

Training Transfer Behaviors: The Roles of Trainee Confidence, Knowledge, and Work Attitudes

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Transfer of training refers to the extent to which desired work behaviors are transferred to the workplace following training. This study evaluated training transfer ratings as a function of trainee variables following training (confidence and knowledge) and work attitudes and evaluations (job satisfaction and transfer climate). Consistent with the literature, positive associations with transfer were hypothesized. Training was developed to align transfer behaviors with organizational goals. Subsequently, a questionnaire was distributed to 109 employees of a natural foods grocery store. The data yielded partial support for hypotheses. Although trainee variables and job satisfaction were positively related to transfer of training, transfer climate was not. Also consistent with the literature, the frequency of transfer behaviors was fairly low, and varied as a function of department and employment status. Implications for theory and practice based on the findings are discussed.

INTRODUCTION

Training has been defined as a proactive organizational effort aimed at increasing employee learning toward desired organizational outcomes (Noe, 2010; Colquitt, Lepine, & Noe, 2000). Key aspects of this definition show that training is used to direct employees toward the knowledge and methods that are desired by the organization. Organizations in the United States spend millions of dollars annually on training employees as a way to improve job performance and increase profits (e.g., Velada, Caetano, Michel, Lyons, & Kavanagh, 2007; Noe, 2010).

As organizations invest so much time and money in their employees, it is important to use best practices to ensure that the training will result in meaningful outcomes for the organization. Two such practices (e.g., Brown & Sitzmann, 2010) are to incorporate strategic business goals within training, and

to address how knowledge and skills learned during training will be applied back to the job, a process known as training transfer (Baldwin & Ford, 1988; Baldwin, Ford, & Blume, 2009).

The purposes of this study are to document and explore an organization's attempt to incorporate strategic business goals into training, and to identify and measure specific training transfer behaviors to meet these goals. A follow-up investigation was conducted to assess the extent to which employees were subsequently engaged in those transfer behaviors. The model of training transfer specified by Grossman and Salas (2011) will be used to highlight and evaluate the findings of this study.

Transfer of Training

Baldwin and Ford (1988) seminal paper emphasized the "transfer problem", which describes how training efforts can be unsuccessful because there is no effort to ensure that trained behaviors are exhibited on the job site. To quantify the transfer problem, these authors cite data that of the hundreds of millions of dollars spent on training in the United States, only approximately 10% translates back to behavioral changes that are transferred to the job. Wexley and Latham (2002) have also investigated an aspect of the transfer problem, wherein behavioral transfer fell from 40% immediately following training to 25% after six months, and to 15% after one year.

Since the publication of Baldwin and Ford's (1988) influential paper, many empirical and theoretical papers have documented the variables that are predictive of training transfer (Garavaglia, 1995; Kontoghiorghes, 2004; Baldwin, Ford, & Blume, 2009). Grossman and Salas (2011) compiled a narrative review of the most influential variables regarding the extent to which training transfer occurs. These include factors related to the trainee, the training itself, and the work environment. In terms of trainee characteristics that predict transfer, research has generated empirical support for the role of cognitive ability (Burke & Hutchins, 2007; Velada et al., 2007), self-efficacy (Chiaburu & Linday, 2008), motivation (Tziner, 2007), and the perceived utility of training (Valada et al., 2007). One of the purposes of this study is to provide additional empirical support to some of the variables specified in these models. The model specified by Grossman and Salas (2011) was also used to build features into the training itself to maximize the likelihood of training transfer. These features will be described in the following section. Finally, aspects of the work environment specified in the model (Grossman & Salas, 2011) were included in the current study to help predict training transfer.

Organizational Setting: Strategic Business Goals and Transfer Objectives

There are several unique aspects of this study. One was the translation of overall strategic business goals into specific training transfer behaviors. Another was the use of the existing knowledge base regarding training transfer to build a training and evaluation program. This study was conducted in collaboration with managers of a natural foods cooperative grocery store in a large metropolitan city. Managers at the organization were interested in aligning training efforts with the strategic objective of raising member ownership for the Co-op. As such, training programs were implemented to inform employees about information that would encourage shoppers to invest in store ownership. More specifically, the overall fiscal health of the organization is a direct function of the dollar amount invested into the store by community members/shoppers. Transfer behaviors that would encourage community members to invest were developed in collaboration with department managers.

A training program was designed and implemented on twelve different dates to accommodate employee schedules for all store employees. This program incorporated knowledge from the research literature to maximize training transfer (Grossman & Salas, 2011). For instance, the desired transfer behaviors were first presented and modeled, allowing for social learning to occur (Taylor, Russ-Eft, & Chan, 2005). Trainees then engaged in role-playing, practicing the trained behaviors in simulations of customer interactions. Errors and problems encountered in executing the behaviors were then discussed and resolved (Heinbeck, 2003).

One year following training, a survey was distributed to all employees to assess transfer behaviors, and measures of theoretically-backed variables that have been shown to relate to transfer. Due to practical constraints with distributing a survey at the job site, only the variables of most interest to the organization

were chosen for inclusion in this study. These variables will be reviewed in the following section. Information from this study served a dual function in addressing the research literature as well as formative evaluation of the training program. Finally, this study included informal communication with trainees was conducted to evaluate their experiences with implementing transfer behaviors on the job.

Predictors of Training Transfer and Hypotheses

One of the variables that has been shown to relate to transfer of training is the “transfer climate” of the working environment. Research has documented that there are a variety of climates that affect organizational behavior, including climate for safety, climate for harassment, as well as climate for training transfer (Baldwin & Ford, 1988). Aspects of psychological climate are thought to operate by setting norms and expectations for associated behavior. These norms are enforced by management and taught to new hires, further enforcing the strength of the climate. Transfer climate is considered to exhibit a direct influence on training transfer, along with managerial and technological support (Colquitt, Lepine, & Noe, 2000). Research has documented a number of findings and theories regarding transfer climate. Studies have demonstrated the relationship between transfer climate on perceived learning and actual transfer to the job (e.g., Lim & Morris, 2006), and that the link between safety knowledge and safety performance is a function of the transfer climate (Smith-Crowe, Burke, & Landis, 2003). Consistent with prior research, it is hypothesized that transfer climate would be positively related to transfer of training.

Work attitudes such as job satisfaction have been studied in terms of their relationship with training transfer (e.g., Baldwin & Ford, 1988; Garavaglia, 1995; Kontoghiorghes, 2004). Job satisfaction is the affective and cognitive evaluation one has towards the job and its components. In addition to theoretical suggestions that a more favorable job attitude will lead to more enthusiastic transfer behavior, research has indicated an empirical link between job satisfaction and transfer of training (Velada & Caetano, 2007; Jodlbauer, Selenko, Batinic, & Stiglbauer, 2012). Consistent with this research, it is hypothesized that job satisfaction would be positively related to transfer of training.

Another set of variables that has been implicated in training transfer is the extent to which the trainees learn the material and have confidence in their abilities to implement it (e.g., Baldwin & Ford, 1988; Garavaglia, 1995; Kontoghiorghes, 2004). In fact, the guidelines of training evaluation developed by Kirkpatrick in 1967 specify that what takes place during the training process (learning criteria) will affect subsequent transfer (behavioral criteria). More specifically, greater learning will be associated with greater transfer. These guidelines developed by Kirkpatrick have been used in numerous studies as a theoretical foundation to expand upon in the topic of transfer of training (Velada & Caetano 2007; Wickramasinghe, 2006).

In the current study, trainee confidence was considered in terms of the extent to which the trainee felt confident in their ability to successfully accomplish each of the training learning objectives. It is similar to the concept of performance self-efficacy (Holton, Bates, & Ruona, 2000; Chiaburu & Lindsay, 2008), although this is a more generalized belief in one’s ability to change performance outcomes according to conditions. Consistent with this research, it is hypothesized that knowledge learned during training and confidence about this knowledge will be positively related to transfer of training.

METHOD

Participants

A total of 150 employees from the store were recruited for participation in this study. Participation was voluntary, and strongly encouraged by the human resources department of the organization. Of those recruited, 109 employees participated, yielding a response rate of 72.7%.

The background characteristics of the employees are reported in Table 1. Of the participants, 34.9% were male, 61.5% were female, and 3.7% did not indicate their gender. In terms of age ranges, 4.6% of participants indicated they were less than 20 years old, 40.4 between the age of 20 and 29, 26.6% between the ages of 30 and 39, 11.9% between the age of 40 and 49, 11.0% between the age of 50 and 59, 3.7% older than 60 years of age, and 1.8% did not indicate their age. The largest percentage of respondents,

38.5%, worked at the Front End, 11.9% worked in the Deli, followed by 10.1% working in Grocery. The majority of the participants indicated their employment status was part-time (60.6%), whereas 30.3% indicated their employment status was full-time, and 9.2% did not provide information about their employment status.

Procedure

Participants received a memo asking them to visit the human resources office to complete a voluntary survey regarding training they had received. There, they were given an Informed Consent form. All signed forms were kept in a sealed envelope to protect the participant's confidentiality. Employees were then given the survey and a writing instrument, followed by a debriefing form. All participants were treated in full accordance of the APA's Ethical Treatment Guidelines.

Measures

The first section of the questionnaire consisted of employment background questions, such as gender, age range (to respect privacy and confidentiality an age range was used rather than a specific year), employment status (full-time or part-time), and department.

Transfer Climate

Transfer climate was assessed using a 10-item Likert-type scale in which the employee is asked to indicate their agreement with each item (Tziner, Fisher, Senior, & Weisber, 2007). A high score on this measure indicates that the work environment of the participants is supportive of the transfer of training (e.g., *My boss will be willing to discuss any problem I encounter in my attempts to apply the new knowledge and skills I have acquired in the course to my job*). Cronbach's alpha for this measure was .86.

Trainee Confidence

The confidence variable was assessed per the training learning objectives, and as such was specific to this study. For each of the learning objectives, the participant was asked to use a five-point Likert-type scale (1 = Strongly Disagree, 5 = Strongly Agree) to assess confidence that he or she could successfully explain or perform the objective (e.g., *I am confident that I would be able to...Explain the financial payment options for becoming an owner*). The internal consistency reliability for this measure (Cronbach's alpha) was .89.

Trainee Knowledge

The next section of the questionnaire consisted of eight items developed by management that tested knowledge of the training material (e.g., *To be eligible for the Co-op Owner Worker discount, co-op owners must work ___ hours per month.*) Participants could have a score of 0 if they missed all the items, or an 8 if they got all of them correct.

Job Satisfaction

Job satisfaction was assessed by using the short form of the Job Descriptive Index (Smith, Kendall, & Hulin, 1969). Participants were asked to provide a response of Yes, No, or ? to each of 8 adjective terms that may describe their jobs (e.g., good, poor, disagreeable, excellent, enjoyable).

Transfer Ratings

This section of the questionnaire consisted of six potential transfer behaviors to determine the aspects of the training program that the participants have used on the job. The participant was asked to check all the transfer behaviors that they had used at any time during the previous six months (e.g., *Talked to customers about ownership; supported an ownership drive*). Thus, transfer ratings could range from 0 (none of the behaviors) to 6 (all of the behaviors).

RESULTS

Employment Variables

An area of interest to the organization was whether there were employment-level variables that would suggest improvements to the training, or highlight the need for additional training among selected groups. Descriptions of employment variables can be found in Table 1. One such variable of interest was whether there were transfer differences as a function of the employees' department. A one-way between subjects analysis of variance (ANOVA) was conducted with transfer score as the dependent variable and department as the independent variable. The effect of department category was significant, $F(9,92) = 3.23$, $p = .01$, partial $\eta^2 = .24$. Tukey's post hoc comparison revealed that transfer scores were significantly higher in the marketing department than all other groups. This is intuitively correct, because a key feature of the day-to-day job requirements for those in the marketing department involves making connections to members of the community to encourage membership.

The only other employment variable that significantly related to training transfer was employment status (full-time versus part-time). The results of a one-way ANOVA revealed a significant effect of employment status $F(1,95) = 13.16$, $p < .01$, such that full-time employees ($M=3.53$, $SD=1.12$) were more likely to engage in transfer behaviors than part-time employees ($M=2.13$, $SD=1.30$). With more on-the-job exposure to members of the community, it is logical that full-time employees would yield greater transfer behaviors.

Tests of Hypotheses

Correlation analyses (see Table 2) were conducted to determine the strength of the linear relationships between transfer of training and the predictor variables included in this study: trainee evaluations of confidence, knowledge, job satisfaction, and transfer climate. The alpha level was set at the traditional level of .05 to test for statistical significance.

Table 2 provides the results of the correlation analysis as well as the means and standard deviations for the predictor and continuous criterion variables. It is worth noting that the mean values for the transfer measure were quite low: a mean of 2.41 ($SD = 1.46$) out of a possible (and desired) six transfer behaviors. This finding will be addressed in the Discussion. Results of the correlation analysis indicated that transfer of training had the strongest relationship with trainee confidence ($r = .37$, $p < .01$), followed by job satisfaction ($r = .31$, $p < .01$) and knowledge about the training ($r = .28$, $p < .01$).

Multiple Regression

Multiple regression analysis was conducted with transfer of training as the dependent variable (see Table 3). Significant employment variables (employment status, and department) were entered in the first step, trainee variables in the second step (confidence and knowledge), and work attitudes and evaluations (job satisfaction and transfer climate) in the third step. The first step accounted for approximately 14% of the variance in scores ($R^2 = .15$) and was statistically significant, $F(5,75) = 2.54$, $p < .05$. As stated above, employment status ($\beta = .84$, $p < .05$) contributed significantly to the prediction of transfer, in that full-time employees were more likely to transfer training.

In the second step of the model, the confidence and knowledge variables were added to the regression equation. With the additional variables included in the analysis, the predictors now accounted for approximately 26% of the variance in scores ($R^2 = .26$). This was also significant, $F(7,73) = 3.70$, $p < .05$, with knowledge ($\beta = .30$, $p < .05$) demonstrating a significant effect on transfer.

In the third step job satisfaction and training climate were included. These predictors accounted for an additional 4% of the variance, bringing the total amount of variance accounted for to approximately 30% ($R^2 = .30$). Again, this was significant, $F(9,71) = 3.38$, $p < .05$. Although the overall prediction of transfer was significant, much of the variance around transfer was not explained by these models.

DISCUSSION

This study provided a real-world assessment of transfer within a training program that was built to align strategic organizational goals with trainee behaviors on the job. At a fundamental level, the data replicated previous findings (e.g., Wexley & Latham, 2002; Baldwin & Ford, 1988) regarding the low occurrence of training transfer. Respondents indicated that they had only engaged, on average, in 2.5 of the six desirable transfer behaviors in the previous six months. This is particularly troubling for this organization, because these transfer behaviors were deemed critical for its business success: obtaining more member owners and their financial investments.

Informal communication (after the formal study) with employees suggested that there was a problem with engaging in these transfer behaviors because of the other demands of their workload. In fact, research (Belling, James, & Ladkin, 2004) has documented barriers to the effectiveness of training, and most of these involve a work environment that is not supportive in various ways (e.g., communication processes are poor, supervision is ineffective, or there is not adequate opportunity to use training on the job). It is clear that the working environment must be conducive to the use of training on the job.

However, in this study, results did not support the hypothesized link between transfer climate and transfer. Although employees generally found the transfer climate to be supportive, they felt that there were too many responsibilities in their daily tasks to take the time to pursue behaviors related to member ownership (which often required them to engage in conversation and/or provide written information to customers). In cases such as these, it may be important to re-prioritize the transfer behaviors deemed critical for the strategic mission of the organization as more essential than other daily tasks. Supervisory feedback and the reward system of the organization could be used to help establish priorities. Further research is needed to explore the role of transfer climate, conflicting tasks, and reward structures under conditions of a hectic work environment.

A potentially related program of research concerns the “line of sight” of training information (Boswell, 2006), referring to the degree to which employees can directly see the relevance of training material to their day-to-day job functioning. Researchers (Hatala & Fleming, 2007) have highlighted the importance of visibility in establishing training transfer as work norms. This makes sense in light of some of the other findings in this study. For instance, employees in the marketing department (who work frequently on member owner programs) provided significantly higher transfer ratings. Similarly, full-time employees who may be more concerned with organizational initiatives provided significantly higher transfer ratings, suggesting that additional training or rewards systems could be directed toward part-time workers. Organizations may increase line of sight through communication tactics, or by additional inquiries into transfer behaviors that enhance the strategic mission of the organization. For instance, recent research (Saks & Burke, 2012) has shown that simply conducting training evaluations (behavioral and results) can function to increase training transfer.

There are several methodological limitations of this study that could be addressed in future research. These limitations are inherent to survey data. One such limitation of this study is its correlational nature. This type of research does not allow for statements about causal links. Research in controlled laboratory settings could be conducted to allow for a stronger inference of causation between study variables. This study was also limited by its use of self-report measures as the sole method of data collection. The possibility of common method bias could be reduced by introducing varying types of measurement of training transfer. For instance, transfer activities could be evaluated by objective data (such as the number of new members recruited) or by managers, instead of relying on employee self-report information.

In sum, this paper provided a longitudinal assessment of a training program designed to enhance training transfer towards organizational objectives. Despite considerable investment into the training program and its evaluation, trainee reports of their transfer behaviors provided evidence of the “transfer problem”. The data from this study hinted at the importance of line-of-sight features as keys to raising transfer. Future research is needed to assess such approaches to raising training transfer within different work environments.

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TABLE 1
FREQUENCY AND PERCENT FOR CATEGORICAL EMPLOYMENT VARIABLES

Variable Name	Frequency	Percent
Gender		
Male	38	34.9
Female	67	61.5
Missing	4	3.7
Age		
Less than 20 Years	5	4.6
20-29 Years	44	40.4
30-39 Years	29	26.6
40-49 Years	13	11.9
50-59 Years	12	11.0
60 Years or Older	4	3.7
Missing	2	1.8
Employment Status		
Part-Time	66	60.6
Full-Time	33	30.3
Missing	10	9.2
Department		
Administration	6	1.8
Deli	13	11.9
Front End	42	38.5
Grocery	11	10.1
Kitchen	2	1.8
Marketing	9	8.3
Meat, Cheese, Wine	7	.9
Produce	8	8.3
Wellness	4	3.7
Other	3	2.8
Missing	4	3.7

TABLE 2
MEANS, STANDARD DEVIATIONS, AND CORRELATIONS FOR STUDY VARIABLES

Variable	M	SD	Confidence	Knowledge	Transfer Climate	Job Satisfaction	Transfer
Confidence	4.02	.79	--				
Knowledge	5.72	1.37	.38**	--			
Transfer Climate	3.86	.72	.53**	-.07	--		
Job Satisfaction	2.50	.61	.18	.05	.20*	--	
Transfer	2.41	1.46	.37**	.28**	.18	.31**	--

Note. * p < .05, ** p < .01

TABLE 3
REGRESSION ANALYSIS FOR TRAINING TRANSFER

Step and Predictor Variables	Model 1			Model 2			Model 3		
	B	SEB	β	B	SEB	β	B	SEB	β
Employment Variables									
Work Status	.838	.366	.263*	.538	.355	.169	.466	.355	.146
Department	-.014	.043	-.037	-.015	.041	-.038	-.010	.041	-.026
Trainee Ratings									
Confidence				.340	.208	.183	.369	.256	.199
Knowledge				.302	.142	.252*	.285	.146	.238
Work Factors									
Job Satisfaction							.052	.027	.205
Transfer Climate							-.127	.256	-.062
R ²		.380			.512			.547	
ΔR^2		.145*			.117**			.038	

Note. * p < .05, ** p < .01