

## Impact of Trainee Characteristics on 'Transfer of Training'

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Today's rapidly changing business environment brings to the fore, the idea that capable workers are crucial to organizations' success and give a competitive edge to the organizations that possess them. It is the realization of this fact that induces organizations to spend an immense amount of time and money on training in order to facilitate employees' learning of job-related competencies. According to Training Magazine's ongoing industry report; US companies spend more than \$50 billion annually on formal training (Dolezalek, 2004). In fact, investment in training activities has increased all over the world in recent years. As a result of financial investment organizations make in training, it is important to provide evidence that training efforts are being fully realized. Research has demonstrated that training efforts are unlikely to result in positive changes in job performance unless the newly trained competencies are transferred to the work environment. As a result there has been increased effort to understand the antecedents and consequences of 'transfer of training' process.

It has been estimated in one of the early studies in the field, that only about 10% of all training experiences are transferred from training environment to the job (Baldwin and Ford, 1988). A more recent study by Wexley and Latham (2002) suggest that approximately 40% of content is transferred immediately following training, while the amount transferred falls to 25% after 6 months and 15% after 1 year. This suggests that as the time passes, trainees may be unable or less motivated to retain and use on the job, the information gained in training program.

Furthermore; this indicates that much of the time and money invested in training is never fully realized,

because only a small percentage of training effectively results in permanent transferability to the work place. As a result, understanding and improving the 'transfer of training' process has become a primary concern for training researchers and practitioners.

### Theoretical Framework

Transfer refers to a trainee's application to the job of what is learnt in a training programme. Several researchers have developed theoretical frameworks to investigate training transfer. Baldwin and Ford (1988) have used three theoretical parameters that address three aspects of transfer viz: training inputs, training outputs, and conditions of transfer. Broad and Newstorm (1992) defined it as the effective and continuing application by trainees to their jobs of the knowledge and skills gained in training both on and off the job. Holton (1996) expanded the transfer model to include an emphasis on individual performance and organizational results. A key component of Holton's model is transfer motivation, which is hypothesized as a key way to connect learning with changes in individual performance. Gielen (1996) presented another model of transfer using empirical evidence to explain transfer according to training design characteristics, trainee characteristics, and work environment characteristics. Transfer of training is also viewed as the application of knowledge, skills and attitudes learned from training to the job and the subsequent maintenance of the learning over a certain period of time (Cheng and Ho, 2001). Yamnill and McClean (2001) discuss three theories of human behavior, which may help explain motivation to transfer, including expectancy theory, equity theory, and goal-setting theory. Cheng and Ho(2001) identified nine

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independent factors affecting training transfer that were most commonly examined; Individual (Locus of control, Self efficiency); Motivational (Career/Job attitudes, organizational commitment, reaction to training, post training interventions) and environmental support within organizations, (continuous learning culture, task constraints). This model may be depicted as follows.

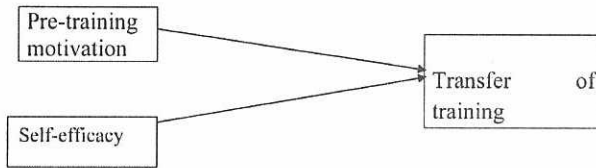


Figure-1: Simplified model of transfer of training.

As depicted in Figure 1, it is hypothesized that several variables related to individual factors affect transfer of training. The following section provides a brief overview of the literature regarding the influence of individual factors on transfer of training, giving special attention and theoretical justification to the relationships that will be tested in this study.

#### **Individual factors:**

Trainee characteristics (e.g. personality, trainee ability, motivation effects) were originally identified by training practitioners as factors affecting transfer of training (Baldwin and Ford, 1988). Notwithstanding this, further empirical testing of these characteristics was very rare in earlier studies on transfer of training. Among the various personality variables, locus of control was hypothesized in many earlier studies to affect the transfer process (e.g. Baumgartel et al., 1984; Noe and Schmitt, 1986). Locus of control is defined by Rotter (1966) as a generalized expectancy that organizational outcomes in terms of rewards and reinforcements in life are controlled either by an individual's own actions (internality) or by other forces (externality)." In a training situation, trainees with a strong belief that they can control the provision of organizational outcomes are more likely to facilitate the application of training content on their jobs. Such

outcomes can be recognition, promotions, salary increases and job enlargement.

#### **Self-efficacy:**

The effects of self-efficacy on transfer have been widely studied. Self-efficacy is defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986). It is clear that trainees with a high level of confidence in attaining anticipated performance and behavior change will be more likely to apply what they have learned from training on the jobs. Empirically, self-efficacy was shown to be positively related to pre-training motivation (Quinnones, 1995), training performance in various training programmes (Gist, 1989; Gist et al., 1991; Tannenbaum et al., 1991), post-training behavior (Mathieu et al., 1992; Saks 1995), transfer performance (Ford et al., 1998) and skill maintenance (Stevens and Gist, 1997).

Based on the above discussion we may hypothesize as follows.

H1: Trainees self-efficacy will be positively related to training transfer

#### **Motivational factors:**

Many factors proposed to affect transfer of training were tested. This is because trainees with inadequate motivation are likely to be poor in mastering the content of training and subsequent training performance. Various motivation-relevant constructs have been examined in training research, including pre-training motivation and motivation to learn. Specifically, a few studies support the influence of pre-training motivation- or the learner's level of intensity and desire as measured before the training intervention on actual transfer outcomes. In their empirical study, Axtell et al. (1997) found motivation to transfer was a significant predictor of positive transfer at one year. The extrinsic and intrinsic components of motivation have also been linked to training outcomes. Trainees who perceived intrinsic reasons to attend training

reported higher levels of motivation to attend and learn, whereas extrinsic rewards and benefits were not significantly related to pre-training motivation. Following on this, our second hypothesis could be as under.

H2: Trainees' pre-training motivation will be positively related to training transfer.

The above hypotheses were tested based on the empirical data gathered for the purpose, as enumerated in the methodology.

**Methodology**

The present study is based on the empirical data collected through a personally administered structured questionnaire from 201 workers employed in 30 medium and large scale industrial units operating in Mysore district of Karnataka state in India. The profile of the respondents is given in Table 1.

Table-1  
Profile of the respondents

		No. of workers
Operators	Male	201
Age groups	20-30 years	75
	31-40 years	64
	41-50 years	36
	51-60 years	26
Income	Less than 10000	125
	10000-20000	65
	Above 20000	11
Qualification	General education	75
	Technical education	126
Frequency of training programmes attended	5-10 training programmes	21
	10-15 training programmes	160
	15-20 training programmes	20

Source: Survey Data

**Self-efficacy of workers:**

The independent variables of self-efficacy and pre-training motivation were measured using 5 point Likert- scale to study the influence of individual factors on the dependent variable of transfer of training. The following table highlights the mean score and standard deviation for measuring self-efficacy level of workers.

Table-2  
Particulars related to Efficacy level of respondents

	Factors	Mean	Std. Deviation
A	I have good learning abilities	4.45	0.66
B	It doesn't take time to assimilate the contents of training	3.94	0.84
C	I don't find it hard to understand theoretical explanations	3.98	0.72
D	If the course is too abstract, I don't easily get lost	4.07	0.86
E	I find writing easy	4.00	1.02
F	I can easily memorize the course materials	3.88	0.98
G	I am able to follow even if the trainer goes quickly	3.58	1.03
H	I view training programme as an opportunity to learn	3.58	1.05
	Overall mean and standard deviation	4.02	1.02

Source: Survey data

The self-efficacy level of workers is measured with eight items using 5 point Likert scale statements. The mean score for all the variables range from 3.58 to 4.45 indicating a moderate level of self-efficacy.

**Pre-training motivation:**

The pre-training motivation as an independent variable too is measured with eight variables using 5 point Likert-scale to assess the level of pre-training motivation of workers. The following table consists of eight items which show their commitment in learning and application of skills in performance of the assigned tasks:

**Table-3**  
Particulars related to Pre-training motivation

	Factors	Mean	Std. Deviation
A	I am committed to learning all of the required skills during training programme	4.23	0.79
B	It is important for me to perform satisfactorily during training programme	4.12	0.89
C	It will be satisfying for me to do well during training programme	4.08	0.92
D	I aim to maintain and improve the skills which I learn during training	4.03	0.98
E	I aim to utilize all of the skills which I learn during training	3.97	0.98
F	I aim to master all of the required skills during training	3.98	0.98
G	I aim to develop expertise in using the skills which I learn during training	3.94	1.09
H	I will exert a great deal of effort in order to learn the required skills during training	3.93	1.05
	Aggregate mean and standard deviation	4.08	0.96

Source: Survey Data

The mean scores for pre-training motivation range from 3.97 to 4.23. The study reveals that the workers share the perception that their performing well in the training gives them a sense of satisfaction (4.08). They also aim at utilizing (3.97), maintaining and improving their skills (4.03). Even though the scores do indicate presence of positive pre training motivation, the scores hinge on the average level. If we accommodate the possible respondent errors, both of chance and intentional, then the actual levels of motivation might actually look negative. In any case the companies still need to motivate the workers to exert efforts to learn the skill and improve their expertise.

**Transfer of training:**

A 4 item Transfer of training scale is used to measure the extent to which individuals transfer the knowledge and skills presented in the training sessions to their core jobs. The following table depicts the transfer variables used and their mean score and standard deviation:

**Table-4**  
Mean-score for transfer of training

	Factors	Mean	Std. Deviation
A	I have been using new skills to improve my performance	3.96	0.86
B	The training programmes have helped me to improve my job performance	3.86	0.95
C	I have been incorporating learned skills into daily work activities	3.62	1.04
D	I use more of what was learnt in the training programmes	3.68	1.03
	Aggregate mean and standard deviation	3.78	0.97

Source: Survey Data

The mean score for the variable 'I have been using new skills to improve my performance' is high with 3.96 and mean score for 'I have been incorporating learnt skills into daily work activities' is low. As the aggregate mean is 3.78, the level of transfer of training is moderately high, pointing that there is still room for improving the application of learnt skills on the job. The organisations need to make efforts in order to make their employees improve the level of transfer of acquired skills to the job performance.

**Testing of hypothesis:**

Firstly, to examine the relationship between self-efficacy and transfer of training, the following null and alternative hypotheses are formulated:

H0 : There is no positive relationship between self-efficacy and transfer of training.

H1: There is a positive relationship between Self-efficacy and Transfer of training.

Secondly, to examine the relationship between Pre-training motivation and Transfer of training the following hypotheses are formulated:

H<sub>0</sub> : There is no positive relationship between Pre-training motivation and Transfer of training.



H<sub>1</sub> : There is a positive relationship between Pre-training motivation and Transfer of training.

The result of regression analysis between the mean scores of Self-efficacy, Pre-training motivation and transfer of training variables are given in the following tables:

Table-5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.507 <sup>a</sup>	.257	.250	.5136

a. Predictors: (Constant), Pre-training motivation, Self-efficacy

Table-6 ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.053	2	9.0267	34.277	.000 <sup>a</sup>
	Residual	52.139	198	.263		
	Total	70.192	200			

a. Predictors: (Constant), Self-efficacy, Pre-training motivation.

b. Dependent Variable: Transfer of training

Table-7 Coefficients<sup>a</sup>

Model		Unstandard Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.469	.2860		8.446	.000
	Self-efficacy	.360	.075	.323	4.402	.000
	Pre-trg motvri	.212	.051	.280	3.664	.000

a. Dependent Variable: Transfer of Training

P<.05

The beta co-efficient of self-efficacy (Independent variable) is positively and significantly related to transfer of training (Dependant variable). As the values associated with the observed values of beta are less than 0.05, the decision is to reject the null-hypothesis and accept the alternative hypothesis. : There exists a positive relationship between Self-efficacy and Transfer of training.

Similarly in second hypothesis also, the value associated with the observed values of beta are less than 0.05, and therefore, the null hypothesis is rejected and alternative hypothesis is accepted: There exists a positive relationship between Pre-training motivation and Transfer of training.

## Discussion

The results of this research demonstrate the importance of individual characteristics. The results for H1 indicated that individual factor i.e., self-efficacy positively influenced the transfer of training. These results reinforce the notion that organisations should be well aware of how well the individual factors should be assessed before selection of workers for training programmes.

The second hypothesis pre-training was significantly related to transfer of training. Such results suggest that trainees with high pre- training motivation level will successfully utilize the skills on the job.

Based on the results of this study, we can argue that for organisations to maximize their return on investment with regards to training and development, they need to focus on the personal factors as the determinants of transfer of training. First, organisations need to ensure that training is designed such that it matches the ability level of trainees. This will help ensure that trainees have the ability to (1) learn the training material and (2) utilize the knowledge and skills accrued during training outside of the learning environment. Second, organisations can improve transfer of training by ensuring that trainees believe that they have the capabilities to successfully learn the new skills and utilize their new Knowledge, skills and abilities on the job.

### Conclusion

Training practitioners and researchers in India have not yet extensively studied the effectiveness of training based on workers' individual characteristics. This study is an attempt to fill this gap by analyzing the influence of some of these determinants on transfer of training. The findings of the study indicate that self-efficacy and pre-training motivation are significantly related to transfer of training. This suggests that it is important training researchers and practitioners examine various personal aspects of trainees when conducting research on transfer of training.

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