



Is job satisfaction enhancing learning-training transfer relationship?

Job satisfaction

543

Abdul Rahim Zumrah

*Faculti Kepimpinan dan Pengurusan, Universiti Sains Islam Malaysia,
Negeri Sembilan, Malaysia*

Received 7 February 2013
Revised 19 June 2013
Accepted 30 June 2013

Abstract

Purpose – One important factor that influences the success of transfer of training in the workplace is the employees' learning level following the training. The association between learning and transfer of training has been established by previous studies. However, to date only a few empirical studies have examined the moderating factor that could strengthen the link between these two variables. This study has been conducted to address this gap. Specifically, the purpose of this paper is to explore the moderating effect of job satisfaction on the relationship between learning and transfer of training.

Design/methodology/approach – The data for this study have been collected from two sources: the employees of public sector organizations in Malaysia and their supervisors through surveys.

Findings – The findings reveal that learning has an important role as a predictor of transfer of training but job satisfaction was found to have no moderating effect in this study.

Research limitations/implications – The finding illustrates that management in public sector need to ensure that the employee gains new knowledge and skills from a particular training they have attended, in order to maximize return on training investment.

Originality/value – This study extends the discussion and understanding on factors that influence transfer of training at public sector organizations in a non-Western context, specifically Malaysia, a developing country in Southeast Asia.

Keywords Job satisfaction, Public sector, Malaysia, Learning, Transfer of training

Paper type Research paper

Introduction

A theme of training research that has continued to receive the attention of scholars is transfer of training. Transfer of training refers to the consistent application of knowledge, skills and attitudes that have been gained during training, to the workplace (Blume *et al.*, 2010). A review of the transfer of training literature reveals that most studies have generally focused on identifying the factors that affect the transfer of training. Researchers in this area believe an adequate understanding of these factors will help organizations enhance the application of the new learned knowledge, skills and attitudes in the workplace (Yamkovenko *et al.*, 2007).

One important factor that influences the success of transfer of training in the workplace is the employees' learning level following the training. Learning is defined as the extent to which employees change their attitudes, improve their knowledge and increase their skills as a result of attending training (Kirkpatrick, 1994). The association between learning and transfer of training has been empirically supported by a number of studies conducted among various levels of employees and organizations (e.g. Leach and Liu, 2004; Liebermann and Hoffmann, 2008; Nijman *et al.*,



2006; Tziner *et al.*, 2007). These studies found that employees who gain new knowledge, skills and attitudes concerning particular training content positively apply the learned knowledge, skills and attitudes on the job.

A number of other studies, however, have found limited success in empirically demonstrating the relationship between learning and transfer of training. For example, a longitudinal study by Warr *et al.* (1999) found that the correlation between learning and transfer of training was small. A similar result was found in a meta-analysis by Alliger *et al.* (1997). Furthermore, the magnitude of the relationship between learning and transfer of training was found to be lower in a study by Tan *et al.* (2003) than that of Alliger *et al.* (1997). Based on these facts, a number of researchers have called for research that examines potential moderators of the relationship between learning and transfer of training (e.g. Aguinis and Kraiger, 2009; Tan *et al.*, 2003).

Reviews of transfer of training literature reveal that relatively few studies have examined the factors that may moderate the relationship between learning and transfer of training. One study did, however, test the role of supervisor support, peer support and organizational continuous learning culture as moderating factors on the association between learning and transfer of training. The results of the study showed that no moderating effects were found. The study found those factors were directly related to transfer of training (Tracey *et al.*, 1995). Another recent study has examined the moderating effect of perceived organizational support (POS) on the relationship between learning and transfer of training (Zumrah *et al.*, 2012). The results of the study also showed that no moderating effects of POS were found. Due to the paucity of research on this issue, this study has been conducted to fill the gap by testing the moderating effect of job satisfaction in the relationship between learning and transfer of training. According to Baldwin and Ford (1988), the trainee characteristics including their behavior toward job are the factors that can influence the success of transfer of training in the workplace.

By studying job satisfaction as a moderator of the relationship between learning and transfer of training, this study aims to make three contributions. First, this study adds to the small number of studies examining moderators of the learning and transfer of training relationship (Tracey *et al.*, 1995; Zumrah *et al.*, 2012). Researchers have noted that studying the moderating factors that could strengthen the association between learning and transfer of training is an important research direction (Aguinis and Kraiger, 2009; Tan *et al.*, 2003). This study is unique due to it examined the moderating effect of trainee characteristic factor on learning-transfer of training relationship. Previous studies (e.g. Tracey *et al.*, 1995; Zumrah *et al.*, 2012) have focus on exploring the moderating effect of work environment factors on learning-transfer of training relationship. Second, this study extends the literature by examining the effect of job satisfaction on transfer of training. To date the number of empirical studies that have examined the effect of job satisfaction on the success of transfer of training is still limited (Jodlbauer *et al.*, 2012), particularly in the context of public sector organizations. Third, this study discusses transfer of training in public sector organizations in a non-Western context. Generally, previous studies have been conducted mostly in private sector organizations (Schumaker, 2004) based in the USA (Velada *et al.*, 2007). This study extends the understanding of transfer of training in Malaysia's public sector organizations, since the discussion on this issue in this context is still limited in the literature (Baharim, 2008).

Literature review

The learning-transfer of training relationship

Researchers in the field of transfer of training have consistently suggested that learning might have a direct and positive effect on the transfer of training (e.g. Baldwin and Ford, 1988; Goldstein and Ford, 2002; Thayer and Teachout, 1995). Other researchers also posit that learning is a prerequisite for transfer of training to occur in the workplace (Pineda, 2010). The previous indications would suggest that if employees gain new knowledge, skills and attitudes from the training, they are more likely to apply those training outcomes to their work context. This assumption has been supported by a number of empirical studies conducted in various organizations such as insurance industry (Leach and Liu, 2004), banking sector (Liebermann and Hoffmann, 2008), advanced technology organizations (Nijman *et al.*, 2006), a restaurant (Rouiller and Goldstein, 1993), hotels (Tracey *et al.*, 2001), an industrial power company (Tziner *et al.*, 2007) and the electronics industry (Xiao, 1996).

There are two reasons why learning has a positive impact on transfer of training. Firstly, gaining new knowledge, skills and attitudes from the training should enhance the employees' ability to use various cognitive and behavioral tactics or strategies to apply their training outcomes to their job even in less supportive work environments (Roberson *et al.*, 2009). Second, by gaining new knowledge, skills and attitudes from the training the employees' intention to practice the new learned knowledge, skills and attitudes to their workplace should increase (Liebermann and Hoffmann, 2008; Nijman *et al.*, 2006). On this basis, it is hypothesized that:

H1. Learning will be positively related to transfer of training

Job satisfaction as a moderator of the learning-transfer of training relationship

Despite the fact that many studies have found a significant relationship between learning and transfer of training, a number of studies report limited success in empirically demonstrating the relationship between learning and transfer of training (e.g. Alliger *et al.*, 1997; Tan *et al.*, 2003; Warr *et al.*, 1999). A recent meta-analysis study indicated that learning has a small and moderate effect on transfer of training after considering the effect of the same source of data and same measurement context of data (Blume *et al.*, 2010). Based on these findings, it can be argued that an improvement in employees' knowledge, skills and attitudes following training has a limited effect on supporting the transfer of training (Frisque and Kolb, 2008). It is likely that there are potential moderating factors that may enhance the association between learning and transfer of training (Aguinis and Kraiger, 2009; Tan *et al.*, 2003). This study posits that job satisfaction might moderate the relationship between learning and transfer of training.

Job satisfaction is defined as "how people feel about their jobs and different aspects of their jobs. It is the extent to which people like or dislike their jobs" (Spector, 1997, p. 2). Employees who are satisfied with their job will normally demonstrate a high commitment to their organization (Bai *et al.*, 2006). Research shows that highly committed employees will indicate a high level of motivation to learn in a training activity organized by their workplace (Naquin and Holton, 2002) and are motivated to transfer the training outcomes back to their job (Kontoghiorghes, 2004). In addition, employees who are highly satisfied with their job also will demonstrate high self-esteem (Back *et al.*, 2011). Research shows that employees who believed in

themselves (in terms of capabilities, for example) were highly motivated (Chiaburu and Lindsay, 2008) and committed to achieving a positive transfer of training in the workplace (Machin and Fogarty, 1997). They also will show a high intention to engage in specific behaviors that would facilitate transfer of training (Machin and Fogarty, 2003). Therefore, it is expected when employees have a high degree of satisfaction with their job, learning will have a stronger positive effect on transfer of training. Thus, the following hypothesis is proposed:

- H2. Job satisfaction will moderate the relationship between learning and transfer of training, specifically the relationship between learning and transfer of training will be stronger if employees have high satisfaction with their job.

Based on the proposed hypotheses, the research framework is presented in Figure 1.

Methodology

Sample

The sample for this study are the public sector employees in Malaysia, who participated in a financial training course organized by the National Institute of Public Administration (INTAN) in 2009 and 2010, along with their supervisors. The list of the employees was accessed from the INTAN database system after receiving their approval. INTAN is a training centre that provides employees in the Malaysian public sector with various kinds of training.

In total, 251 surveys from the employees and 251 surveys the employees’ supervisor were collected. However, after screening the data, 29 cases showed incomplete responses or missing values. Therefore, all the 29 cases with missing values were deleted. Deleting the incomplete responses or cases with missing values was argued as the safest method because it is not prone to Type I errors, where a true null hypothesis was incorrectly rejected (Allison, 2002). This approach also is more likely can produce accurate estimates of standard error, confidence interval and *p*-values of the analysis (Allison, 2002), and in line with previous transfer of training studies (e.g. Naquin and Holton, 2002; Yamkovenko and Holton, 2010). After deleting the 29 incomplete surveys, the complete and usable surveys totaled 222, both from employees and their supervisors (response rate was 82 per cent).

Of the employees surveyed, 68 per cent (*n* = 151) were female and 32 per cent (*n* = 71) were male, the average age being 34. The majority, i.e. 68.5 per cent (*n* = 152) have worked in public sector organizations for between one and nine years, and the remaining 31.5 per cent (*n* = 70) have worked in them for more than ten years. Concerning the supervisors, 51.4 per cent (*n* = 114) were female and 48.6 per cent (*n* = 108) were male, the average age being 41. In terms of work experience, 38.7 per cent (*n* = 86) of them have worked in public sector organizations for between 1 and 9 years, while the remaining 61.3 per cent (*n* = 136) have ten years or more experience in the public sector.

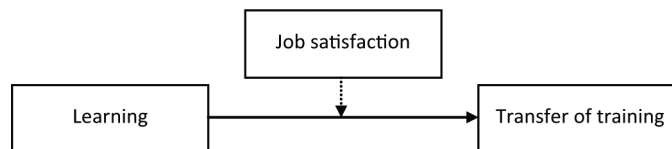


Figure 1.
Research framework

Procedures

The data of this study were collected from the respondents (the employees and their supervisors) through a survey questionnaire. This questionnaire was designed in English and translated into the Malaysian national language. The use of the translated version improved readability for the respondents (Bates and Khasawneh, 2005) and increased the likelihood that the instrument would operate in this new target culture just as it had in the original culture in which it was developed (Velada *et al.*, 2009).

The employee questionnaire contained questions relating to both learning and job satisfaction. It is argued that the employees are credible persons who can provide data on learning because they are the individuals who went through the training and know exactly the improvement they achieved (Phillips, 1997). They are also the best sources of information to measure job satisfaction (Spector, 1997). The employees' supervisors' questionnaire contained questions about transfer of training. According to researchers, the supervisor is the best source of data to measure transfer of training (Arthur *et al.*, 2003; Phillips, 1997). Collecting transfer of training data from an employee's supervisor can validate the transfer of training performance (Axtell *et al.*, 1997) and can decrease the potential of common method variance (Blume *et al.*, 2010).

An arbitrary code number was assigned to each survey in order to associate the feedback received from the employees and the employees' supervisors.

The surveys were anonymous and were delivered personally to the respondents as the respondents were located in a local area and the researcher had obtained approval to meet them (Cavana *et al.*, 2001; Sekaran and Bougie, 2010). Evidence from previous studies indicates that this method produces higher response rates when it is applied in the context of this type of study (Tay, 2008). A brief description of the study was presented to the respondents including the study aims and background. In addition, the issue of anonymity, confidentiality and voluntary participation was highlighted. This approach has been found useful to clarify any doubt among respondents to the questionnaire and subsequently motivate them to be more open and honest in their answers (Sekaran and Bougie, 2010). Respondents completed the survey and returned them in a sealed envelope to ensure anonymity and confidentiality (Liao, 2011). The researcher was at the respective department throughout the process of distributing and collecting the surveys.

Measures

Learning. Learning is measured based on the employees' perceptions of the improvement of knowledge, skills and attitudes they gain as a result of a training event they have attended, using four items adopted from Curry (1997). An example of such an item is "As a result of the training, I substantially increased my knowledge on the topic". This measurement has been empirically used in previous studies and had a reliability of 0.84 in the study by Curry *et al.* (2005) and 0.83 in a later study of Curry *et al.* (2010).

Job satisfaction. Job satisfaction is measured by a three-item scale adapted from the Michigan Organizational Assessment Questionnaire Satisfaction Subscale developed by Cammann *et al.* (1979). An example of these items is "In general, I like working here". This measure which has been applied by recent studies shows high internal reliability; 0.88 in the study by Bagger and Li (2011) and 0.82 in the study by Fox *et al.* (2007).

Transfer of training. Transfer of training is measured using six items developed by Xiao (1996). An example is “He/she can accomplish the job tasks better by using new knowledge, skills and attitudes acquired from the training course”. This measurement has been used in recent studies and yielded a reliability of 0.83 in the study by Scaduto *et al.* (2008) and 0.76 in the study by Chiaburu *et al.* (2010).

Analysis result

Descriptive statistics, correlation matrix, Cronbach’s alphas and validity results

Table I shows the descriptive statistics, correlation matrix and Cronbach’s alphas for the research variables in the model. The variable means (M) range from 5.80 to 6.04, while the standard deviations (SD) for the variables range from 0.59 to 0.90. Table I also indicates that all the correlations between the constructs are positive. The values of the correlation range from 0.089 to 0.332. Learning demonstrated a moderate statistically significant positive correlation with job satisfaction (0.332, $p < 0.01$) and a small statistically significant positive correlation with transfer of training (0.227, $p < 0.01$). Job satisfaction demonstrated a small positive correlation with transfer of training (0.089, not significant). All correlations were less than 0.90, suggesting less probability of multicollinearity (Tabachnick and Fidell, 2007).

The validity of the construct is examined based on three criteria: the loading estimates are statistically significant; the loading estimate should be at least 0.50 to be regarded as a good item; and the result of the average variance extracted (AVE) should equal or exceed 50 percent (Hair *et al.*, 2010).

As shown in Table II, factor loadings of the items ranged from 0.508 to 0.837. The items of each construct also showed good efficacy to measure the constructs, with AVE exceeding 0.50. All indicators are statistically significant. The final measurement model fit indices also yielded acceptable results ($\chi^2/df = 2.204$; CFI = 0.950; RMSEA = 0.074; SRMR = 0.054).

Test of the research framework and research hypotheses

To evaluate the proposed hypotheses of this study, hierarchical regression analyses were conducted. The procedure originally suggested by Aiken and West (1991) was followed to test the moderating effects. To minimize problems of multicollinearity, the independent (learning) and moderated variable (job satisfaction) were centred at the mean before creating the product term. This was achieved by subtracting each value of independent variable from its respective mean. The correlations among variables were not affected by this centering process (Aiken and West, 1991). Independent variables were entered in the first step of the regression equation. In the second step, the product

Variable	M	SD	L	JS	TOT
L	6.04	0.59	<i>0.854</i>		
JS	5.80	0.90	0.332**	<i>0.670</i>	
TOT	5.90	0.64	0.227**	0.089	<i>0.913</i>

Notes: L = Learning; JS = Job satisfaction; TOT = Transfer of training. The Cronbach’s alpha value mark is in italics; ** $p < 0.01$

Table I.
Means, standard deviation, Cronbach’s alpha and correlation matrix

	Learning	Job satisfaction	Transfer of training
Average variance extracted	0.60	0.50	0.64
<i>Item abbreviation</i>			
L1	0.733		
L2	0.825		
L3	0.721		
L4	0.816		
JS1		0.812	
JS2		0.508	
JS3		0.714	
TOT1			0.749
TOT2			0.829
TOT3			0.829
TOT4			0.817
TOT5			0.837
TOT6			0.730

Table II.
Standardized
measurement coefficients
resulting from CFA

term (learning \times job satisfaction) was entered into the equation to test the moderating effects. The product term should explain additional variance in the criterion variable and should have a significant beta weight for a moderating effect to be present. The results of the regression analyses for the study are presented in Table III.

H1 stated that learning will be positively related to transfer of training. As shown in Table III, learning was positively related to transfer of training ($\beta = 0.222, p < 0.05$), supporting *H1*.

H2 predicted that job satisfaction would moderate the relationship between learning and transfer of training. As shown in Table III, entry of the product term (learning \times job satisfaction) in step 2 of the regression analysis did not explain additional variance in transfer of training $R^2 \Delta = -0.04, F(3,218) = 4.015, \beta = 0.027$, not significant (Table III). Hence, *H2* was not supported.

Findings and discussion

This study proposed that learning will be positively related to transfer of training. The argument was made that if employees gain new knowledge, skills and attitudes from

	β	Transfer of training Adjust R^2	ΔR^2
<i>Step 1</i>			
Learning	0.222*		
Job satisfaction	0.015	0.43	
<i>Step 2</i>			
Learning	0.216*		
Job satisfaction	0.012		
Learning \times Job satisfaction	-0.027	0.39	-0.04

Notes: * $p < 0.05, n = 222$

Table III.
Results of the hierarchical
regression analyses for
the moderating role of job
satisfaction between
learning and transfer of
training

the training, they are more likely to apply those training outcomes to their work context.

The result from the analysis suggests that learning is positively and significantly related to transfer of training, which is consistent with previous research that indicated employees who learned and gained new knowledge, skills and attitudes from the training they have attended are able to transfer them to the workplace (e.g. Liebermann and Hoffmann, 2008; Nijman *et al.*, 2006; Tziner *et al.*, 2007). This finding provides additional empirical evidence to the literature and the use of a sample drawn from the Malaysian public sector organizations provides cross-validation of past empirical findings related to the positive effect of learning on transfer of training that previously related mostly to Western private sector settings.

Furthermore, this study further proposed that job satisfaction would moderate the relationship between learning and transfer of training. It was argued that the relationship between learning and transfer of training would be stronger if employees have high satisfaction with their job.

However, this was not supported in the analysis. One possible explanation could be the employees' characteristics factor, such as job satisfaction in this study is not the key factor that influences employees in this context to apply the new learned knowledge, skills and attitudes to their workplace. This is based on the analysis result that shows job satisfaction is not significantly related to transfer of training. It could be the factors related to employees' workplace have more influence on employees in this context of study. This is based on the cultural orientation of the Malaysian people where people are interdependent within their groups, which in this case is their organization (Merriam and Mohamad, 2000). This means any action taken by the organization could affect the attitudes and behaviors of the people inside the organization. Previous studies in similar contexts to this study have revealed the attitude of the organization's agents, such as supervisors, is an important factor that enhances the employee's motivation to transfer what they have learned in training, to their job (Baharim, 2008). A recent study also revealed that work environment factors have much more influence on employees' intent to transfer compared to employees' characteristics factor (Yamkovenko and Holton, 2010).

The key managerial implications of this study include the fact that organizations should not only concentrate on planning, organizing and providing budgets for employee training, but need to ensure that the employee gains new knowledge and skills from a particular training they have attended whether it is organized by the organization or external organizations. This can be practically implemented through organizations ensuring that the training program provided to employees is relevant and related to their current job descriptions and/or future job development, and it is facilitated by trainers who are experts and experienced in a particular training content. An important result of this study suggests that the knowledge and skills gained from training has an essential contribution, which positively influences employees to transfer the trained knowledge and skills on their job.

This study also extends the discussion and understanding on factors that influence transfer of training at public sector organizations in a non-Western context, specifically Malaysia, a developing country in Southeast Asia. Due to the limited amount of research on this topic in this context, the results of this study can be regarded as

tentative until further similar studies are conducted. Future study could re-examine the identified relationships in other contexts to verify the findings of this study.

Limitations and suggestions for future study

The first limitation of this study is the fact that the data were collected at one point of time, applying a cross-sectional design. Therefore, it is necessary for future research to validate the current findings in a longitudinal study. It is argued that longitudinal design is more appropriate than cross-sectional design in terms of generating causal inferences, based on pre-existing theory and empirical data (Chiaburu *et al.*, 2010).

In addition, this study applies a quantitative research design; the data were collected through a questionnaire survey. Future study should consider collecting deeper qualitative data from the respondents. Employing both qualitative and quantitative methods would provide an opportunity for more in-depth and a richer explanation of why employees transfer the training outcomes to the workplace (Brown *et al.*, 2011).

Generalization of the findings of this study beyond the current organization examined here is limited. The data of this study were collected from public sector organizations in Malaysia and it should be considered to replicate the proposed model in other types of organizations such as private sector organizations. Previous studies have presented evidence that the factors associated with transfer of training differ significantly between the public and private sectors (Chen *et al.*, 2006). By testing the variables in different settings such as those in the private sector, a more consistent view of their functions on transfer of training could be obtained (Cheng and Ho, 2001).

Conclusion

This study provides essential knowledge and enhances our understanding of the transfer of training issue in a non-Western context, specifically public sector organizations in Malaysia. This study provides empirical evidence for the importance of learning to the success of transfer of training in the workplace. Specifically, this study found those employees who perceived that they have gained and learned new knowledge, skills and attitudes from the training they have attended, are able to apply these facets to their workplace following the training. Although the finding is limited to the context of public sector organizations in Malaysia, it can be a reference to other organizations and assist them to maximize the outcomes from the training investment they make in their employees.

References

- Aguinis, H. and Kraiger, K. (2009), "Benefits of training and development for individuals and teams, organizations and society", *Journal of Annual Review of Psychology*, Vol. 60 No. 4, pp. 51-74.
- Aiken, L. and West, S. (1991), *Testing and Interpreting Interactions in Multiple Regression*, Sage, Newbury Park, CA.
- Alliger, G.M., Tannenbaum, S.I., Bennett, W., Traver, H. and Shotland, A. (1997), "A meta-analysis of the relations among training criteria", *Journal of Personnel Psychology*, Vol. 50, pp. 341-358.
- Allison, P.D. (2002), *Missing Data*, Sage Publications, Thousand Oaks, CA.

- Arthur, W., Bennett, W., Edens, P. and Bell, S. (2003), "Effectiveness of training in organizations: A meta-analysis of design and evaluation features", *Journal of Applied Psychology*, Vol. 88 No. 2, pp. 234-244.
- Axtell, C.M., Maitlis, S. and Yearta, S.K. (1997), "Predicting immediate and longer-term transfer of training", *Journal of Personnel Review*, Vol. 26 No. 3, pp. 201-213.
- Back, K.J., Lee, C.K. and Abbott, J. (2011), "Internal relationship marketing: Korean casino employees' job satisfaction and organizational commitment", *Journal of Cornell Hospitality Quarterly*, Vol. 52 No. 2, pp. 111-124.
- Bagger, J. and Li, A. (2011), "How does supervisory family support influence employee' attitudes and behaviors? A social exchange perspective", *Journal of Management*, DOI:10.1177/0149206311413922.
- Baharim, S.B. (2008), "The influence of knowledge sharing on motivation to transfer training: a Malaysian public sector context", unpublished doctoral dissertation, Victoria University, Melbourne.
- Bai, B., Brewer, K.P., Sammons, G. and Swerdlow, S. (2006), "Job satisfaction, organizational commitment, and internal service quality: a case study of Las Vegas hotel/casino industry", *Journal of Human Resource in Hospitality & Tourism*, Vol. 5 No. 2, pp. 37-54.
- Baldwin, T.T. and Ford, J.K. (1988), "Transfer of training: a review and directions for future research", *Journal of Personnel Psychology*, Vol. 41, pp. 63-105.
- Bates, R. and Khasawneh, S. (2005), "Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations", *International Journal of Training and Development*, Vol. 9 No. 2, pp. 96-109.
- Blume, B., Ford, J., Baldwin, T. and Huang, J. (2010), "Transfer of training: a meta-analytic review", *Journal of Management*, Vol. 36 No. 4, pp. 1065-1105.
- Brown, T., McCracken, M. and O'Kane, P. (2011), "Don't forget to write: how reflective learning journals can help to facilitate, assess and evaluate training transfer", *Journal of Human Resource Development International*, Vol. 14 No. 4, pp. 465-481.
- Cammann, C., Fichman, M., Jenkins, D. and Klesh, J. (1979), "The Michigan Organizational Assessment Questionnaire", unpublished manuscript, University of Michigan, Ann Arbor, MI.
- Cavana, R.Y., Delahaye, B.L. and Sekaran, U. (2001), *Applied Business Research: Qualitative and Quantitative Methods*, John Wiley & Sons, Milton.
- Chen, H.-C., Holton, E.F. and Bates, R.A. (2006), "Situational and demographic influences on transfer system characteristics in organizations", *Journal of Performance Improvement Quarterly*, Vol. 19 No. 3, pp. 7-26.
- Cheng, E.W.L. and Ho, D.C.K. (2001), "A review of transfer of training studies in the past decade", *Journal of Personnel Review*, Vol. 30 No. 1, pp. 102-118.
- Chiaburu, D.S., Dam, K.V. and Hutchins, H.M. (2010), "Social support in the workplace and training transfer: a longitudinal analysis", *International Journal of Selection and Assessment*, Vol. 18 No. 2, pp. 187-200.
- Chiaburu, D.S. and Lindsay, D.R. (2008), "Can do or will do? The importance of self-efficacy and instrumentality for training transfer", *Journal of Human Resource Development International*, Vol. 11 No. 2, pp. 199-206.
- Curry, D. (1997), "Factors affecting the perceived transfer of learning of child protection social workers", unpublished doctoral dissertation, Kent State University, Kent, OH.
- Curry, D., Donnenwirth, J. and Lawler, M.J. (2010), "Scale reduction: developing user-friendly human services training and development assessment instruments", paper presented at

the National Human Services Training Evaluation Symposium, University of California Berkeley, CA.

- Curry, D., McCarragher, T. and Dellmann-Jenkins, M. (2005), "Training, transfer, and turnover: exploring the relationship among transfer of learning factors and staff retention in child welfare", *Journal of Children and Youth Services Review*, Vol. 27 No. 8, pp. 931-948.
- Fox, S., Spector, P.E., Goh, A. and Bruursema, K. (2007), "Does your coworker know what you're doing? Convergence of self- and peer-reports of counterproductive work behavior", *International Journal of Stress Management*, Vol. 14 No. 1, pp. 41-60.
- Frisque, D. and Kolb, J. (2008), "The effects of an ethics training program on attitude, knowledge, and transfer of training of office professionals: a treatment-and control-group design", *Journal of Human Resource Development Quarterly*, Vol. 19 No. 1, pp. 35-53.
- Goldstein, I.L. and Ford, J.K. (2002), *Training in Organizations: Needs Assessment, Development, and Evaluation*, 4th ed., Warrsworth Thomson Learning, Belmont, CA.
- Hair, J.F. Jr, Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate Data Analysis*, 7th ed., Prentice Hall, Upper Saddle River, NJ.
- Jodlbauer, S., Salenko, E., Batinic, B. and Stiglbauer, B. (2012), "The relationship between job dissatisfaction and training transfer", *International Journal of Training and Development*, Vol. 16 No. 1, pp. 39-53.
- Kirkpatrick, D.L. (1994), *Evaluating Training Program: The Four Levels*, Berrett-Koehler, San Francisco, CA.
- Kontoghiorghes, C. (2004), "Reconceptualizing the learning transfer conceptual framework: empirical validation of a new systematic model", *International Journal of Training and Development*, Vol. 8 No. 3, pp. 210-221.
- Leach, M.P. and Liu, A.H. (2004), "Investigating interrelationships among sales training evaluation methods", *Journal of Personal Selling & Sales Management*, Vol. 23 No. 4, pp. 327-339.
- Liao, P.-Y. (2011), "Linking work-family conflict to job attitudes: the mediating role of social exchange relationships", *International Journal of Human Resource Management*, Vol. 22 No. 14, pp. 2965-2980.
- Liebermann, S. and Hoffmann, S. (2008), "The impact of practical relevance on training transfer: evidence from a service quality training program for German bank clerks", *International Journal of Training and Development*, Vol. 12 No. 2, pp. 74-86.
- Machin, M.A. and Fogarty, G. (1997), "The effects of self-efficacy, motivation to transfer, and situational constraints on transfer intentions and transfer of training", *Journal of Performance Improvement Quarterly*, Vol. 10 No. 2, pp. 98-115.
- Machin, M.A. and Fogarty, G. (2003), "Perceptions of training-related factors and personal variables as predictors of transfer implementation intentions", *Journal of Business and Psychology*, Vol. 18 No. 1, pp. 51-71.
- Merriam, S.B. and Mohamad, M. (2000), "How cultural values shape learning in older adulthood: the case of Malaysia", *Journal of Adult Education Quarterly*, Vol. 51, pp. 45-63.
- Naquin, S.S. and Holton, E.F. (2002), "The effects of personality, affectivity, and work commitment on motivation to improve through learning", *Journal of Human Resource Development Quarterly*, Vol. 13 No. 4, pp. 357-376.
- Nijman, D., Nijhof, W., Wognum, A. and Veldkamp, B. (2006), "Exploring differential effects of supervisor support on transfer of training", *Journal of European Industrial Training*, Vol. 30 No. 7, pp. 529-549.

-
- Phillips, J.J. (1997), *Handbook of Training Evaluation: Measurement Methods*, 3rd ed., Gulf Publishing, Houston, TX.
- Pineda, P. (2010), "Evaluation of training in organisations: a proposal for an integrated model", *Journal of European Industrial Training*, Vol. 34 No. 7, pp. 673-693.
- Roberson, L., Kulik, C.T. and Pepper, M.B. (2009), "Individual and environmental factors influencing the use of transfer strategies after diversity training", *Journal of Group & Organization Management*, Vol. 34 No. 1, pp. 67-89.
- Rouiller, J.Z. and Goldstein, I.L. (1993), "The relationship between organizational transfer climate and positive transfer of training", *Journal of Human Resource Development Quarterly*, Vol. 4 No. 4, pp. 377-390.
- Scaduto, A., Lindsay, D. and Chiaburu, D. (2008), "Leader influences on training effectiveness: motivation and outcome expectation processes", *International Journal of Training and Development*, Vol. 12 No. 3, pp. 158-170.
- Schumaker, A.M. (2004), "Predicting perceived effectiveness of training in local government: a study of a municipal clerks training program", *Journal of Public Performance & Management Review*, Vol. 27 No. 3, pp. 51-59.
- Sekaran, U. and Bougie, R. (2010), *Research Methods for Business: A Skill-building Approach*, 5th ed., John Wiley & Sons, Chichester.
- Spector, P. (1997), *Job Satisfaction: Application, Assessment, Causes and Consequences*, Sage, Thousand Oaks, CA.
- Tabachnick, B.G. and Fidell, L.S. (2007), *Using Multivariate Statistics*, 5th ed., Pearson, Boston, MA.
- Tan, J.A., Hall, R.J. and Boyce, C. (2003), "The role of employee reactions in predicting training effectiveness", *Journal of Human Resource Development Quarterly*, Vol. 14 No. 4, pp. 397-411.
- Tay, A. (2008), "High involvement HRM practices of service corporations in Malaysia: What do employees and supervisors say?", *Malaysian Management Review*, Vol. 43 No. 2, pp. 25-38.
- Thayer, P.W. and Teachout, M.S. (1995), *A Climate for Transfer Model: AL/HR- TP-1995 0035*, Air Force Material Command, Brooks Air Force Base, San Antonio, TX.
- Tracey, J., Tannenbaum, S. and Kavanagh, M. (1995), "Applying trained skills on the job: The importance of the work environment", *Journal of Applied Psychology*, Vol. 80 No. 2, pp. 239-251.
- Tracey, J., Hinkin, T., Tannenbaum, S. and Mathieu, J. (2001), "The influence of individual characteristics and the work environment on varying levels of training outcomes", *Journal of Human Resource Development Quarterly*, Vol. 12 No. 1, pp. 5-23.
- Tziner, A., Fisher, M., Senior, T. and Weisberg, J. (2007), "Effects of trainee characteristics on training effectiveness", *International Journal of Selection and Assessment*, Vol. 15 No. 2, pp. 167-174.
- Velada, R., Caetano, A., Bates, R. and Holton, E. (2009), "Learning transfer-validation of the learning transfer system inventory in Portugal", *Journal of European Industrial Training*, Vol. 33 No. 7, pp. 635-656.
- Velada, R., Caetano, A., Michel, J., Lyons, B. and Kavanagh, M. (2007), "The effects of training design, individual characteristics and work environment on transfer of training", *International Journal of Training and Development*, Vol. 11 No. 4, pp. 282-294.
- Warr, P., Allan, C. and Birdi, K. (1999), "Predicting three levels of training outcome", *Journal of Occupational and Organizational Psychology*, Vol. 72 No. 3, pp. 351-375.

- Xiao, J. (1996), "The relationship between organizational factors and the transfer of training in the electronics industry in Shenzhen, China", *Journal of Human Resource Development*, Vol. 7 No. 1, pp. 55-73.
- Yamkovenko, B. and Holton, E. (2010), "Toward theoretical model of dispositional influences on transfer of learning: a test of a structure model", *Journal of Human Resource Development Quarterly*, Vol. 21 No. 4, pp. 381-410.
- Yamkovenko, B., Holton, E. III and Bates, R. (2007), "The learning transfer system inventory (LTSI) in Ukraine", *Journal of European Industrial Training*, Vol. 31 No. 5, pp. 377-401.
- Zumrah, A.R., Boyle, S. and Fein, E. (2012), "The effect of perceived organizational support on the transfer of training outcomes to the workplace", *World Review of Business Research Journal*, Vol. 2 No. 4, pp. 130-147.

Corresponding author

Dr Abdul Rahim Zumrah can be contacted at: rahim@usim.edu.my

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.