investigated learning transfer factors by using the Learning Transfer System Inventory (LTSI) [18] that consisted of 16 learning transfer factors. However, researchers in Malaysia [14 and 21] did not examine a comprehensive learning transfer factor specifically on Malaysian public servants, even though the 16 factors of LTSI involved a comprehensive learning transfer factor and has been used in cross cultural conditions [3, 7, 10, 24, 35, 37 and 38]. Moreover, [33] has used the 16 LTSI factors for Malaysian public servants, but focused on influence of knowledge sharing in learning transfer. Thus, the requirement to conduct the research in the learning transfer area is important and necessary and the first effort of identifying the validated learning transfer factors is needed. Then, the potential factors can be used to enhance the percentage of learning transfer.

2. Literature Review

2.1 Learning Transfer

The most cited definition of learning transfer can be discussed by [2] as the generalization of knowledge, skills and abilities that is learned in training in the job context and the maintenance of that learned competencies over a period of time. This definition was supported by [5] that defined learning transfer as the degree of trainees' application of knowledge, skills and abilities gained in a training programme in their workplace. Thus, the learning transfer emphasizes the application of the learned competencies to jobs and the consistency to maintain and adapt the content to the working environment. Nevertheless, [28] have provided different insights into the definition of learning transfers. These previous researchers divided learning transfers into two types: direct and indirect. A direct transfer is achieved directly from the knowledge and skills required in the training programmes to the job environment. Direct transfer has been proven effective and contributed benefits to trainees and the organisations. However, this type of transfer is hard to achieve as it requires a huge effort and commitment from everyone participating in the training. However, the organisations can overcome this problem with trainees who has had some previous knowledge or experience with the newly acquired training content [35]. On the contrary, indirect transfer will occur when the trainee applies the knowledge, experiences, and skills obtained from the training programme informally or by chance at the workplace. This kind of transfer is easier to achieve than the direct transfer. In addition, a trainee probably becomes more confident; more disciplined and has a higher team spirit. The trainees require an opportunity to utilize what they have acquired by demonstrating the practical significance of the training content. This situation will indirectly lead to enhancing performance [27]. Regardless of the learning transfer definition, a deep understanding of factors affecting the learning transfer is needed to facilitate the application on the job in ensuring the effectiveness of the learning transfer.

2.2 Learning Transfer Factors

In the western countries, research on learning transfer factors is not a recent study because this area of research is often discussed in the field of HRD. This was evidenced by the Human Resource Development Quarterly (HRDQ) publication since 1990 that published at least one refereed article associated with learning transfer study [7].

There are two models of learning transfer factors that are often used as a reference in the area of learning transfer; The Learning Transfer Process Model by [2] (refer Figure 2.1) and The Learning Transfer System Inventory: Conceptual Model of Instrument Construct by [18] (refer Figure 2.2).

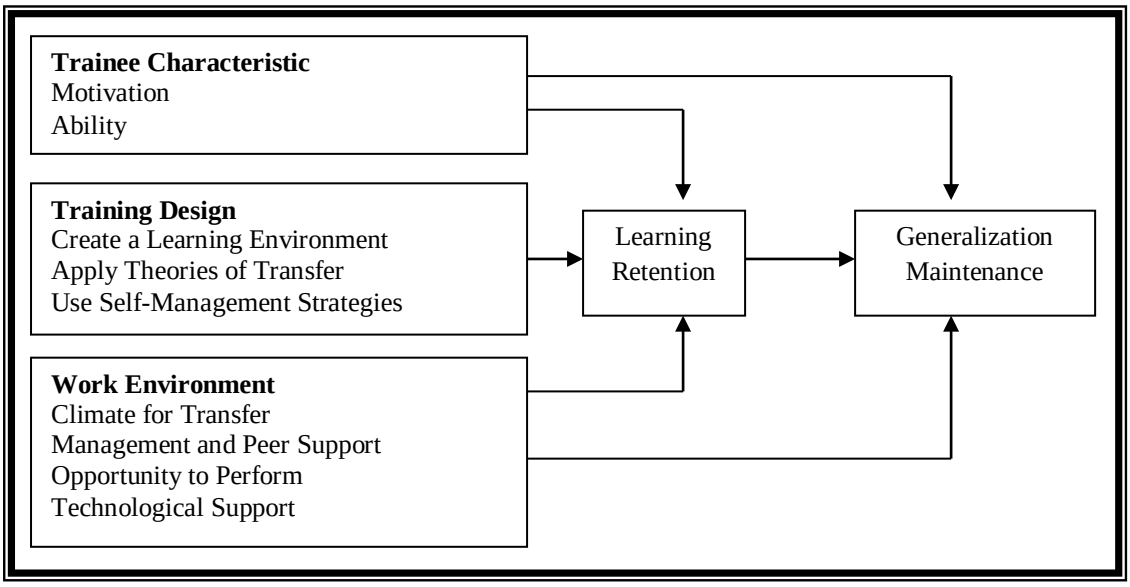


Figure 1: A Model of the Learning Transfer Process (Baldwin and Ford, 1988)

[2] provided an early model of the learning transfer process that consisted of three main learning transfer factors, namely trainee characteristics, training design and work environment. The trainee characteristics factor covered two sub factors, which are the trainee's motivation and ability towards training. For example, if the trainee has basic skill deficiencies, lack of cognitive ability to master the ability, uninspired and has low self-efficacy in learning, it will influence the learning transfer and contribute to a low level transfer [2]. On the other hand, the conceptual model by [18] (refer Figure 2.2) categorized the trainee characteristics factor in the secondary influences category that consisted of self-efficacy and learner readiness factors as well as the motivation category that comprised motivation to transfer, transfer effort performance and performance outcome expectation factors. In addition, [18] proposed the ability category that is composed of content validity, personal capacity to transfer, transfer design and opportunity to use factors.

Even though the conceptual model by [2] explained more details on trainee characteristics, but the content validity in their conceptual model was included in the ability category. This composition is different from the [2] model that described more detailed content validity on their training design factors. The training design factors in the [2] model incorporated sub factors of creating a learning environment, application of transfer theories and applications in self-management strategies. The training design factors are defined as the characteristics of the learning environment that covered learning objectives, meaningful materials, feedback, an opportunity to practice, organization and physical features of the training site [2]. Finally the work environment factors in the [2] model consisted of four sub factors that covered climate for transfer, management and peer support, the opportunity to perform and technological support.

For instance, the conducive training climate can be used to enhance learning and the use of technology such as the electronic performance support systems (EPSSs) that can provide access to information on the skills they have learned and the advice and guidance of an expert [2]. On the contrary, [18] explained seven learning transfer factors in the environment category. There are feedback, positive personal outcomes, negative personal outcomes, peer support, supervisor support, supervisor opposition and resistance/openness to change factors.

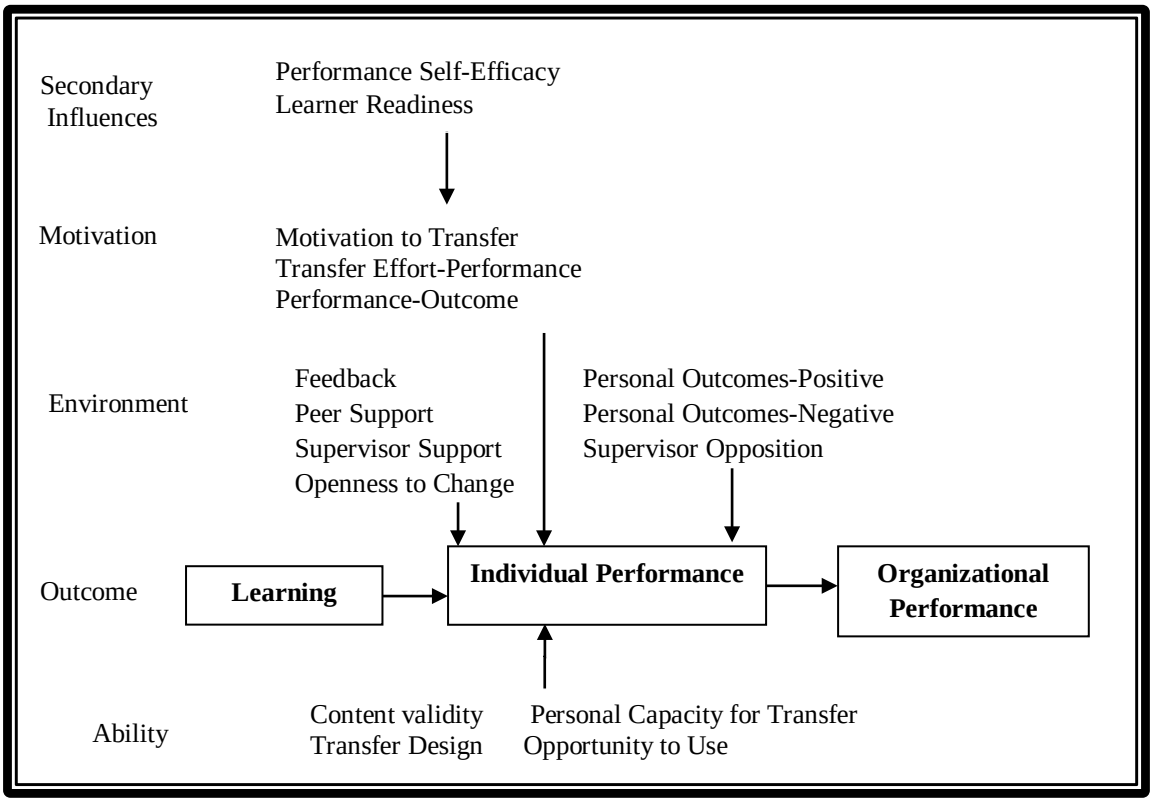


Figure 2.2: Learning Transfer System Inventory: Conceptual Model of Instrument Construct (Holton, et.al. 2000)

Overall, the [18] conceptual model more comprehensively explains the learning transfer factors as the research was conducted after the study by [2]. Initially, [16] adapted the instrument by [30] and developed the Concept of Evaluation and Learning Transfer Measurement Model. The process continued in 1997, till 2000 when Holton and his colleagues developed an instrument known as the Learning Transfer System Inventory (LTSI) [17, 18] with four categories, which are secondary influence, motivation, environment and ability. The significant justification in identifying the potential validated learning transfer factors could be used as a strategy in overcoming issues such as knowledge or skill decline.

Previous scholars such as [31] revealed that employees only use 50 percent of the skills learned after three months, decreased to 45 percent after 6 months, and further declined to 35 per cent after 12 months. The results revealed that the requirement to conduct the research is important and necessary in terms of identifying the validated learning transfer factors. Hence, the potential factors can be used to enhance the percentage of learning transfer in an organisation.

2.3 The Learning Transfer Factors Studies in Malaysia

The research on the learning transfer area in Malaysia is increasingly gaining the attention of researchers in Malaysia such as [1, 9, 14, 20, 21, 29, 33 and 36]. Some of the researchers [1, 14, 21 and 33] had used the [18] conceptual model as a guideline for their research framework due to the nature of the cross-cultural instrument and that it has been used by most of the previous scholars in the transfer area [3, 7, 10, 24, 35, 37 and 38].

However, some of the researchers added other factors to their studies according to their research contexts. For instance, [33] conducted a study on the influence of knowledge sharing factors toward training transfer factors derived from [18]. The results showed that the knowledge sharing factor is stable and highly rated across training types and trainees' demographics. Other scholars such as [1] added three more learning transfer factors (curriculum design, instructional delivery and learning process factors) associated with 16 factors from [18] according to their research context. The findings of study on the effectiveness of learning transfer among the automotive mechatronics course trainees of the National Dual Training System (NDTS) programme indicated that the dimensions for effective learning transfer are the course content, training delivery and working tasks. Nevertheless, the finding by [1] is in contrast to the study by [21], who only incorporated the International Personality Inventory Pool (IPIP) with 16 factors by [18]. However, the two previous researchers found that training design factors played an important role in influencing the learning transfer. This result was supported by [14] study on transfer factors toward cognitive training and effective learning in the level 1 Sport Science Course by the Malaysian National Sports Council. [14] only used 16 factors from [18] and found the ability category at a high level and effects on effective learning in the sport context. The use of the ability category from the [18] conceptual model also covered the perceived content validity factor and transfer design factors. These factors have a similar definition to the course content factors [1] and transfer design factors [21]. Hence, the training design factors should also be taken into account when designing the training in the sports context.

Meanwhile, there are other researchers in Malaysia that examined some of the factors on learning transfer but not as a comprehensive study of factors. For instance, [29] who investigated the training design factors as content validity, transfer design and motivation to transfer factors. The findings showed that the three factors contributed to 65 % of the learning transfer. This result was supported by [9] that revealed the motivation to transfer and training design factors has a significant correlation with the learning transfer as well as transfer climate factors. In summary, the learning transfer factor in Malaysia is theoretically more influenced by the researches of the west. In line with the transformation phase in the Malaysian public sector that challenges the capability of civil servants to contribute to high performance, efforts by Malaysian researchers to customize the learning transfer factors in the Malaysian context inspired more future scholars to explore this area in more depth. Hence, the current research is very important in venturing the area of learning transfer in the Malaysian public sector.

3. Material and Methods

The current research measured the learning transfer factors, by adapting the Learning Transfer System Inventory (LTSI) instrument version 4 by [19] which represent sixteen factors with 48 items.

The LTSI was chosen because it has been used by several researchers in Malaysia such as [1, 14, 21 and 33]. In addition, the instrument can be applied in cross-cultural conditions as shown in the previous studies in Thailand [38], Taiwan [7], Jordan [24], Belgium [10], Ukraine [37], Germany [3] and Portugal [35]. However, the adaptation also considered the LTSI used by [33] as it had a similar research context; Malaysian public servants.

In order to achieve face validity from the experts and the respondents, the research instrument was then distributed to three academicians in the human resource development field that consists of academicians from Universiti Teknologi Malaysia, Universiti Malaysia Kelantan and Universiti Teknologi Petronas to check the items before conducting the pilot test session. After considering the expert comments, some of the adaptation was done by referring to [33] and a discussion with the research supervisor. Therefore, there were 57 items in the pilot test session. The questionnaire was then pilot tested with 25 trainees that were selected from the database. There were five respondents who had been asked to contribute a direct comment on the given questionnaire. The results showed that the reliability test of the learning transfer factor variables in the pilot test session was 0.882. The Cronbach alpha value was between 0.65 to 0.95 and considered satisfactory to measure the concept in the study [8].

Initially, a total of 348 sets of questionnaires were distributed to the trainees who have attended the training programme at the Institute of Public Administration (INTAN) south branch between April and June 2014. The return rate was 78.45% (273 returned questionnaires). The data screening process was conducted to ensure no errors in the data entry by detecting any ‘out of range values’ using the ‘Descriptive’ and ‘Frequencies’ commands. All the responses were complete without missing values.Nexrt, the process continued with the Mahalanobis Distance (D^2) test to check the outliers by using a level of significant 0.001 that showed the critical value was 39.26 with df = 16. The seventeen cases were identified as outliers and needed to be removed in order to avoid inaccurate results in further analysis. Hence, a final total of the sample was 256 respondents. Then the preliminary analysis, such as normality test and multicollinearity test were conducted to ensure that the requirement of the multivariate analysis is fulfilled.

In order to conduct a preliminary test of unidimensionality of measurement scales and eliminate ‘suspicious’ variables [25], the confirmatory factor analysis (CFA) was used. In addition, the CFA was conducted to assess the adequacy of the measurement items which connected to corresponding latent variables simultaneously [4]. The priority in the CFA analysis is given by the factor loading that signifies the strength of the regression paths [6]. Previous researchers suggested using a cut off of 0.50 for a sample size that has more than 120 respondents in assessing the practical significance of standardized factor loadings [12]. As a result, the factor loading with under 0.50 values item in the current research were omitted. Moreover, the CFA analysis also investigated the value of the fitness index between the measurement models and the real sample data from the respondents. Thus, the information concerning the fitness index category, their level acceptance, and comments is presented as suggested by [40]. The convergent validity was also tested through the average variance extracted (AVE) and the value of AVE should be greater or equal to 0.50 [40] while the discriminant validity when the correlation value for each pair of latent construct should be less than 0.85 [40].

In addition, the internal consistency which refers to the correlation between each item in the test scores with the total score for all items in the test (the test index score) was investigated. This type of reliability is accessible when the Cronbach's Alpha value is equal or greater than 0.70 [8]. On the other hand, the construct validity can be measured by CFA results in terms of a construct reliability value that should be equal to or more than 0.60.

4. Results

4.1 Demographic Profile

The demographic profile showed that the distribution of female respondent was 188 (73.4%) compared than male respondents which was 68 respondents (26.6%). This indicated that female respondents were more than male respondents. The distribution of age presented that most who attended training in research period were 31 to 40 years of age (45.7%) and most of the research respondents were from Malay race (93.8%), followed by Indian (4.2%) and Chinese (2%). The respondents' levels of education indicated that 39.8% of the respondent had SPM as their higher level of education and represented the highest number of respondents. However, there was 27.3% diploma holder, followed by STPM level (14.5%) and 10.2% respondents with a variety of certificates. The respondents who held bachelor degree were 7% and others educational level, such as a master's degree were 1.2% only. The distribution of respondent by work experience revealed that most had work experience between 5.1 to 10 years (40.6%). This was followed by respondents who had work experience in between 2.1 to 5 years (23.4%) and between 10.1 to 15 years (20.3%). Respondents who had work experience between 15.1 to 20 years were 9%, while who had more than 20 years' work experience were 5.5%. Those who were having less than 2 years of work experience recorded the lowest frequency (1.2 %). Most of the respondents of the current research attended the 'Kursus Memperkasa Tadbir Urus Perhubungan Pelanggan' (12.9%) out of eleven courses.

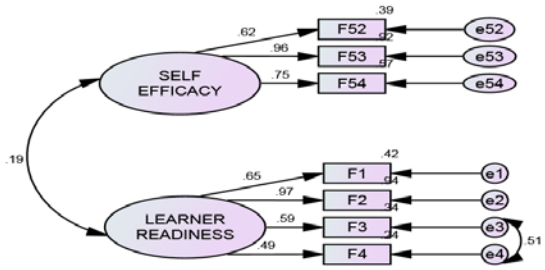
4.2 The CFA of Learning Transfer Factors

The CFA was conducted based on four categories, namely secondary influences, motivation, environment and ability that consists sixteen factors of learning transfer from the [18] conceptual model.

4.2.1 The CFA of Secondary Influences

The secondary influences category consisted two learning transfer factors, namely self-efficacy and learner readiness. Self-efficacy has three items while learner readiness has five items. Therefore, the measurement model for secondary influences category was constructed with eight items. In the beginning of CFA, the results revealed that all factor loading was more than 0.50 except for item no. 5 ("prior to the training, I know the knowledge/skills/abilities that should have been obtained from the training program") that showed 0.476 of the factor loading for learner readiness factors. The fitness index also not fulfill the requirement with $\chi^2 = 118.364$ ($P<0.05$), RMSEA = 0.143, GFI = 0.897, AGFI = 0.805, CFI = 0.870, TLI = 0.808, NFI= 0.850 and (χ^2 / df) = 6.230. Therefore, the current researcher omitted the item F5 and the CFA result obtained showed that all the factors loading was more than 0.50. However, there were a few fitness index that still cannot access the level of requirement ($\chi^2 = 78.179$ ($P<0.05$), RMSEA = 0.140, GFI = 0.916, AGFI = 0.819, CFI = 0.904, TLI = 0.846, NFI= 0.889 and (χ^2 / df) = 6.014).

Hence, the current researcher need to refer modification index and did correlation between e3 and e4 as proposed. Finally, the fitness index of secondary influences category had fulfilled the requirement as indicated in Figure 4.1. The fitness index presented the good fit result as χ^2 = 17.835 (P>0.05), RMSEA = 0.044, GFI = 0.981, AGFI = 0.956, CFI = 0.991, TLI = 0.985, NFI= 0.975 and (χ^2 / df) = 1.486. The factor loading for learner readiness factors were ranging between 0.49 to 0.971 and self-efficacy from 0.622 to 0.961 (refer measurement model in Figure 4.1). Even though F4 had the factor loading value 0.49 (below 0.50) but the current researcher still accept the item because it still represent the learner readiness factor. Item F4 was referring to "prior to the training, I prepare to participate in the training program". In addition, it was near 0.50 and the fitness index showed better results. Therefore, the final measurement model for secondary influences construct that consisted self-efficacy factors and learner readiness factors were shown in Figure 4.1.



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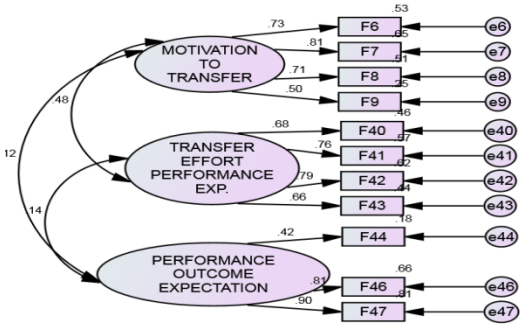
4.2.2 The CF

The motivation (er (four items), transfer effort-performan tors (four items). Each factor has four it motivation category has all factor loading that have factored load of 0.463 and 0.4 e fitness index also not fulfil the require I = 0.809, CFI = 0.850, TLI = 0.806, NFI= 0.815 and (χ^2 / df) = 4.201. Hence, F45 with the lowest factor loading was omitted. Then, the fitness index result showed the new value index that approximately fulfill the level of acceptance (χ^2 = 118.677 (P < 0.05), RMSEA = 0.086, GFI = 0.925, AGFI = 0.880, CFI = 0.920, TLI = 0.892, NFI= 0.884 and (χ^2 / df) = 2.897). For examples, the value of AGFI, TLI and NFI that's still below 0.90.

However, the entire factor loading was more than 0.50 except for item no. 44 ("I expected to receive a variety of facilities if my performance improved") that became lower; 0.420. If the current researcher deletes the item F44, the performance outcome expectation factors will consist two items only and cannot be used for the next analyses purpose. In addition, other items in the factor such as F46 and F47 still have high factor loading with 0.811 and 0.902 respectively. The next solution is to investigate the modification index. However, modification index proposed to correlate e8 with e9 but the result showed that the effort effected the value of the factor loading for item no. 9 (F9 -motivation to transfer factor) to become 0.436 (below 0.50). Therefore, the current

researcher still remains the item F44 due to all these reasons and the final fitness index for motivation group was described as Figure 4.2.

Figure 4.2 represented the CFA results of motivation category with 11 items remain. The value of AGFI, TLI and NFI still below 0.90 but previous researchers such as [38] interpreted that the value of fitness that close to 0.90 still reflects a good fit. The factor loading for motivation to transfer factors were ranging between 0.503 to 0.808, transfer effort-performance expectation factors were between 0.662 to 0.788 and performance outcome expectation factors consist between 0.420 to 0.902. Hence, the final measurement model for the motivation category that involved three learning transfer factors was shown in Figure 4.2



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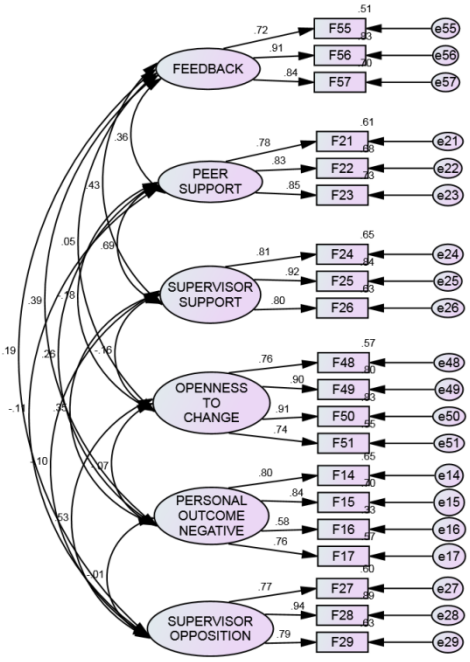
4.2.3 The CFA of Environ

The environment category has), peer support (3 items), supervisor/manager support (3 items), openness to change (4 items), personal outcomes positive (4 items), personal outcomes negative (4 items) and supervisor/manager opposition (3 items). Therefore, the measurement model for environment was constructed with 24 items. The results of CFA initially revealed that all factor loading was more than 0.50 except for item no. 10 (" the effectiveness of my work will be increased when I apply the knowledge/skills/abilities learned") and item no. 11 ("I will be satisfied when I apply the knowledge/skills/abilities that learned in training program successfully") that have factored load of 0.280 and 0.231 respectively for personal outcomes positive factors. Three indicators in the fitness index showed the value below 0.90 (GFI, AGFI and NFI). The result was $\chi^2 = 484.841$ ($P < 0.05$), RMSEA = 0.066, GFI = 0.867, AGFI = 0.827, CFI = 0.926, TLI = 0.912, NFI= 0.869 and (χ^2 / df) = 2.099.

Initially, the current researcher omitted item F11 that contributed the lowest factor loading. The result became $\chi^2 = 372.142$ ($P < 0.05$), RMSEA = 0.055, GFI = 0.892, AGFI = 0.858, CFI = 0.951, TLI = 0.941, NFI= 0.896 and (χ^2 / df) = 1.781. Even though the result of fitness index was improved to close the level of acceptance, especially for GFI, AGFI and NFI, the factor loading for F10 became more lower; 0.259. The result of modification index that correlate between e16 and e17 also showed the same value of the factor loading of F10 (0.259 too). The personal outcome positive factors has 4 items and if the current researcher deletes F10, the items will be become 2 (consider that F11 was omitted before this). The item F10 cannot remain because the value of the factor loading was too low (0.259) and can contribute to the low of construct validity. If the current

researcher omit the personal outcomes positive factors, the results became better and gain better fitness results. Therefore, the current researcher needs to leave out personal outcome positive factors in the environment category to achieve a good result of CFA. The final results of environment group without personal outcome positive factors were shown as Figure 4.3. Figure 4.3 showed the final fitness index for environment category that be composed of six learning transfer factors with 20 items (χ^2 = 298.857 (P < 0.05), RMSEA = 0.060, GFI = 0.90, AGFI = 0.864, CFI = 0.952, TLI = 0.941, NFI= 0.906 and (χ^2 / df) = 1.928). All the value fulfills the level of requirement acceptance exclude AGFI that approximately close to 0.90. The factor loading for feedback factors were ranging between 0.716 to 0.909, peer support factors; 0.779 to 0.853, supervisor/ manager support; 0.796 to 0.919, openness to change; 0.744 to 0.911, negative personal outcomes; 0.577 to 0.837 and supervisor/manager opposition; 0.773 to 0.942. The summary of the factor loading can be clearly described as shown in Figure 4.3

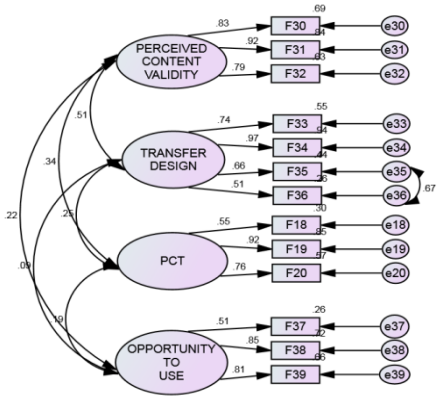


Figure

4.2.4 The CFA of Ability

The ability category consists of four learning transfer factors; perceived content validity (3 items), transfer design (4 items), a personal capacity to transfer (3 items) and opportunity to use (3 items). The total items of ability group were 13 items. The CFA results revealed that all 13 items contributed above 0.50 in factor loading values. Nevertheless, the results showed that the fitness index value were not fulfilled the requirement of level acceptance (χ^2 = 386.410 (P < 0.05), RMSEA = 0.148, GFI = 0.816, AGFI = 0.716, CFI = 0.810, TLI = 0.749, NFI= 0.786 and (χ^2 / df) = 6.549). Therefore, the current researcher correlates e35 with e36 as proposed by modification index. The fitness index then improved as χ^2 = 252.677 (P < 0.05), RMSEA = 0.115, GFI = 0.878, AGFI = 0.809, CFI = 0.887, TLI = 0.848, NFI= 0.860 and (χ^2 / df) = 4.357 with all items were above 0.50 of the factor loading. The next modification index, then cannot be conducted due to different factors in proposed

correlation. Therefore, the value of fitness was sufficient for this research because all the items were above 0.50 factor loading and value of GFI, AGFI, CFI, TLI and NFI approximately close to 0.90 that still reflects a good fit [32]. The final model measurement for ability category was presented as Figure 4.4. The factor loading for perceived content validity factors were ranging between 0.792 to 0.915, transfer design factors; 0.512 to 0.968, personal capacity to transfer factors; 0.545 to 0.924 and opportunity to use factors ranging between 0.508 to 0.846.



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4.3 Convergent Validity

The investigation on the learning transfer factors was continued with others validity measurement such as convergent and discriminant validity as well as reliability.Both of convergent and discriminant validity are subcategories of construct validity. The purpose of convergent validity is to measures the constructs that theoretically should be related to each other are, in fact, observed to be related to each other. Convergent validity is achieved when all items in measurement models that are tested in CFA are statistically significant. This validity could be measured through average variance extracted (AVE) and the value of AVE should be greater or equal to 0.50 [40]. Table 4.1 revealed that AVE value for all measurement models were above 0.50 a range between 0.50 to 0.720. Therefore, all the CFA models can demonstrate convergent validity. Meanwhile discriminant validity purpose is to measure the constructs that theoretically should not be related to each other are, in fact, observed to not be related to each other. The discriminant validity obtained when the measurement model is free from redundant items and the correlation value for each pair of latent construct should be less than 0.85 [40]. The results from Table 4.6 showed that all the values of the correlation between latent variables were less than 0.85 with a range between -0.16 to 0.69. In addition, the discriminant validity also can be achieved when the value of the square root of AVE is higher than the correlation value. Table 4.1 revealed that all square root of AVE is higher than the correlation between the latent variables. Hence, the CFA models fulfill the requirement and achieved the discriminant validity.

Table 4.1: Validity and Reliability of the Learning Transfer Factors

Latent Variables	Retained Items	Factor Loadings	AVE	Correlation between latent variables	Cronbach's Alpha	CR	Square root of AVE
Self -Efficacy	F52, F53, F54	0.62-0.96	0.623	0.19 (Secondary Influences Category)	0.769	0.828	0.789
Learner Readiness	F1, F2, F3, F4	0.49-0.97	0.50		0.779	0.781	0.699
Motivation to Transfer	F6, F7, F8, F9	0.50-0.81	0.50	0.12 – 0.48 (Motivation Category)	0.778	0.786	0.697
Transfer Effort Performance Expectation	F40, F41, F42, F43	0.66-0.79	0.525		0.770	0.815	0.725
Performance Outcome Expectation	F44, F46, F47	0.42-0.90	0.548		0.769	0.770	0.740
Feedback	F55, F56, F57	0.72-0.91	0.684	-0.16 – 0.69 (Environment Category)	0764	0.866	0.827
Peer Support	F21, F22, F23	0.78-0.85	0.673		0.776	0.861	0.820
Supervisor Support	F24, F25, F26	0.80-0.92	0.714		0.767	0.882	0.845
Openness to Change	F48, F49, F50,F51	0.74-0.91	0.689		0.815	0.898	0.830
Personal Outcome Negative	F14, F15, F16, F17	0.58-0.84	0.565		0.774	0.836	0.752
Supervisor Opposition	F27, F28, F29	0.77-0.94	0.70		0.819	0.874	0.837
Perceived Content Validity	F30, F31, F32	0.79-0.92	0.720	0.09 – 0.51 (Ability Category)	0.769	0.885	0.849
Transfer Design	F33, F34, F35, F36	0.51-0.97	0.546		0.775	0.820	0.739
Personal Capacity for Transfer	F18, F19, F20	0.55-0.92	0.576		0.775	0.796	0.759
Opportunity to Use	F37, F38, F39	0.51-0.85	0.546		0.766	0.776	0.739

The reliability investigation of the current research examined criteria of internal reliability and construct reliability (CR). The internal reliability is achieved when the Cronbach's Alpha value is equal or greater than 0.70 [8, 40]. The results showed that all the Cronbach's Alpha value for the measurement models were between 0.764 to 0.819 and indicated the consistency of internal reliability. The CFA results also revealed that CR values were more than 0.60 in a range between 0.770 to 0.898 and indicated that all measurement models were achieved the construct validity. This is aligned with [40] who proposed the value of construct reliability (CR) should be equal or more than 0.60 in order to obtain construct reliability.

5. Discussion and Conclusion

The discussion of the learning transfer factors analysis revealed that the used of CFA yielded final validated learning transfer factors that consists 15 factors only. The positive personal outcomes factor needs to be omitted due to the low factor loading of two items that can contribute to the low value of the average variance extracted (AVE) and construct reliability. In addition, the CFA results showed the factors were learner readiness (four items out of five), motivation to transfer (four items), personal-outcome negative (four items), personal capacity for transfer (three items), peer support (three items), supervisor/manager support (three items), supervisor/manager opposition (three items), perceived content validity (three items), transfer design (four items), opportunity to use learning (three items), transfer- effort performance –expectation (four items), performance -outcome expectations (three items out of four), openness to change (four items), self-efficacy (three items) and feedback (three items). Therefore, the total of items in the learning transfer factors was fifty one items. According to the concept of positive personal-outcomes, trainees will execute learning transfer if the transfer contributes to a positive outcome for themselves [18]. However, in the context of the current research, positive results such as increased work effectiveness, increased personal satisfaction, award a good performance assessment, acquire an additional respect, obtain a good career development plan as well as other opportunities to advance in the organization did not validate on the respondents. In contrary, previous researches showed that rewards can facilitate the trainee motivation to learn and transfer it to the workplace [34]. In addition, there was a direct impact between extrinsic personal outcomes (e.g.: pay and promotion) and intrinsic personal outcomes (e.g.: praise and recognition) on post training behavior [34].

These current results might due to two possibilities: first, practically employers in the Malaysian public sector do not provide extrinsic rewards to their employee when they have improved their performance as a result of attending training programme [33]. Nevertheless [33] proposed that public servant in Malaysia expects more their rewards on intrinsic nature (e.g. being more entrusted, satisfied or empowered).Generally, promotion is not simply be gained for just attending training in the public sector in Malaysia, although the performance can increase as a result of attending the training. However, there are a series of necessary training needed to be attended by Malaysian civil servant as a compulsory requirement for job confirmation such as a mental transformation program or induction course. Second possibility may due to the position of employment. The current findings showed that most of the respondents were from supportive staff level and previous research revealed that this demographic factor was significantly different in term of positive personal –outcomes factor. Trainees from the management group were rated the positive personal –outcomes factor higher than trainees from the supportive group [33]. This point is taken up in recommendation for future researchers, particularly in selecting an equal number of respondents from both management and supportive levels.

In summary, the article provided fifteen validated of learning transfer factors among in a Malaysian public servants. Therefore Malaysian government, specifically the training department could utilize the findings to emphasize the validated learning transfer factors among public servants. In addition, the current research expanded the learning transfer factors from Malaysian context that contribute to the transfer area.

6. Research Recommendations

The future researchers are proposed to conduct longitudinal research study to validate the current research findings. The longitudinal studies involve using and collecting data that can assist HRD department determining their employee learning transfer factors patterns. In addition, future research are recommended to collect the data from both public and private sectors. Previous studies have presented evidence that the factors associated with learning transfer were different significantly between the public and private sectors [7]. The expanded of the transfer area also could investigate the effect of the factors on specific variables such as individual job performance and organizational performance.

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