

## Antecedents of training transfer

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R. Shaari<sup>1,\*</sup>, A. Rajab<sup>2</sup>, N.A. Acho<sup>1</sup>

<sup>1</sup> Department of Human Resource Development, Faculty of Management, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia

<sup>2</sup> Language Academy, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia

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### ABSTRACT

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The purpose of the present study is to investigate the antecedents of training transfer in a manufacturing industry focusing on the level of each identified antecedent and examining the most dominant antecedent of training transfer. The instrument used was adopted from Velada et al. (2007) and Learning Transfer System Inventory, LTSI (Holton, 2000). The questionnaire with 30 items has been administered to 62 participants and has been analyzed using the Statistical Package for Social Science (SPSS) version 20.0. The results indicated that the level of each identified antecedents of training transfer is high and the training design was found to be the most dominant antecedents of training transfer.

#### Keywords:

Training transfer, Training design,  
Individual characteristic, Work  
environment

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## 1. Introduction

Human resource is the most valuable asset of any organization which will shape the success story of the organization. As human resource is one of the vital ingredients to one's achievement, most organizations are trying their best in developing and establishing respectable unit utilizing their human capital. One of the effective ways to show the immense value of their employees is by giving them chance to progress and improve their existing knowledge, skills and abilities. Hence, training is the best answer for that as it is regarded as the most effective way of learning in an organization [1]. Training program is a strategic tool for human capital development that is meant to improve knowledge, skills, abilities and attitudes of employees in order to meet organizational objectives [2]. Training has been considered as a big and deserving investment for any organization. Training can be divided into two categories which are on-the job and off-the job training.

With the current economic environment and rapid technological advancement, training also differs in terms of delivering method. In today's scenario, training which is done virtually is more

\* Corresponding author.

E-mail address: [rozianas@management.utm.my](mailto:rozianas@management.utm.my) (R. Shaari)

preferable if compared to face-to-face method. This clearly indicates that training can take place at any time and any place with the help of technologies [1]. However, both approaches have their pros and cons as it depends so much on how both trainees and trainers deal with it to ensure that a worthwhile training transfer is likely to occur. This is due to the reason that most of the organizations have invested a lot of money to remain competitive. However, the investments are only considered worthy, if the employees are able to transfer their newly gained knowledge and skill into the workplace. In addition, there is a strong belief that training is important not only for building and maintaining an effective workforce, but also because it drives corporate well-being and provides organizations with a competitive advantage [3]. Similarly, if organizations are to benefit from their investments, trainees must be able to apply and handover what they have learn in their training on their job and this concept is most popularly known as training transfer. Many research conducted study on the training transfer but look into different elements. On the other hand, this research attempts to investigate the antecedents of training transfer.

## **2. literature review**

### *2.1 The issues of Training Transfer*

Training has been regarded as an expensive investment. An organization usually has spent an immense amount of time and money on training in order to gain advantage and remain competitive and facilitate employees' job related learning [4,5,3]. For instance, the United States organizations have incurred over \$125 billion annually on workforce training and development [5]. However, employees must first apply and transfer all those knowledge and skills into workplace before it can give any competitive advantage to the organization [6].

The ultimate goal of training is to look for positive knowledge transfer and skills to the job context [7]. However, most of the time it looks like the expected transfers did not take place. Several research found that problems seems to arise when it has reported that only small percentage of what have been taught in training session is ultimately transferred into real environment [8 & 9]. It is estimated that between 60 to 90 per cents of the training transfer has failed [10]. This implied that further investigation on the antecedents or factors that influence training transfer are required.

### *2.2 Model of Training Transfer*

This model (refer Figure 1) was proposed by Baldwin and Ford and divided into three categories comprising of training input, training output and condition of transfer. The training inputs include training design, trainee characteristics and environmental characteristics. Underneath this model, all the inputs are leading up to learning and retention which will directly influence generalization and maintenance. The generalization refers to the ability of a trainee to apply new skills into the job and situation that are similar but not identical with the learning environment. Maintenance means the ability to practice those newly acquired capabilities at constant basis and pace. In this model of transfer process, generalization and maintenance is to take place favourably when there is learning and retention of skills [1]. Hence, the proposed model is useful to ensure all those training inputs are conducive to training transfer. Besides that, both elements of generalization and maintenance proposed by this model have been studied across different research settings such as laboratory, field experiments with various time interval [11]. This shows that training transfer is an important issue, should gain additional emphasize and stress on in further and future research.

In designing any training, it is important to consider transfer design due to the reason that training design includes purposeful elements of training program that could facilitate transfer of training. For

example, a study conducted in Malaysia to investigate the role of design factors in influencing training transfer among small businesswomen in Klang Valley adopted the design of this model. The study proved that training design was one of the factors that contribute to training transfer particularly to knowledge transfer in terms of setting the organizational goals [12].

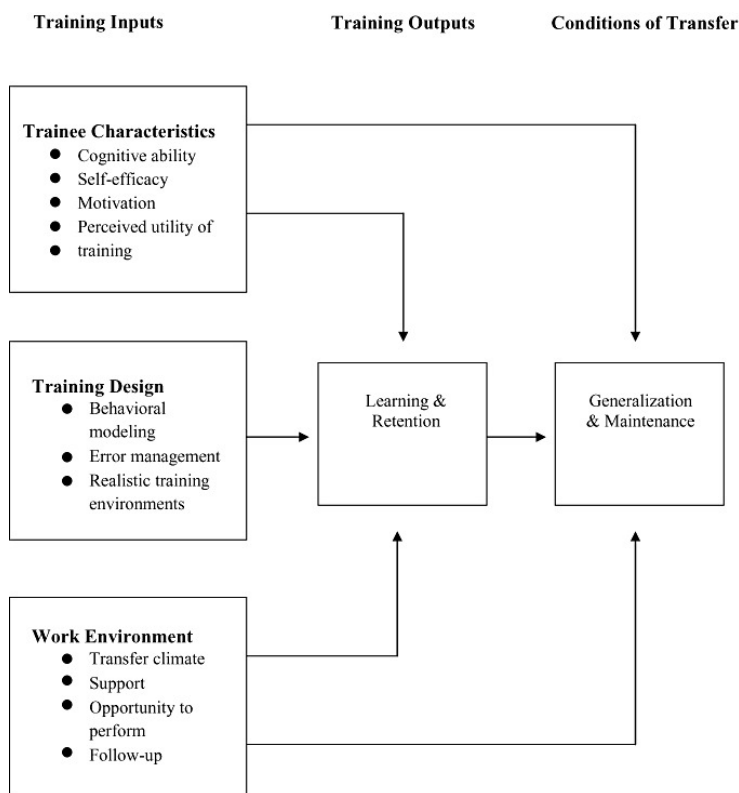


Fig. 1. Baldwin and Ford model of transfer process (1988), (Source: Noe, 2010)

Self-efficacy is one of the trainees' characteristics that will lead to training transfer if it is at an appropriate level. It is predicted if the trainees have confident towards their ability to perform any required task, the more likely the training transfer will take place [4, 6]. Previous study has shown that self-efficacy has positive relationship with training transfer which means individual characteristics also contributes to transfer [8 & 13].

The third training inputs proposed by this model is work environment. There are two aspects that Baldwin and Ford proposed in this training input which are superior support and opportunity to use. It was predicted that support from supervisor can be translated into many forms at multiple stages of training process [9]. For example, facilities should be provided in order to transfer the knowledge, collaboratively in setting the goal pertaining to what is expected to be transferred and so forth. In addition, support from supervisors can also be expressed through recognition, or reward [14,15].

### 2.2.1 Objectives

The main objective of this study is to investigate the antecedents of training transfer in a manufacturing company. Hence this study attempts to answer these two questions:

1. What are the levels of antecedents of training transfer as perceived by training participants?
2. Which antecedents of training transfer is most dominant as observed by the training participants?

### 3. Methodology

Dispersion of nanoparticles in a base fluid not only contributes to enhancement of thermal conductivity, but also because of greater heat transfer area, superior convective heat transfer coefficient can be achieved, which will also lead to enhancement of heat transfer. The structure of polymer emulsion microgels system containing a certain amount of water during film-forming process was revealed by SEM in Figure 1.

#### 3.1 Participant

83 employees were involved as participants in this study that could give response on training transfer in their company. The overall total population of the organization is 93 employees. However, the population has been reduced to only 83 since the other 10 employees have been used for pilot study. Therefore, the actual participant for the main data is only 83. All the employees in this company who have attended the training program have joined in this research. To avoid preconceptions, the name of the 10 employees who have participated in the pilot study were marked. Thus, they were not chosen for main data collection. Of 83 participants, 62 (75%) had returned the complete questionnaire whilst 13 questionnaires were discarded since it was incomplete. Towards the end only 62 respondents remained.

#### 3.2 Instrument

As this research attempted to replicate previous research, the instrument was adopted from the study by Velada [4] and Holton [16]. The instrument comprised of 26 questions which have been divided into three sections namely training design (five items), trainee characteristics (nine items) and work environment (eleven items). The trainee characteristics was sub divided into another two categories namely training retention (four items) and self- efficacy (five items). On the other hand, the work environment measured in this study included superior support (six items) and opportunity to apply (five items).

A Five-Likert scale questions were developed for almost every items in the questionnaire as it is reliable. The five scales are as follows, (1-Strongly Disagree, 2- Disagree, 3-Least Agree, 4-Agree and 5-Strongly Agree). 10 sets of questionnaires were piloted and the reliability score is  $\alpha = 0.85$  for overall readings. All questions in this research instrument helps the researcher to investigate the level of each antecedents of training transfer and the most dominant antecedents in the organization.

#### 3.3 Analysis

Descriptive analysis such as frequency, percentage and mean were used to explain the participant profile and level of antecedents. The mean score for each antecedent in this research is ranging from 1.00 to 5.00 (Table 1).

**Table 1**  
The level according to mean score

Mean Score	Level
3.65-5.00	High
2.34-3.67	Moderate
1.00-2.33	Low

## 4. Findings

### 4.1 Participant Profile

The distribution of the respondents who participated in this research were more than half female (53.2%, 33) while the rest were male (46.8%, 29). The highest number of age range of the respondents were between 21 to 30 years old (54.8%, 34) while the least numbers of respondents (4.8%, 3) were from the category of senior employees with their age ranging from 51-year-old and above. Besides that, majority of the respondents (41.9%, 26) who took part in this research were diploma holders while the others were STPM and degree holder and school leavers. For length of services, less half of the total respondents (43.5% &, 27) have been working in this company for one to five years. Lastly, the respondents that participated in this research varies in terms of the department/unit they were attached to where most of them (37.1%, 23) were from production department/unit.

### 4.2 Overall Antecedents Level

Table 2 shows that the overall levels of the three identified antecedents were high and the training design revealed as the highest antecedent level as perceived by the respondents in this study.

**Table 2**  
Overall level of antecedents

Antecedent	Overall Mean Score	Level
Training Design	4.32	High
Trainee Characteristic	3.80	High
Work Environment	3.94	High

Table 3 and Table 4 show the results on levels of each trainee characteristics and work environment.

**Table 3**  
Level of trainee characteristics

Antecedent	Overall Mean Score	Level
Self-efficacy	4.08	High
Trainee retention	3.51	Moderate
Total	3.80	High

## 5. Discussion

The results of this study indicated that all the antecedents (overall results) measured demonstrated high level of mean score. However, there are some facets that need additional improvement thus called for further investigation in future research. First, the researcher found that majority of the respondents feels comfortable with the learning style and strongly believed that they could apply further what they have learned through the training transfer session. Though this finding is consistent with [12] which proved that the competency of trainers in delivering the materials was essential in transfer, training retention was found to transpire at moderate level in this present study.

**Table 4**

Level of work environment

Antecedent	Overall Mean Score	Level
Superior Support	3.82	High
Opportunity to Apply	4.06	High
Total	3.94	High

It is suspected that the failure of the training itself could lead to low level of training retention [17]. This is supported by the model of transfer process developed by Baldwin and Ford who believed that generalization and maintenance of learning or transfer could lead to learning and retention. Besides that, it has been proven that trainees' ability to retain the training content over time determine positive transfer [4]. Thus, it is suggested that follow-up assessment should be carried out to facilitate the retention.

Besides that, majority of the respondents have the ability and confident to transfer what they have learned to their job environment. However, almost half of the respondents claimed that they did not express their thoughts on what they learned while performing tasks. As a result, the respondent failed to fully retain their knowledge and skills learned from the training session, hence indirectly affected their confident level. Furthermore, observation made through descriptive analysis on each items of questions highlighted that there was a low score in the 'ability of respondents to apply learning in difficult situation'. Consequently, it can be concluded that the difficult situation may have caused or influenced the 'lack of support from the superior' and 'inadequate resources provided after the training since the results for this items is also low. In addition, even the respondents with high level of self-efficacy could not be expected to transfer their knowledge effectively. Other studies have showed that employees who possess confident or high self-efficacy in their ability to learn in the training could not be confirmed as to be confident in transfer process especially when dealt with problems [18]. This implies that the key role of superior support in transfer of learned skills is important to motivate employees in applying training skills to the job [21, 22].

## 6. Conclusion

This study concludes that a well design training according to suitable trainee characteristics could not guarantee the success of training transfer. It is believed that trainers competency in delivering the training is extremely crucial since self-efficacy alone could not motivate trainees to either retain or apply what they had gained from the training program.

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