

The Influences of Learning Goal Orientation & General Self Efficacy on Transfer of Training among Engineering Students

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Abstract: *Successful learning in the training environment may not be enough to translate the acquired skills, attitude, and knowledge to the work environment.” Transfer of training, is more than a function of original learning in a training program (Atkinson, 1972; Fleishman. 1953). The purpose of this study, conducted among engineering students of a large private university, is to understand whether learning goal orientation and general self efficacy can significantly influence transfer of training. Responses were collected from engineering students who attended a workshop on “Conceptualizing innovative ideas for new products”. The study used scales developed by Button et al (1996) to measure learning goal orientation. General Self Efficacy was quantified using an adapted version of the scale developed by Sherer and Maddux(1982).Transfer of training scale from Xiao’s (1996) study was also used. Results indicate that all the Learning Goal Orientation and General Self Efficacy respectively explain about 21.2 % and 33.6 % variations in and therefore significantly influence transfer of training and also have positive relationship with transfer of training.*

Keywords: Learning Goal Orientation, General Self Efficacy, Transfer of training, Engineering Students.

1. Introduction

An Industry report (October 2010) says that, “**Companies around the world** spend up to \$100 billion a year to train employees in the skills they need to improve performance— But training typically doesn’t have much impact.”

There are reports of Organizations spending an immense amount of money in workplace learning and development activities (Noe et ell, 2006).Hence there is a need to provide evidence that the resources that are being spent in training the employees, build their competencies resulting in increased job and organizational performance.

Any Country’s most important human resource pool is final year graduates passing out of Universities and other educational institutions. A study on how they learn and are able to transfer the learning obtained to work places becomes pertinent. This study purports to understand the influences of learning goal orientation and general self efficacy on transfer of training of engineering students.

2. Review of Literature

2.1 Learning Goal Orientation

Goal orientation describes the different ways individuals interact with and react to their environment. As first conceived by Dweck (1988), individuals can have a learning (or mastery) goal orientation or a performance goal orientation. Learning-oriented individuals are more likely to seek out challenging situations and to see ability as malleable and under their control. They tend to use themselves and their past performance as referents to gauge their success, as opposed to relying on social comparison,

and react positively to failure experiences, seeing them as opportunities for improvement.

Previously, goal orientation had been viewed as a uni-dimensional construct; individuals were thought to be either performance or learning goal oriented. However, work by Button, Mathieu, and Zajac (1996) has indicated that goal orientation is actually a multi-dimensional construct, and that learning and performance goal orientation should be thought of as two independent continuums on which an individual may fall.

2.2 General Self Efficacy

Self-efficacy is another individual difference variable thought to play a role in the transfer of training process. Social cognitive theory indicates that achievement depends on interactions between one’s behavior, thoughts and beliefs, and environmental conditions; learners’ self-efficacy is influenced by their performance, their experiences, influences from others and their psychological reactions (Bandura, 1986). According to Bandura, learning is an ongoing process in which behavior is motivated and regulated by one’s cognitions.

Specific to the training literature, Mathieu, Martineau and Tannenbaum (1993) showed that self-efficacy was related to both training reactions and training performance. Mullins, Fisher, Howell, Schmitt and Kozlowski (1998) found support for the hypothesis that self-efficacy mediates the relationship between motivation to learn and intent to transfer. Trainees may be motivated to learn the material presented in training, but if they are not efficacious with respect to the task or skill to be acquired, they will be less likely to have intentions to attempt it on the job.

General Self-efficacy (GSE) has been conceptualized as a relatively stable generalized belief that an individual can gather the resources needed to deal with the challenges that he or she experiences (Woodruff & Cashman). That is, GSE is a trait-like belief in one's competence. This operationalization is in contrast to Bandura's (1982, 1984) original formulations of self-efficacy as a state-like belief in one's competence. Evidence suggests that GSE and task-specific self-efficacy are positively correlated (e.g., Sherer et al., 1982).

Moreover, Judge's research has found that GSE is related to, but distinct from, other self-evaluation constructs e.g., self-esteem. This gives rise to the conceptual differences between general and specific self-efficacy, which are distinct constructs (Marakas et al., 1998). While specific self-efficacy is a judgment of ability in a particular domain, general self-efficacy captures the perceptions of ability that transfer among domains (Eden & Kinnar, 1991). Training efforts and programs naturally vary widely in scope and emphasis in a way that complicates the designation of self-efficacy as task specific. While some training focuses on specific skill development (for example, to perform a task), organizations also invest in more comprehensive, broadly targeted training to prepare participants for a range of experiences.

2.3 Transfer of Training

Positive transfer of training is defined as the degree to which trainees effectively apply the knowledge, skills and attitudes gained in the training context to the job (Newstorm, 1984; Wexley and Latham, 1981; Baldwin and Ford, 1988). Training can be said to be effective if the skills and behavior learned and practiced during training can be transferred to the workplace and can be applied in job context. It should also be maintained over time and can be generalized across contexts (Baldwin and Ford, 1988; Holton and Baldwin, 2003).

The extant literature on factors that affect the transfer of training can be learnt under the following:

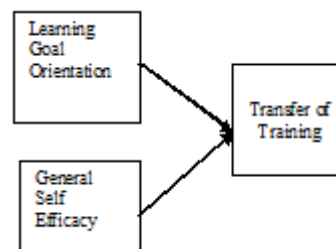
- Trainee Characteristics, Intentions to transfer & Reactions
- Training Design, Delivery Mechanisms
- Work Environment ,Situational & Organizational factors

The hypotheses that are to be tested emerges based on the literature and are the following:

H1: Learning Goal Orientation will significantly influence transfer of training

H2: General Self Efficacy will significantly influence transfer of training

3. Research Model



4. Research Methodology

4.1 Method

127 final year engineering students, who were from a large private University, participated in the study. Prior to collecting data, the students were given training in a one day workshop titled, "Conceptualizing innovative ideas for new products". This training was part of a course that was offered under the project based learning mode. Here evaluations were made only on a project that the students carried out. After one month from the training, students were supposed to present new product ideas, which are commercially viable and at the same time serves the larger good of the society. Thereafter for the final review the students had to show either manual or digital prototypes of their products.

4.2 Measures

The two independent study variables, Learning Goal Orientation and General Self Efficacy were measured immediately after training. The dependent variable, transfer of training was measured just before the student's final review, in order to understand whether the training imparted was transferred during the entire process of conceptualizing new products and developing prototypes of the same.

Learning Goal orientation was measured by 8 items of the scale developed by Button et al (1996) and sample items are, "I prefer to work on tasks that force me to learn new things", "The opportunity to extend the range of my abilities is important to me" etc., *General Self Efficacy* was quantified using 10 items of an adapted version of the scale developed by Sherer and Maddux(1982). Sample items are, "When I make plans, I am certain I can make them work", "When I decide to do something, I go right to work on it". *Training transfer* was measured with 6 items from Xiao (1996). A sample item is, 'I can accomplish the tasks better by using the new knowledge acquired from the training course'. All measure were assessed using a five point Likert scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4= agree,5= strongly agree).

5. Results & Discussion

The reliability estimates of the study are presented in Table 1 for the various constructs under study. An alpha value of 0.70(Nunnally, 1978) is considered to be a good estimate. All the three factors have an alpha value of more than 0.70, indicating the reliability of the data collected.

Insert Table 1 about here

To examine the relationship between the predictors and criterion variable we use correlation and regression analysis.

Table 2 shows the results of the regression model for the assessing the influence of Learning Goal Orientation on transfer of training. From the regression model it can be inferred that Learning Goal Orientation has significant relationship and influence on transfer of training. This can be inferred from the t-value and the associated p-value. It explains about 21.2% variations in transfer of training.

Insert Table 2 about here

Insert Table 3 about here

It can also be seen from Table 3 that there is a positive correlation between learning goal orientation and transfer of training. The model is also found to be valid by referring the F-value and its p-value. The VIF factor in this model is 1.000, which indicates the non existence of the multicollinearity problem. Therefore it can be said that there is a positive relationship between pre-training activities and transfer of training.

To examine the influence of General Self Efficacy on transfer of training, a regression model was used. Table 4 shows the results of the regression model for the assessing the influence of General Self Efficacy on transfer of training. From the regression model it can be inferred that General Self Efficacy has significant relationship and influence on transfer of training. This can be inferred from the t-value and the associated p-value. General Self Efficacy explains 33% of variations in transfer of training. It can also be seen from Table 5 that there is a correlation between General Self Efficacy and transfer of training. The model is also found to be valid by referring the F-value and its p-value. The VIF factor in this model is 1.000, which indicates the non existence of the multicollinearity problem.

Insert Table 4 about here

Insert Table 5 about here

Therefore it can be said that there is a positive relationship between during-training activities and transfer of training.

6. Conclusion

This study confirms previous research findings that individual characteristics significantly influence positive transfer of training. Transfer of training is a multidimensional construct, and in this study we have identified the relationship between two important individual characteristics called, learning goal orientation and general self efficacy which influences transfer of training. Organizations wanting to increase the training transfer from the training context back to the job context may understand the importance of the role played by various individual factors to increase positive transfer of training. In addition to the findings in this research, we can assume that there are many other factors apart from individual factors such as work environment factors, training design factors that may further explain transfer of training and the same can be studied in future research. The same research can also be

extended to different organizational setups by studying the differences that arise due to the demographics, gender, characteristics of the trainees to throw more light on transfer of training.

7. Future Scope

Previous research indicates that the findings regarding Transfer of training is inconsistent and suggests that more robust psychological theories must be used to understand what is called the transfer problem. This research can be extended to various organizational settings that can be useful to researchers, learning and development managers and academicians.

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Author Profile

Uma Pricilda J is currently serving as Assistant Professor (SG) at the reputed VIT University and has industry, academic administration and research experience. She is also a research scholar at Karunya University, Coimbatore. She has to her credit papers published in International and National Journals. She has also attended many International and National Conferences on Business & Management. For the past two years she has been successfully organizing an International Conference on Emerging Markets at VIT Business School, VIT University.

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Appendix

Table 1: Reliability estimates

S.No	Factor	Cronbach alpha value
1	Learning Goal Orientation	0.84
2	General Self Efficacy	0.78
4	Training Transfer	0.91

Table 2: Result of Regression Model for Learning Goal Orientation on transfer of training

Model	Adj. R ²	Unstandardized Coefficients	Standardized Coefficients	t-value	p-value	VIF	Result
LGO	.212	.333	.503	6.124	.000	1.000	Significant
F- Value= 28.263 p-value= 0							

Table 3: Results of correlations between Learning Goal Orientation and Transfer of Training

Correlation Coefficient	p-value	Result
.503	0.000	Significant

Table 4: Result of Regression Model for General Self Efficacy(GSE) on Transfer of Training

Model	R ²	Unstandardized Coefficients	Standardized Coefficients	t-value	p-value	VIF	Result
GSE	.330	.364	.498	5.718	.000	1.000	Significant
F- Value= 34.327 p-value= 0							

Table 5: Results of correlations General Self Efficacy between and Transfer of Training

Correlation Coefficient	p-value	Result
.498	0	Significant