1-2011

Evaluating the Impact of a Performance Based Methodology on Transfer of Training

Richard Rashid Kazbour
Western Michigan University

EVALUATING THE IMPACT OF A PERFORMANCE BASED METHODOLOGY ON TRANSFER OF TRAINING

by

Richard Rashid Kazbour

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Philosophy
Department of Psychology
Advisor: Heather M. McGee, Ph.D.

Western Michigan University
Kalamazoo, Michigan
August 2011

EVALUATING THE IMPACT OF A PERFORMANCE BASED METHODOLOGY ON TRANSFER OF TRAINING

Richard Rashid Kazbour, Ph.D.

Western Michigan University, 2011

Transfer of training is the degree to which trainees can apply the knowledge, skills, and attitudes gained in training, to the job (Brinkerhoff & Apking, 2001; Wexley & Latham, 1981). Currently only between 5% and 20% of what is learned in training is ever applied on the job (Brinkerhoff, 2006; Broad, 2000; Fitzpatrick, 2001; Mooney & Brinkerhoff, 2008; Tannenbaum & Yulk, 1992). Until recently, most transfer research has focused on what happens in the formal training environment (Brinkerhoff & Montesino, 1995; Holton, Bates, Seyler, & Carvalho, 2003; Noe, 1986; Saks & Belcourt, 2006). At this time, little is known about the effects of work environment factors such as support, feedback, and goal setting, on training transfer.

We utilized a between groups experimental design using surveys, interviews, and behavioral measures to evaluate the impact of performance based work environment factors, on training transfer. Results indicated that participants in the experimental group reported a higher level of training transfer than those in the control group. These findings suggest that a performance based approach to training can be an effective method to increase the likelihood that employees transfer training knowledge, to the job context. The implications of these findings are discussed.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ACKNOWLEDGEMENTS

I would like to thank with sincere appreciation my advisor Dr. Heather McGee, for her support both as an advisor and as a friend throughout this process. I would have been lost without her. I would like to thank Dr. Robert Brinkerhoff for providing me the opportunity to align my research interests with a fitting organization, Tim Mooney for his guidance and immense knowledge in the "business side" of applied research, and Laura Masica and Linda Terry for their many hours of effort during the research process. I would also like to thank Dr. John Austin for opening the doors to his laboratory and for always treating me as if I was one of his own students. Next, I'd like to thank Dr. Ron VanHouten for sharing his exceptionally bright ideas and insights surrounding my research. I would like to thank Nate Bechtel for his help with data collection, and Haolai (Lincoln) Jiang and Lisa Harker for their assistance in my statistical analyses.

Finally and most importantly, I would like to thank my family. Dad and Mom, words cannot express how grateful I am to have had your support my entire life. Your unconditional love, guidance, and affection have made me the man I am today. Here's to making you proud. Sue, Yasser, Sarah and Sandra, you've always been there for me. Thanks for being such great role models and for putting up with your little brother all these years, I wouldn't have made it without you.

Richard Rashid Kazbour

TABLE OF CONTENTS

Table of Contents—Continued

Table of Contents—Continued

LIST OF TABLES

LIST OF FIGURES

List of Figures—Continued

INTRODUCTION

Evaluating the Impact of a Performance Based Methodology on Transfer of Training

The American Society for Training and Development (ASTD) estimated that in the United States in 2008, organizations spent a combined $134.7 billion on employee learning and development (L&D) (Paradise & Patel, 2009). During that same year, the average employee spent over 36 hours in training, equaling one of the highest totals in the past 10 years (Paradise & Patel). These numbers represent a cost to organizations of over $1,000 per individual employee, per year.

One way that the ASTD tracks training in organizations is by measuring learning (training) expenditure as a percent of payroll. According to the ASTD, U.S. organizations spent the equivalent of 2.09% of payroll on training in 2005. In 2008, the average learning expenditure as a percentage of payroll increased to 2.24% (Paradise & Patel, 2009). These statistics illustrate that even in an economic downturn; training remains a top priority for many organizations. Although these figures suggest the importance of training to organizations, they do not reflect the actual effectiveness of training.

Training leads to business impact only if employees *use* new skills and knowledge in everyday job performance (Mooney & Brinkerhoff, 2008). There is a difference between acquiring knowledge during training and applying it on the job. The effectiveness of training depends ultimately on whether the learned outcomes are used in the workplace (Salas & Cannon-Bowers, 2001). Transfer of training is the degree to which trainees can apply the knowledge, skills, and attitudes gained in training to the job (Brinkerhoff & Apking, 2001; Wexley & Latham, 1981). Transfer is said to occur when learned behavior is generalized to the job context and maintained over a period of time

(Baldwin & Ford, 1988; Brinkerhoff & Apking, 2001; Wexley & Latham, 1981). In order for skills transfer to be worthwhile to an organization, they must be aligned with important organizational goals. Brinkerhoff refers to this as "high leverage application" (Brinkerhoff, 2006). In this regard, successful transfer doesn't simply mean that employees are using new skills; it means that they are using new skills in a way that is likely to make a difference (Brinkerhoff, 2006; Mooney & Brinkerhoff, 2008).

The problem with most training programs is that they do not transfer well. Currently only between 5% and 20% of what is learned in training is ever applied on the job (Brinkerhoff, 2006; Broad, 2000; Fitzpatrick, 2001; Mooney & Brinkerhoff, 2008; Tannenbaum & Yulk, 1992). When organizations attempt to improve training transfer, they have traditionally focused their attention on factors in the learning environment which is often times referred to as the formal training environment (Brinkerhoff & Montesino, 1995; Holton, Bates, Seyler, & Carvalho, 1997; Noe, 1986; Saks & Belcourt, 2006). The propensity to focus on factors within the formal training environment occurs because as one might suspect, trainers themselves have the most control over activities and practices that occur *during* formal training (Saks & Belcourt, 2006).

Formal Training Factors

Methods incorporating various learning principles are used most commonly to increase training transfer during the formal training process (Saks & Belcourt, 2006). A number of these methods have been described in the literature, each identifying a different theory of acquiring (and transferring) learning in an attempt to improve training transfer.

A "learning principle" method commonly found in the literature is using *stimulus variability* (also sometimes referred to as practice variability). In stimulus variability, a number of varying examples are used during training, or trainees practice new tasks in a variety of situations or settings (Saks & Belcourt, 2006). The idea is that when several examples of a concept to be learned are used in training, the trainee's understanding of the subject matter is strengthened so that he/she is more likely to see the applicability of a concept in a new work situation (Baldwin & Ford, 1988).

When using *identical elements* in formal training, stimuli are presented that match as closely as possible to the stimuli employees will be interacting with in the work environment. For example, trainees may learn to use equipment during training that is identical to the equipment they will be using in the working environment after training (Machin, 2002). Any scenario where trainees are interacting with stimuli similar to, or identical to stimuli in the working situation, is utilizing identical elements as a formal training learning principle.

One way in which the concept of identical elements has been used in training is through simulations. In simulation training, on the job stimuli are replicated in an attempt to foster circumstances during training that resemble on the job situations. Simulation is the process of designing a model of a system and then using the model to teach new behaviors. In simulation training, the model represents a "real life" situation. Simulation training has been used successfully in a variety of contexts including flight training, medical procedures, computer training, and military exercises (Smith, 1998).

General principles involve teaching general problem solving strategies intended to be applicable to a wide range of situations or problems within the trainees' work

environment (Baldwin & Ford, 1988; Saks & Belcourt, 2006). The theory suggests that training environments can be designed without too much emphasis on their similarity to the transfer environment (identical elements), so long as it is possible to use underlying principles (Yamnill & McLean, 2001). According to Reeves and Weisberg (1994), using general principles in training facilitates the tendency for the disruption of the "automation" of skills, which in turn extends the period of analytic processing that occurs during training, thus increasing the likelihood of transfer.

Up to this point, the majority of research on training transfer has focused on formal training factors. The current paper has cited the three most popular formal training factors: incorporating variable stimuli, using identical elements, and teaching general principles. While some studies have reported these have a positive impact on transfer, others have not (Saks & Belcourt, 2006; Tannenbaum & Yukl, 1992). Tannenbaum and Yukl (1992) said that each of these three formal training factors have actually "slowed rather than advanced ways of facilitating transfer of training because they focus primarily on the period of knowledge and skill acquisition that occurs during the training process itself" (p. 372).

As indicated earlier, currently less than 20% of training in organizations is being transferred to the job (Brinkerhoff, 2006; Broad, 2000; Fitzpatrick, 2001; Mooney & Brinkerhoff, 2008; Tannenbaum & Yulk, 1992). It seems time, then, to evaluate interventions that attempt to increase training transfer by addressing factors that occur outside of the formal training environment.

Work Environment Factors

Any method of improving transfer that occurs before or after formal training is considered to take place in the work environment (Baldwin & Ford, 1988). Until recently most transfer research has focused on what happens in the formal training environment (Brinkerhoff & Montesino, 1995; Holton, Bates, Seyler, & Carvalho, 1997; Noe, 1986; Saks & Belcourt, 2006). Current research suggests there are factors within the work environment that can influence whether or not individuals transfer training to the job. Such factors include support (from management and supervisors), goals, and information regarding performance (Baldwin & Magjuka, 1991; Brinkerhoff & Montesino, 1995; Tracey, Tannenbaum, & Kavanach, 1995).

Baldwin and Ford (1988) conducted a review of transfer research where the purpose of their article was to provide a critique of the existing literature and to suggest directions for future research. Although some of the literature in the review was practitioner based, (i.e. reporting results of training already occurring in an organization, without manipulating variables), Baldwin and Ford concluded that training transfer *might* be contingent on factors in the work environment. They added, however, that empirical evidence "is sparse" (Baldwin & Ford, p. 69). Baldwin and Ford suggested that supervisory "support" and "organizational climate" are work environment factors that may influence the transfer process.

"Support" was used to describe an interaction among an employee (trainee) and his/her supervisor or manager. "Organizational climate" described feedback and other interpersonal work relationships. The authors questioned the relevance of these factors based on the lack of empirical evidence, pointing out that conclusions regarding the

importance of such environmental characteristics on transfer were based solely on correlational data. The review concluded that, among several research gaps, there was a need to test the effect of these factors on training transfer. As a result of this and other similar early reviews (e.g., Broad & Newstrom, 1992), a number of studies were conducted to determine if work environment factors such as support, goals, and feedback affect training transfer.

Ford, Quinones, Sego, and Sorra (1992) conducted research aimed at identifying factors affecting the opportunity to perform on the job. Participants included 315 graduates of an Air Force Aerospace Ground Equipment Airman Basic-in-Residence technical training course, and their supervisors. The research did not specifically indicate the number of supervisors that participated, only noting that participants "and their supervisors" took part in the study (Ford et al., p. 516). Each trainee took part in 18 weeks of instruction concerning powered and non-powered equipment use to support Air Force aircraft.

Four months following training, graduates and their supervisors answered several survey questions pertaining to "work context" (work environment) factors. Graduates responded to questions indicating (a) whether or not they had performed each of the 34 sampled tasks they were taught during training (breadth), (b) the number of times they performed these tasks (activity level), (c) the complexity of tasks they had the opportunity to perform (task type), and (d) whether or not their supervisors provided support (support). Support survey questions inquired about the extent to which supervisors provided "an environment where the airman was comfortable trying out new skills" (p. 518). Supervisors responded to questions in two categories: (a) supervisory

attitudes and (b) work flow. “Supervisor attitudes” reflected supervisor “perceptions of an airman’s likability, career potential and their trust in the airman’s ability” (p.518). “Workflow” referred to the supervisors’ perception of the amount of work demands placed on graduates.

Results indicated statistically significant correlations between supervisor perceptions of the airmen’s capability and skills, reported support, and trainees’ overall transfer of skills on the job. Supervisors who reported higher positive attitudes towards graduates were likely to have graduates who performed more tasks after training (R =.32, $p < .05$) (breadth). Specifically, graduates who performed more learned tasks on the job were perceived as having more career potential, and trusted more by their supervisors compared to graduates who reported performing fewer learned tasks on the job. Supervisors who reported higher positive attitudes were also more likely to have graduates who reported performing more complex tasks ($R = .69$, $p < .01$) (task type). Support factors were not found to be significantly correlated with the number of times graduates performed new tasks (activity level). The authors concluded that differential opportunities to perform are affected by supervisor support, and that supervisor and workgroup interaction are “possible key gatekeepers relevant to providing support for a newcomer to obtain opportunities to perform trained tasks” (Ford et al., p. 524).

Tracey et al. (1995) evaluated the effects of “transfer of training climate” and “continuous learning culture” on training transfer. Transfer of training climate, a concept borrowed from Roullier and Goldstein (1993), was said to be “those situations and consequences which either inhibit or help facilitate the transfer of what has been learned in training into the job situation (p. 379).” Continuous learning work environments were

said to include the following characteristics: accepting knowledge and skill acquisition as an important component to one's job, having social interactions and work relationships among employees and managers, and providing reinforcement for achieving goals and opportunities for personal development. The authors reported that managerial behaviors such as feedback and goal cues are among the factors that help facilitate transfer. Among their hypotheses, the authors suggested that the transfer of training climate and continuous-learning culture would "moderate the relationship between knowledge gained in training and posttraining behaviors, respectively" (p.243).

In total, 505 trainees participated in a "supervisory skills training program", which lasted three days. Training focused on teaching interpersonal skills and other administrative procedures. The authors reported that interpersonal skills included things such as customer and employee interactions (p. 243); however they did not provide further details of what an interaction specifically involved. Administrative procedures were shift scheduling, purchasing, and action planning. Three weeks prior to training, survey measures of supervisory behaviors were collected from the trainee. Questions were aimed at gathering baseline information on the administration of specific work environment factors, such as feedback and goal setting. Trainees also completed learning tests pre and post training to compare pre and post training knowledge. Approximately six-to-eight weeks after training was finished, trainees completed another survey on transfer of training climate and continuous learning work environment. The survey assessed the extent to which they reported that their supervisors engaged in support behaviors. Questions asked things such as, "Is independent and innovative thinking encouraged by supervisors?" and "Do supervisors openly express their support?"

Results indicated that support characteristics were correlated with posttraining behaviors. Participants who reported that their supervisors engaged in a higher rate of support also reported transferring training at a higher rate than employees who reported less supervisor involvement. The authors concluded that training climate and continuous learning culture accounted for 68.3% of the variance in training transfer.

Facteau et al. (1995) assessed the effects of employees' attitudes and beliefs about training on perceived training transfer. Participants were 967 employees of a southeastern state government body. The authors hypothesized that trainees who enter training with high levels of pretraining motivation would learn more and be more likely to complete training than their less motivated peers. Further, they hypothesized that trainees who entered training with higher levels of pretraining motivation would additionally report high levels of social support from various sources (top management, supervisors, peers, subordinates).

The analysis was based entirely on verbal reports, and not specifically tied to an individual training session. Employees were asked questions based on their experience in previous training programs. For example, some employees were asked to respond to the statement: "I try to learn as much as I can from training courses". Participant motivation measures were collected via responses to a questionnaire comprised of questions on a Likert-scale of one to five, with one meaning "strongly disagree" and five meaning "strongly agree".

The extent to which trainees reported support was also measured via questionnaire. Categories were the extent to which trainees had been given the opportunity to utilize trained skills, the opportunity to apply trained skills back on the job,

and the amount of reinforcement they received for transferring skills to the job situation. Results indicated that employees who reported entering training with high levels of motivation also reported that they were more likely to complete training. Results also indicated that among the four categories of social support, only supervisory support was positively correlated with pretraining motivation (r = .12). The survey results did not support the hypothesis that supervisor support was related to transfer, and in fact reported a negative correlation between support and transfer (r = -.09), however both subordinate (r = .37) and peer support (r = .21) were positively related to perceived transfer.

Brinkerhoff and Montesino (1995) evaluated the impact of two management interventions on training transfer. Managers met with trainees before training to discuss expectations, and again after training as a follow up to discuss potential skills transfer from the training programs to the job. Ninety one trainees participated in one of five separate training courses on: (a) managing meetings and groups, (b) negotiation skills, (c) techniques for working together effectively, (d) managing time more effectively, and (e) confident communication. Thirty seven of the trainees were randomly selected to participate in the study. Participants in each of the five training courses were divided into two groups: those trainees whose supervisors provided the pre and post training intervention meetings, and those trainees whose supervisors did not. Pre and post training meetings took place about one week prior to, and one week following training for individuals in the experimental group.

Supervisors were provided with a list of topics to discuss during the meetings. For the meeting before training, topics of discussion were: (a) what the course was about, (b) how the content tied to the job of the trainee and how it was important to the job, (c) one

or more concrete expectations for how the trainee was to apply the course content, and (d) expressions of encouragement to use the course content (Brinkerhoff & Montesino, p. 268). The supervisor meeting after training included the following topics of discussion: (a) to what extent the trainee had learned the skills, (b) identification of barriers the trainee might envision, (c) agreement on an opportunity in the near future when the new skills might be fruitfully used, (d) assurance that coaching would be provided as the trainee might wish, and (e) emphasis on the supervisor's expectation that the trainee would use the skills to improve job performance (Brinkerhoff & Montesino, p. 268).

Training transfer was measured by self-reports, in which trainees indicated the extent to which they had or had not engaged in specific skills. Trainees in both groups were asked to rate their individual behaviors on a five point scale, where "5 was a great amount of learning application and 1 was no application at all" (Brinkerhoff & Montesino, 1995, p. 268). Results indicated that on average, the group of employees that participated in supervisor meetings was significantly more likely to report transfer of skills learned in training, to the job after training (p =.012). Group means for amount of transfer for experimental and non-experimental groups were 3.34 (SD = .68) and 2.88 (SD = .79) respectively. Results also indicated that trainees who met with managers reported more encouragement to learn and more opportunity to transfer training. Group means for encouragement to learn were 3.1 for experimental vs. 2.4 for non-experimental respectively. Group means for opportunity to transfer training were 3.4 for experimental vs. 2.6 for non-experimental respectively.

Baldwin and Magjuka (1991) investigated the effects of pretraining "signals" on training transfer. Participants were 193 trainees in the engineering group of a

manufacturing firm. Training programs "ranged in length from one to four days and included topics such as 'good manufacturing practices' and 'conducting effective meetings'" (p.31). The authors did not specifically identify learning objectives, or expand on training program content. Each trainee was given a brief, 10 minute survey prior to participating in training courses. The survey assessed trainee perceptions based on the following measures: preinformation, accountability, and program status. Preinformation questions were aimed at identifying which trainees received information about the training program prior to the training event. Participants indicated whether they received information from peers, supervisors, the training department, and/or an instructor. The purpose of the accountability measure was to identify which (if any) trainees expected a follow-up activity or assessment to occur after training. Program status indicated which trainees perceived training as mandatory, and which trainees perceived training as voluntary.

Following training, trainees were asked to fill out a 10 minute survey indicating their intentions of using the learning on the job. The results of the study suggested that pretraining conditions may be related to training transfer. Trainees reported greater intentions to transfer learning to the workplace when they received information prior to the training program, recognized that they would be accountable to their supervisor, and perceived a program as mandatory. Regression equations for all three categories were statistically significant (F (3,186) = 5.95, $p < .001$), accounting for a small amount of variance ($R = .09$).

The above studies reported the effects of various work environment factors on training transfer. In all five studies, managers and supervisors were referred to as sources

of "support". Goal setting and feedback were delivered by managers and supervisors in three studies (Baldwin & Magjuka, 1991; Brinkerhoff & Montesino, 1995; Tracey et al., 1995). Facteau et al. (1995) and Ford et al. (1992) pointed to supervisory and manager support as effective by indicating that trainees with higher transfer reported better "supervisor attitudes"; however these studies did not explicitly pinpoint supervisor behaviors or other work environment variables as indicators of training transfer.

As suggested by Baldwin and Ford (1988), in each study the term "support" referred to interactions among trainees and their supervisors, managers, or other peers. Although by definition, some form of "support" was administered in each of the studies, research varied in relation to *when* the support was provided. Brinkerhoff and Montesino (1995) for example, had managers meet with trainees one week prior to training to discuss goals and provide feedback, and again one week after training was complete. Others did not explicitly state when support was provided and only suggested that support occur *before* training (Baldwin & Magjuka, 1991; Facteau et. al., 1995; Ford et al., 1992; Tracey et. al., 1995).

The methods used to evaluate the impact of work environment factors also varied somewhat. Two studies assessed employee *intentions* to use training on the job (Baldwin & Magjuka, 1991; Facteau et. al., 1995). In these studies, immediately following training, employees were asked whether or not they thought they would use (in the future) new skills on the job. The remaining studies surveyed employees some period of time after training, and asked whether or not they had already performed new skills on the job (Brinkerhoff & Montesino, 1995; Ford et al., 1992; Tracey et al., 1995). Each study used some form of post-training questionnaire or survey to assess training transfer, while none

provided verification of trainee self report through behavioral results measures (i.e. permanent products).

Although previous research suggests work environment factors offer an increased likelihood of training transfer, there is still a need for research to support this claim. A number of questions were raised as a result of the aforementioned studies. First, Baldwin and Ford (1988) called for research that was not based "solely on correlation studies" (p. 85). Each of the five studies in the current review included some form of correlation statistic as evidence of training transfer. Second, because the results of the aforementioned transfer studies were based entirely on verbal reports, they should not be held as unequivocal evidence of transfer. Although empirical studies can, and often do include surveys as a means of identifying behaviors, there are other more reliable methods. A stronger measure would include some form of permanent product or observation of behavior post training.

Despite a lack of rigorous methodology, pas research has provided a basis for the development of better training transfer. A number of work environment variables, such as goal setting and feedback, were identified that may provide an increased rate of transfer. Performance-based methodologies incorporate these variables when addressing training transfer (e.g., Brethower & Smalley, 1998; Mager, 1997a, 1997b, 1997c). Although none of the previous research explicitly identified work environment factors as "performance based" approaches to training, there are similarities among the two that are worth noting. The following will outline variables from performance based models that appear to be most commonly found in the transfer of training work environment literature.

Performance Based Methodologies

Performance based approaches to training integrate work environment factors such as feedback and goal setting, and involve interventions outside of formal training (Brethower & Smalley, 1998; Rummler & Brache, 1988, 1995). Supervisors and managers are typically the means for communicating this information (Brethower & Smalley, 1998; Rummler & Brache, 1995). Although not all performance based methodologies specifically cite their influence on training transfer, they all incorporate methods for improving human performance in general. The three variables found most often in previous research on training transfer, which overlap with performance based methodologies, are support, feedback, and goal setting (e.g., Brinkerhoff & Montesino, 1995; Tracey, Tannenbaum, and Kavanach, 1995).

Support. In all performance based methodologies to training, information is delivered from some person (typically a higher level employee such as a manager or supervisor) in the organizational context, to another. This channel of information is referred to as support. Brethower and Smalley (1998) discussed the importance of manager support in their description of key events that should occur before and after training sessions. They said:

> Support is needed to assure that participants receive enough and varied practice to learn the requisite knowledge, skills, and attitudes thoroughly. Even after participants are skilled in all phases of the work, management support is needed to guide selection of projects and provide any needed resources and cross-functional support (pp. 113-114).

The Behavior Engineering Model (BEM) was created by Gilbert (1978) as a means for describing how human performance can be improved by fixing the environment in which a person works; as opposed to "changing the person". The model consists of three factors, or environmental supports, which Gilbert described, take place in the work environment. The factors are: (a) information, (b) resources, and (c) incentives. Although Gilbert did not explicitly reference these work environment factors in relation to training, he did indicate the importance of them with regards to improving "the ways in which we direct or guide performance" (p. 178). For worthy performance, Gilbert said that these environmental supports must be present.

Like Gilbert (1978), Rummler and Brache (1995) did not use the term *support* in regard to training. Rather, they discussed the importance of support in relation to improving performance. In their model for organizational improvement, Rummler and Brache suggested that improving performance should be considered a priority of management. Specifically, they said that management is responsible for ensuring that work environment characteristics such as rewards, feedback, and resources support process effectiveness and efficiency (Rummler & Brache, p. 171). They also said that managers should be responsible for providing performance specifications, feedback, consequences, and setting goals (Rummler and Brache, p.25).

Feedback. Performance feedback has been shown to increase performance in organizational settings for decades (Alvero, Bucklin, & Austin, 2001). Although there is no universally accepted definition of feedback, in general the term has been used to denote information given to a performer that tells that individual performer how well they are doing (e.g., Prue & Fairbank, 1981; Rummler and Brach, 1995), and information

about performance that allows a person to correct his or her performance accordingly (Daniels, 1994). Gilbert (1978) said that it is necessary to "provide frequent and unequivocal feedback about how well each person is performing" (p. 179).

Brethower and Smalley (1998) suggested asking the following questions to ensure training transfer: "Is it clear to learners how the organization and the learner would benefit if the material were learned well? Do learners receive enough feedback from instructional tasks, peers, coaches, etc. while learning? Is regular and systematic feedback provided so that graduates can easily tell how well they are performing?" (p. 108).

Mager (1997a) described "diagnostic" feedback as information about performance that indicates the accuracy of performance. Mager explained, for example, that if an employee performs a particular task comprised of steps, a type of diagnostic feedback might include a checklist of correct steps (Mager, p. 131). He described corrective feedback as a source of information indicating how to correct performance. An example of this could be a written description of common problems, and a checklist of probable remedies (Mager, p. 132). Like Gilbert (1978), Mager didn't explicitly cite feedback as a component necessary for training transfer. Rather, he described its importance in relation to "making instruction work". To evaluate the use of corrective feedback for example, Mager said to ask oneself "if students know what's wrong with their practice performance, will they know what to do to fix it?" (p. 132). This description of feedback would appear consistent with those who suggest the importance of feedback and goal setting in training transfer (e.g., Brethower & Smalley, 1998; Rummler & Brache, 1995).

Goal setting. Not all psychologists agree with *why* goals work to improve performance, but most agree that they *do* improve performance. Locke (1996) described goal setting theory as a cognitive paradigm. He explained that goal attainment is more likely when leaders communicate goals and support their employees (Locke & Latham, 2002). Others (e.g., Agnew, 1998; Brethower & Smalley, 1998; Daniels & Daniels, 2004) follow a more behavioral approach. Agnew for example, stated that a goal is "an antecedent stimulus which gains stimulus control over behavior related to achieving the goal…" (p. 11). In other words, goals work because of the *anticipated* (positive) outcome that occurs once the goal is reached. Both, cognitive (Locke) and behavioral (Agnew) theorists agree that for goals to work, support is necessary. In this context, support refers to information delivery from one person in the organizational context, to another.

Performance based goal setting involves specifying to the performer a preset level of performance to be attained (Daniels & Daniels, 2004). In their discussion of demonstrating learned skills, Brethower and Smalley (1998) repeatedly referred to goals as a crucial component. When tracking performance, they said that it is necessary to frequently ask the trainee for their individual goal (p. 63). They also stated that when training, "it is difficult to do something well when you do not know what the goal is" (p. 35).

According to Rummler and Brache (1995), goal setting is an integral part of improving performance. In their model, Rummler and Brache said that goal setting is necessary at the job, performer, and organizational levels of an organization. In order for knowledge to be effectively acquired, job goals must be established (Rummler & Brache). In general, if goals are set, people are more likely to engage in the behavior

required to meet those goals (Daniels & Daniels, 2004). Training transfer involves employees engaging in new behaviors that were not occurring on the job before training (Baldwin & Ford, 1988; Brinkerhoff & Apking, 2001; Wexley & Latham, 1981). Based on many years of research on human performance (Cunningham & Austin, 2007; Tittelbach, Deangelis, Sturmey, & Alvero, 2007; Wilk & Redmon, 1990), goal setting may increase the chances that trained behaviors *do* occur on the job, after training.

Feedback and goal setting. Many have suggested that feedback and goal setting should be used in conjunction with one another to improve organizational performance (Bandura & Cervone, 1983; Brethower & Smalley, 1998; Erez, 1977; Locke & Latham, 2002; O'Hora & Maglieri, 2006; Rummler & Brache, 1995). Locke and Latham (2002) stated that for goals to be effective, people need feedback that describes where they stand in relation to their goals. Incorporating goals and feedback in organizational contexts has been found to be much more effective than goals alone (Alvero, Bucklin, & Austin, 2001; Bandura & Cervone, 1983; Erez, 1977; O'Hora & Maglieri, 2006). In their discussion of goals, Daniels and Daniels (2004) said that goals improve communications "because they tell the performers exactly what and how much performance is desired" (p. 242). This description of providing information on performance is by definition, a form of feedback (Daniels, 1994; Prue & Fairbank, 1981; Rummler and Brach, 1995).

Rummler and Brache (1995) described feedback and goals as components necessary to improving performance. They defined feedback as information to performers that indicate whether or not they are meeting job goals. Additionally, they said training that attempts to improve performance without these necessary components will have no significant long term impact to training. Brethower and Smalley (1998)

define feedback as "providing information about performance relevant to goals that enables the person receiving it to maintain good performance, improve performance, and feel good about the results" (p 61). The two argue that setting goals before training, and providing feedback during and after training are among the critical "linkages" necessary to support transfer of training. Further, they contend that it is the supervisor's responsibility to make these things happen (Brethower & Smalley, 1998). The reason performance improves is because of a "goal-directed, incentive-based, feedback-guided, participative management system…" (Brethower & Smalley, p 58).

Using performance based methodologies to training may yield higher levels of transfer skills. As mentioned previously, research on the topic is limited. A program has been developed with the intention of creating an environment where trainees are more likely to transfer training skills to the job. This program, called the Advantage Way (AW), incorporates various work environment factors such as supervisor and manager support, feedback, and goal setting.

Advantage Way

Robert Brinkerhoff developed the AW system to produce "business impact" for organizations by increasing the likelihood that employees will transfer knowledge and skills taught during training to the job (Mooney & Brinkerhoff, 2008). Business impact refers to the extent to which training achieves a value-added business result (Brinkerhoff & Apking, 2001; Mooney & Brinkerhoff, 2008). The objective of AW (i.e. training transfer) is achieved when the goals of training are met and trainees are engaging in new behaviors that add value to the organization.

Process elements. The AW system is comprised of three phases, or what are referred to as the three key "process elements" (Brinkerhoff & Apking, 2001). The process elements consist of procedures before, during, and after formal training. The three elements are titled: *Creating Focus, Alignment, and Intentionality*, (pre formal training) *Providing Learning to Enhance Capability*, (formal training) and *Supporting Performance Improvement* (post formal training) (Brinkerhoff & Apking; Mooney & Brinkerhoff).

Creating Focus, Alignment, and Intentionality. The first element of the AW system, "Creating Focus, Alignment, and Intentionality", provides a means for formulating "specific and measureable performance improvement objectives" (Brinkerhoff & Apking, 2001, p 57). Initial business goals are identified (typically by leadership in L&D, or some similar function), and shared with organizational leadership. Those business goals are introduced before formal training, and shared among managers and trainees. This helps to maintain accountability for using training on the job (Mooney & Brinkerhoff, 2008). In this beginning phase of the AW system, the goal is to have trainees understand the purpose of the training, and also how it relates to the overall organizational business objectives. During this time leaders from the learning department are also preparing trainees' managers for their involvement in the training process. *Impact maps* are created and shared with managers during manager briefing sessions called *impact booster sessions.*

Impact maps. An impact map provides a visual representation for linking an individual's job role to the key business results of an organization. Along with communicating what knowledge and/or skills should be learned in training, impact maps

communicate the behaviors and results that are expected to occur in the job context, after training is complete (Brinkerhoff & Apking, 2001; Mooney & Brinkerhoff, 2008). All impact maps share a common structure with three core elements: capability, performance (behavior), and results. Capability refers to learning. This section of the impact map pinpoints specifically what new knowledge or skills the trainee should acquire as a result of training. Performance refers to the behaviors that should be exhibited on the job, once training is complete. Finally, results refer to the expected outcome of performance.

Impact booster sessions. "A manager's participation is necessary to provide performance feedback, suggest goals, interpret organizational needs, assist employees in assessing their current capabilities, and in authorizing time and resources for development" (Brinkerhoff & Apking, 2001, p. 194). Impact booster sessions are conducted to ensure managers do these things. They are used to prepare trainees' managers and supervisors for their involvement in the AW system. This is referred to by Mooney and Brinkerhoff (2008) as a way to "win support from trainees' managers" (p. 47).

In general, booster sessions provide an opportunity for managers to understand the AW process, including why their involvement is crucial for establishing impactful business results. Managers learn how to conduct relevant discussions with their trainees, and the importance of impact maps. Booster sessions are typically conducted in workshop format, and led by a L&D professional, or some other qualified individual.

Providing Learning to Enhance Capability. The second element, "Providing Learning to Enhance Capability", integrates learning activities into the training process (Brinkerhoff & Apking, 2001). This element spans the formal training component of

training programs. The focus of this key element is to utilize effective learning methods that will provide trainees with the best chance of acquiring new skills and knowledge. Brinkerhoff and Apking (2001) list four key components to providing learning: content, practice, feedback, and reflection. Content refers to the concepts that form the knowledge base in formal training. Practice provides the opportunity for learners to exhibit new behaviors. Feedback refers to knowledge of results and information to help learners recognize how they are doing in relation to some goal. Finally, reflection provides the chance for trainees to evaluate their own performance.

Supporting Performance Improvement. The third key element to the AW system is "Supporting Performance Improvement". This element specifies the necessary support from managers and the organization after formal training, to utilize new skills on the job. Support comes in the form of feedback and recognition for transferring training (Brinkerhoff & Apking, 2001). Mooney and Brinkerhoff (2008) stated "Lasting performance improvement almost always requires coaching, frequent feedback, opportunities to try new behaviors and take risks, effective direction and goal setting, simple reminders to enhance mind-share, incentives and rewards…." (p. 60).

Evaluation. The last step in the AW process is evaluation. The Success Case Evaluation Method® (SCM) was developed as a means for evaluating the AW system (Brinkerhoff, 2006). The SCM uses surveys and interviews to evaluate the impact of training, and the extent to which skills learned during training transferred to the job. Along with analyzing the amount of training transfer, the SCM seeks to understand the aspects of training that encouraged transfer, and also those aspects that had no effect on, or inhibited transfer. There are five steps to the SCM. They are: (a) focus and plan the

evaluation; (b) create an Impact Model; (c) design and conduct a survey to gauge overall success versus non success rates; (d) conduct in-depth interviews of selected success and non-success instances; and (e) formulate conclusions and recommendations, value, and return-on-investment (Brinkerhoff, 2006).

Focus and plan the evaluation. The main objective of this phase is to explain and understand the goals of the evaluation, and to identify all the necessary elements so the goals can be met. Brinkerhoff (2006) lists eight key areas for making decisions with SCM design. These areas highlight the important components to the SCM evaluation. They are: (a) the purpose of the study, (b) the stakeholders who want or need the study to be done, (c) the specific program or initiative on which the study will focus, (d) who the participants are and how many should be included in the study, (e) how soon after the training the follow-up survey should be conducted, (f) the schedule for the study, (g) the resources that are available for completing the study, and (h) the overall strategy for the study that will work best. This last step refers to combining steps one through seven in a manner that is feasible for the organization being evaluated.

Create an impact model. The SCM defines "success" as "the achievement of a positive impact on the organization through the application of some skill or knowledge acquired in training" (Brinkerhoff , 2006, p. 72). The impact model is a tool used to measure the intended impact of training. The model is similar to the *impact map* used during the AW process. It outlines information in several categories, including: the knowledge and skill outcomes that trainees should master as a result of training (capability), the ways in which those learning outcomes should be applied on the job (performance), and the results that the job applications were intended to produce (results).

The impact model serves as the core of any SCM study. It helps to clearly define the scope of training in order to fully recognize whether or not training produced worthwhile results.

Design and conduct a survey. The SCM survey has two objectives: "to identify those training participants who have experienced the greatest and the least success in applying their learning and to gain an estimate of the scope of success for the entire training population" (Brinkerhoff, 2006, p. 83). Brinkerhoff lists the primary steps in designing and implementing a SCM interview as follows: (a) determine the survey population; (b) plan the survey access, distribution, and return process; (c) determine the nature and scope of data the survey must gather; (d) construct the survey items, using the impact model as a reference; (e) identify a scoring scheme; and (f) distribute and follow up on the survey; (p. 85). Typically, "scores are sorted into categories that define varying levels of success or applications that led to different sorts of impact that vary according to their value to the organization" (p. 104). Another method for sorting surveys is by taking a number of survey respondents who scored highest and a number of respondents who scored lowest and identifying them for interviews. Once survey results are compiled and sorted, interviews are conducted. Interviews provide a means for validating (or disproving) those trainees who reported training transfer to its highest and lowest levels in surveys.

Conduct in-depth interviews. Interviews are conducted in order to provide a means for validating SCM surveys. Conducting interviews provides the opportunity to ask follow up questions to surveys. Brinkerhoff (2006) describes interviewing as a "bucket filling" process (p. 123). An interviewer asks questions to "fill" each bucket until

there is sufficient confirming information for that bucket. For trainees who indicate transferring training, four main categories (or buckets) are: (a) what was used, (b) what results were achieved, (c) what helped and what got in the way, and (d) suggestions. For trainees who indicate a low transfer of training, the two categories are: (a) what got in the way, and (b) suggestions. SCM interviews generally follow a framework where affirmations of training transfer are validated only after asking particular "counter" questions. The interviewer asks questions based on the impact model created at the beginning of the analysis. If, for instance, the trainee indicates that knowledge and skill outcomes were mastered (capability), the interviewer will ask questions based on the following topics: "Were the skills outcomes really gained from training and not something else? Was the training necessary to acquiring the skills, or could it have been acquired in a different, cheaper, and quicker way?" (Brinkerhoff, 2006, p. 115). This procedure of exploring "alternative" or "rival" hypotheses is conducted during each interview (Brinkerhoff, pp. 111-133).

Formulate conclusions and recommendations. Brinkerhoff (2006) states that the actual purpose of conducting a SCM evaluation differs from study to study, however, in general the idea is to find evidence of whether or not training transferred (or is transferring) to the job. Commonly, there is a range of conclusions that can be drawn from a SCM evaluation. The eight major types of SCM conclusions are: (a) what, if any, impact was achieved; (b) how widespread the success is; (c) whether the training worked better in some parts of the organization or with some kinds of participants than in other parts or with other people; (d) whether some parts of the training more successfully applied than others; (e) what systemic factors were associated with success and lack of

success; (f) the value of the outcomes produced; (g) the unrealized impact potential of the training; and (h) how the benefits of training compare with costs? (Brinkerhoff, pp 134-135). Recommendations are provided to an organization to help it move forward, based on individual conclusions (see Brinkerhoff, 2008, pp 133-155).

Rationale for the Current Study

Research suggests that variables outside of the formal training environment influence training transfer (e.g., Brinkerhoff & Montesino, 1995; Ford et al., 1992; Tracey et al., 1995). Many agree that components in the working environment (i.e. feedback and goal setting), when administered via supervisors and managers, may increase the likelihood of transfer (Cromwell & Kolb, 2004; Ford, Quinones, Sego, & Sorra, 1992; Gregoire, Propp, & Poertner, 1998). Performance based methodologies specifically incorporate these components, yet there is no research that explicitly cites performance based methodologies as drivers of higher training transfer. Research has been conducted to assess the impact of work environment factors on training; however evidence is mostly based on verbal reports and survey measures. An appropriate next step appears to be the evaluation of a transfer of training program that specifically utilizes those work environment components indicated as critical in performance based models. The evaluation should include more than verbal reports as an assessment of utility.

The current study investigated the effectiveness of feedback, goal setting, and supervisor/manager support used within the AW system, on training transfer. The SCM was used as a means for evaluating the AW system. As an additional component to the SCM, we collected actual results measures of training. Training transfer was in part verified by permanent products produced by trainees, post formal training.

The research should help validate or refute the argument that incorporating performance based methodologies within the work environment increase the chances of training transfer.

The current research differs from past research on the effectiveness of work environment factors to training transfer in two ways. First, we supplemented verbal reports with permanent products that demonstrate mastery of skill. Second, this is the first study where performance based methods were specifically identified and compared to a control group to assess impact on training transfer.

METHOD

Participants and Setting

Eighty HR employees of an international producer and marketer of food, agricultural, financial and industrial products and services, participated in the study. Participants were two groups of employees, all attending two formal training workshops called the *Change Awareness* (CA) and *Change Fluency* (CF) workshops. The AW Group was exposed to formal training *plus* the Advantage Way components, whereas the Non AW (NAW) group was only exposed to formal training. The AW group included 50 employees, selected by HR leadership based on their job roles within the organization. Leadership chose individuals whom they thought would benefit most from training, based on meeting at least one of the following criteria: (a) currently leading HR projects that require a degree in change, (b) currently part of a "process application" or "process improvement" team, (c) currently experiencing large change in a region or location, or (d) currently in a leadership position and have the opportunity to manage change.

Participants in the NAW group were selected in one of two ways: (a) by management (identical to the AW group criteria), or in a limited number of instances (b) by enrolling themselves based on an individual assessment of their own personal needs. Thirty participants attended training in the NAW group.

All formal training sessions were conducted with trainees, from individual business units across the globe. Formal training sessions occurred face to face in a classroom setting, where trainees viewed PowerPoint style presentations. All other communication took place via a mixture of webinar style and face to face interactions. Within the AW group, 19 participants completed the formal training portion of training in October of 2009, 16 in May of 2010, and 15 in July of 2010. Within the NAW group, 14 participants completed formal training in March of 2010, 15 in April of 2010, one in June 2010. The two formal training sessions lasted approximately 4 hours and 8 hours, respectively.

Participants were evaluated using the SCM, which consists of interviews and surveys. Surveys were administered online, and sent out to all 80 participants from both groups. Fifty one participants completed the survey (34 from AW group and 17 from NAW group) for a total survey completion rate of 63%.

Interviews occurred via phone conversations with employees during working hours, and took place from the first author's home in Kalamazoo MI. During interviews, participants were located at their individual work desks within the organization. The current analysis is based on data from the 51 participants who responded to the online survey. Interviews were conducted from a random sample pooled from all participants who responded to the online survey.

Materials

Formal training materials. Formal training materials used for the research consisted of two PowerPoint presentations: (a) Change Awareness workshop, and (b) Change Fluency workshop. The presentations were used by facilitators within L&D during formal training to guide participants through all training topics. Also included were facilitator and participant guides for each class.

AW materials. The AW learning materials used for the research consisted of a number of PowerPoint slides and Microsoft Word documents. Two e-mails were used to communicate to the trainee participants, and their corresponding managers. They were: Introduction e-mail to trainee (Appendix A) and manager e-mail (Appendix B). The introduction e-mail included information on "pre-work" assignments for participants. In total, five PowerPoint workshops were used. They were: Impact Map Discussion workshop and four Community of Practice (COP) workshops. Finally, an Impact Map was created and used during workshops and manager meetings (Appendix C).

Evaluation materials. The materials used to evaluate training transfer were based primarily on the SCM (Brinkerhoff, 2006). Surveys were developed by Advantage Performance Group (APG) (Appendix D). Two e-mails were used to initiate survey responding among participants: An introductory survey e-mail (Appendix E) and a follow up survey e-mail (Appendix F) sent by a senior leader in L&D. The follow up e-mail was sent to participants who did not respond to the first e-mail. Interview questions followed Brinkerhoff's probable "high" and "low" success interviews protocol (Appendix G, H).

Research Design and Analysis

We used a between-groups experimental design to assess potential differences between two groups of participants: employees who received training in conjunction with the AW system and employees who received training without using the AW system. Survey and interviews were conducted to learn the extent to which employees reported transferring training on the job. Behavioral results data were then collected from those employees in order to verify training transfer. We used two tailed t-tests to assess the difference between group means on survey responding.

Procedures

Formal training. Formal training consisted of a training regimen that was designed within the organization to teach employees how to utilize new change processes and technology. The overall goal of the training was to provide employees with skills to enable them to better manage ongoing organizational change. As a requirement of training, all participants attended two workshops. The first (CA) workshop lasted approximately four hours. The purpose of the workshop was to raise awareness of the need for "change management" skills and challenge participants to think about what it takes to change behavior. The CA workshop served as a pre-requisite for those trainees who would move on to attend the second of the two workshops, the CF workshop.

All participants attended the CF workshop. Depending on scheduling, participants attended this second workshop anywhere from two months to two years following the CA workshop. The CF workshop lasted approximately eight hours over one working day. The workshop was designed to teach employees how to lead and manage change within

their individual, team, and organizational levels of the organization. The following is a list of the workshop objectives expressed to participants during each workshop:

1. Understand the importance of preparing for change by engaging and enabling others.
2. Recognize the principles of a sound change management plan.
3. Learn about the change tools, as well as when and how to apply them to a change project.
4. Develop an understanding of how the change tools can mitigate the challenges of change.
5. Learn to improve the outcomes of planned and unplanned change initiatives.

Along with these objectives, participants were expected to provide evidence of training transfer in the following two ways: First, participants were to learn to utilize various tools from the "Change Management Toolkit" (Appendix I). The usage of these tools was to help them to create the second source of evidence of training transfer, a *change plan*.

Advantage Way. As described in the introduction, the objective of the AW system is to increase the likelihood that the skills learned during training will transfer to the job. Brinkerhoff and Apking (2001) said "A manager's participation is necessary to provide performance feedback, suggest goals, interpret organizational needs, assist employees in assessing their current capabilities, and in authorizing time and resources for development." (p. 194). Managers of the AW group worked with their direct reports to serve this purpose. Training for participants in the AW group included manager support pre and post formal training. The content of this support is described below.

Pre-formal training. This beginning stage of the intervention addressed what Brinkerhoff and Apking (2001) referred to as "Creating Focus and Intentionality". Three months before CF workshops, managers of the AW group received an e-mail notifying them of their responsibilities as managers in supporting their trainees. The e-mail pinpointed which individual trainees each manager was responsible for supporting, as well as the date of the *impact map discussion* training workshop they (managers) were required to attend (Impact Booster Session, Mooney & Brinkerhoff, 2008).

The *Impact Map Discussion* workshop was conducted by a leader in L&D trained in the AW methodology. It took place approximately two months prior to each CF workshop, and lasted about 30 minutes. The main objective of this workshop was to teach managers how and when to provide support to trainees as they went through the training process. Also during the workshop, impact maps (created by L&D) were discussed. Managers learned the purpose and content of the impact maps, which would later be used during meetings with their trainees.

Three months prior to the CF workshop, participants in the AW group also received an e-mail. This email provided general information about the upcoming CF workshop. The e-mail included objectives outlining the expected results of training, and the steps to be taken on the part of the trainee in order to fulfill those objectives.

At some point within the four weeks prior to each CF workshop, managers met with trainees to review the impact map. As part of a set of "pre-work" assignments, trainees were asked to schedule this 30 minute meeting with their manager (in some instances managers scheduled the meeting). Managers used this time to communicate expectations of the workshop, including the specific knowledge and skills to be taught,

and the behaviors that should be exhibited on the job after training as a result of the CF workshop. During this time, managers also provided trainees an opportunity to ask questions regarding the material.

Post-formal training. In this last stage of intervention, participants were provided with support from management. Brinkerhoff and Apking (2001) refer to this as "Supporting Performance". Approximately six to eight weeks after the CF workshop, experts in change management interacted with trainees in a "community of practice" (COP) meeting. Each COP meeting consisted of anywhere from 20-40 trainees and lasted about one-and a half hours. COP meetings occurred on up to four separate occasions after CF workshops were complete. Typically, the final COP meeting concluded within six months after the CF workshop. During these meetings, trainees provided status updates to management about what they have done on the job since completing the CF workshop. Trainees also listened to experts in change management talk about company initiatives that occurred as a result of change. Finally, trainees were provided the opportunity to ask questions and talk with management about their individual progress with change management.

Dependent Variables

The dependent measures were: (a) survey question responses, (b) interview responses, and (c) behavioral results data. Employee responses were managed and placed into categories based on the amount of learned skills utilized in their job roles. Those employees demonstrating the use of relevant skills as outlined in training were considered part of a high training transfer category. Those employees not demonstrating the use of relevant skills were considered part of a low training transfer category.

Each trainee was evaluated using methods based on the SCM (Brinkerhoff, 2006). Because employees completed training at different points in time, not all evaluations occurred within the same time period after formal training was complete; however all evaluations occurred at least six months after any trainee's change fluency workshop. This delay in evaluation ensured that all trainees had an adequate opportunity to use the new skills and tools back on the job. The combination of surveys, interviews, and results data were used to evaluate the impact of the AW program on training transfer.

Surveys. We used *Zoomerang,* a survey tool that allowed for participants to respond to questions via the internet. For research purposes, the survey consisted of 11 multiple choice questions aimed at measuring: (a) the extent to which participants in each group reported training transfer, and (b) whether various components of the performance based methodology had an impact on training transfer. Of supplementary interest to the participating organization were small qualitative differences in responding. Because the small qualitative differences were not of importance to our research question, we grouped similar responses together, for the purpose of the analysis (see Appendix J for scoring guide).

All 80 participants received a survey. Out of those 80 participants, a total of 51 completed and submitted the survey. Each survey took no longer than 10 minutes to complete and asked participants whether they were engaging in key behaviors that demonstrate successful training transfer. Surveys were distributed via an e-mail sent out by the organization's HR leadership.

A follow up e-mail was sent after a period of two weeks for those trainees who did not respond to the first e-mail. Relatively high response rates were obtained because

of the source of the e-mail containing the survey (senior leader), the brevity of the survey, and the systematic process that was used for following-up. Individuals were asked to include their names on surveys so that we could contact them during the interview portion of the evaluation, and also to compare data between AW and NAW groups. Individual names were not linked to responses and shared with the organization for any reason.

Survey responses were analyzed both descriptively, and statistically. The descriptive analysis consisted of simple group comparisons based on the total percentage of responses to each question. We indicated visual differences in data where we found at least a 10% discrepancy between groups in responding. One-tailed t-tests were used to evaluate the difference in group means for each of the survey questions. All group means were analyzed for statistical significance at the .05 alpha level unless otherwise noted. We used a Cohen's *d* analysis to determine effect size. Finally we used a Pearson's correlation analysis among survey responses to test for positive correlations between performance based methods and transfer of training.

Participant interviews. Interview candidates were selected based on survey responding. Typically in the AW process, an *equal* number of participants are selected for two types of interviews: interviews with those who report using training at a high rate (high success) and interviews with those who report using training at a low rate (low success). Because our surveys only indicated two people reported a low training transfer rate, we used a slightly modified selection approach.

First, we selected all (two) low success candidates to participate in "low success" interviews. Of the remaining 49 "high success" survey respondents, we: (a) selected all

nine respondents who reported learning something new and using that knowledge to produce business impact on the job, and (b) randomly selected nine of 18 respondents who reported that although the training was a reminder of what they already knew, it motivated them to put it to use in ways that led to tangible results (see Appendix D question 6). None of the remaining 22 survey respondents were interviewed (those who reported "I learned something new, have used it at work, and expect worthwhile results though none have been achieved yet"). These selections were made in conjunction with the participating organization. We felt these selections would appropriately represent high and low success cases, given the organization's request to keep interviews at or below 20 total.

Once selections were made, questions were created based on Brinkerhoff's (2006) framework, with the intention of verifying and more fully understanding survey results. "High success" interview questions were derived from the following four categories: (a) what was used, (b) what results were achieved, (c) what helped and what got in the way, and (d) suggestions. "Low success" interview questions were derived from the following two categories: (a) what got in the way, and (b) suggestions. No formal statistical testing was conducted for interviews, however we used descriptive statistics and noted where we found patterns in responding.

Senior leader interviews. The participating organization identified seven top senior leaders within HR to interview. The purpose of these interviews was to solicit feedback about the training process. These interviews typically lasted about 15 minutes, depending on availability. Specifically, we asked leaders the following questions:

1. Are you interacting with course attendees?

2. What areas of the training program are essential to employee success?

Like participant interviews, no formal statistical testing was conducted.

Behavioral measures. We asked via surveys and interviews whether or not trainees used any tools from the "Change Management Tool Kit". If trainees answered yes, they were asked to provide evidence by e-mailing documentation to L&D. Trainees were expected to have the evidence stored on their work computers. Learning and Development then contacted the first author, indicating which employees followed through with the request to submit their documentation. Any document providing evidence of the creation of a plan demonstrating tool usage was counted as evidence of training transfer.

As is the norm with most private organizations, the participating organization required strict confidentiality of all intellectual materials and as such, could not provide the current authors more than a generic depiction of those submitted materials. Because of this, a senior member of L&D was responsible for verifying that the documents were delivered by participants, and were authentic.

Interobserver Agreement

Interobserver agreement (IOA) was evaluated during thirty-five percent of interviews. Although all interviews did not include questions exactly identical to one another, we identified 11 specific questions, statements, and responses to track during each IOA interview. Two observers independently noted whether each statement or question was asked during the interview, and where appropriate also indicated the participant's response. A data sheet (Appendix K) was used by both the primary author and second observer, and compared following each session. Interobserver agreement was

calculated by dividing the number of agreements by the sum of agreements and disagreements and multiplying the quotient by 100. Interobserver agreement was 96.2% across all IOA sessions, with a range of 90% to 100%. Interobserver agreement was not necessary for analyzing survey results. The survey software that was used (Zoomerang), automatically compiled answers and placed them into a database, where they were readily accessible for analysis.

RESULTS

Surveys

Forty-two participants responded to the initial survey request, followed by nine more after an e-mail prompt was sent out to the remaining 38 non-respondents. Of the 51 total respondents, 34 were from the AW group and 17 from the NAW group. The data presented here will reflect a side by side comparison of all 51 respondents. Below are figures corresponding to each survey question.

Figure 1 shows the responses from the AW and NAW groups to question 1: "What were your expectations as you began the Change Management learning experience?" As can be seen in the figure, the majority of participants from both groups stated that they had specific/clear objectives (56% AW and 59% NAW). Next, 35% of AW and 41% of NAW participants indicated that they had some idea of what the objectives were. Nine percent (9%) of AW and zero NAW respondents indicated that they had no specific expectations for the training. There are no clear visual differences between groups for responding to the current question. Furthermore, statistical testing indicated no significant difference between group means, $t(49) = 0.64$, $p > .05$, $d = 0.20$.

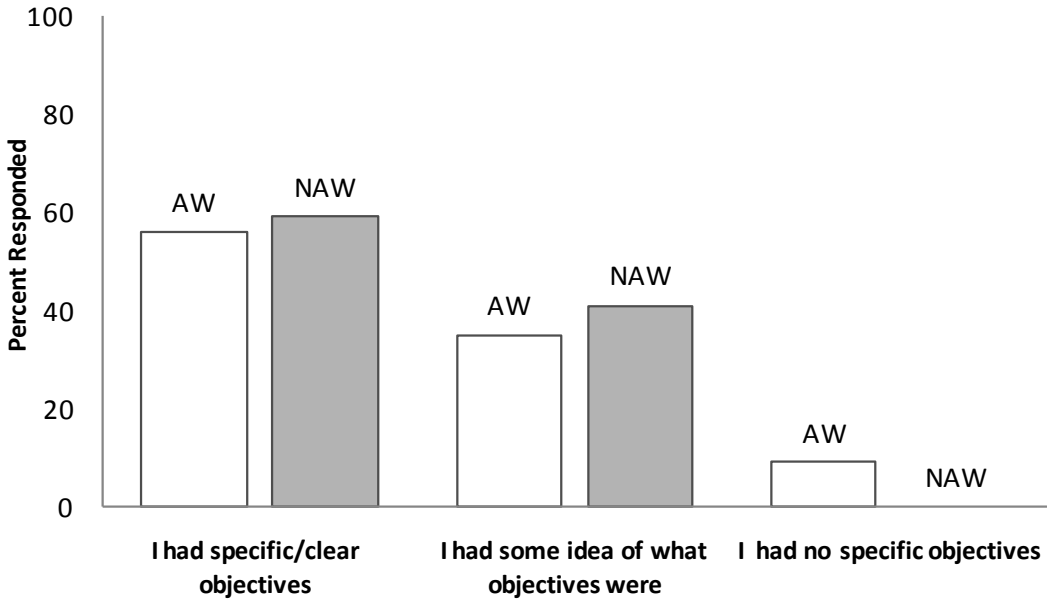


Figure 1. Average Response Rate of AW and NAW Groups to the Question "What were your expectations as you began the Change Management learning experience?"

Figure 2 shows the responses from the AW and NAW groups to question 2: "How were your expectations set?" Upon visual inspection there are clear differences between the two groups. Fifty nine percent (59%) of the AW group reported having joint discussions with managers where expectations were set for applying the learning, while only 29% of the NAW group reported the same. A great deal more people from the NAW group reported having only general discussions with managers about expectations (71%) than in the AW group (38%). Finally, zero NAW participants reported having no interaction with managers around expectations, compared with 3% of AW participants. Statistical testing further verified a significant difference between groups means, $t(49) = -1.72$, $p < .05$, $d = -.51$

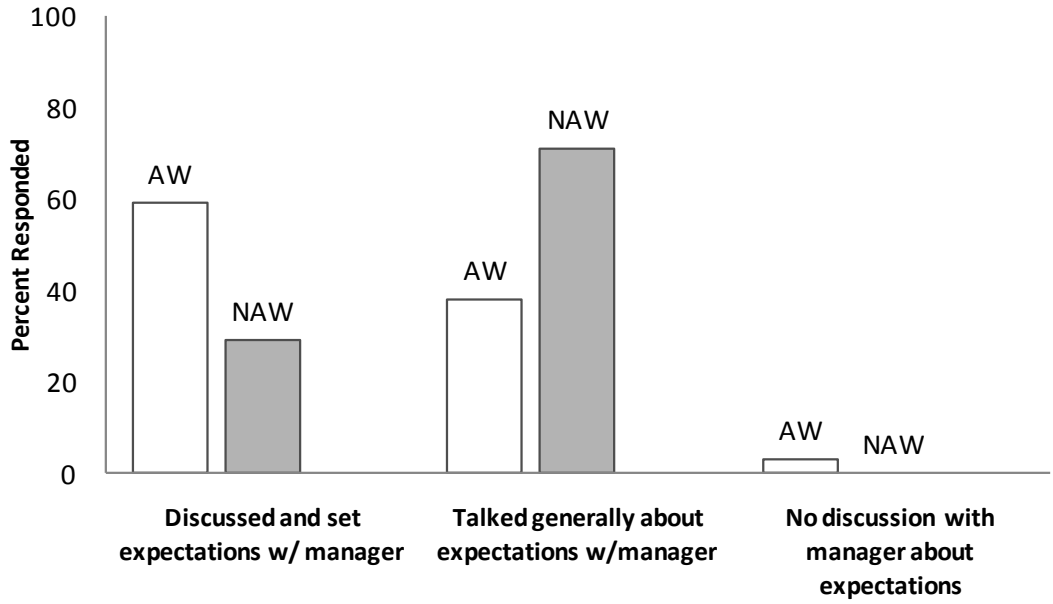


Figure 2. Average Response Rate of AW and NAW Groups to the Question "How were your expectations set?"

Figure 3 indicates participant responding to question 4: "To what extent is there accountability for using this training in your work?" Forty eight percent (48%) of the AW group reported feeling fully accountable for applying the training, compared to 41% of the NAW group. Next, 52 % of AW participants reported feeling some accountability for applying the training, compared to 59% of the NAW group. Finally, no one from either group reported feeling no accountability for applying the training, on the job. There were no clear visual differences in participant responding to the current question. Statistical testing further verified this finding, $t(49) = -0.48$, $p > .05$, $d = -0.14$

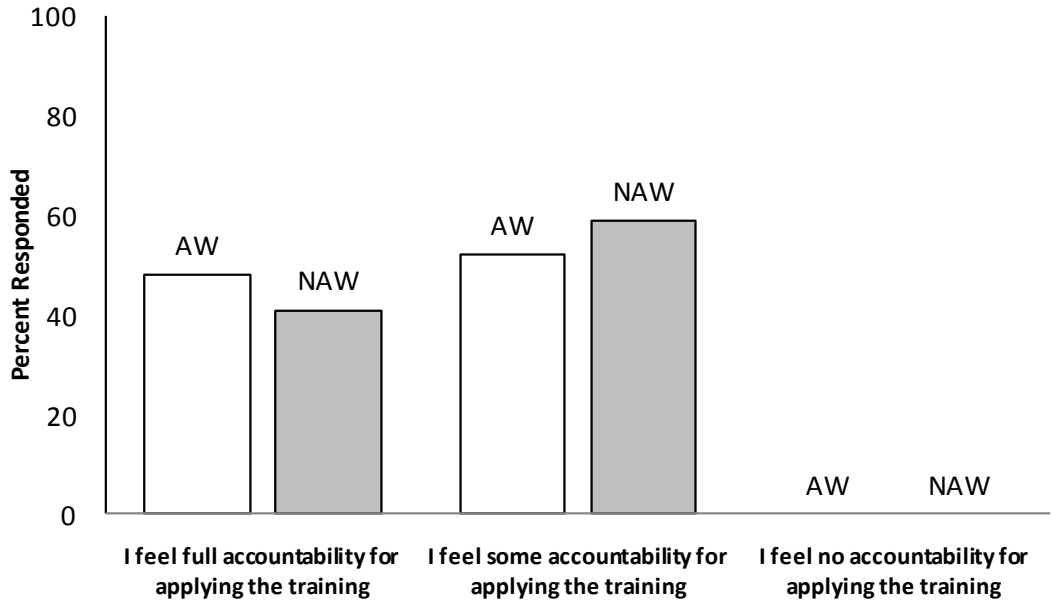


Figure 3. Average Response Rate of AW and NAW Groups to the Question "To what extent is there accountability for using this training in your work?"

Figure 4 shows responding to question 5: "To what extent have you received follow-up support and coaching from your manager or others after attending the program?" A small percentage of participants reported receiving extensive follow-up support (9% AW and 0% NAW). There was a larger variance between groups with the response "I have received some follow-up support/coaching." Only 25% of the NAW group reported this, as compared to 46% of the AW group. The majority of the NAW group chose the response "I have received very little follow-up support/coaching" (69% NAW and 39% AW). Six percent (6%) of both groups reported receiving no follow-up support/coaching. Visual differences in responding were confirmed via a statistical analysis. The analysis indicated statistically significant group means to the current question, $t(49) = -1.84$, $p < .05$, $d = -0.60$.

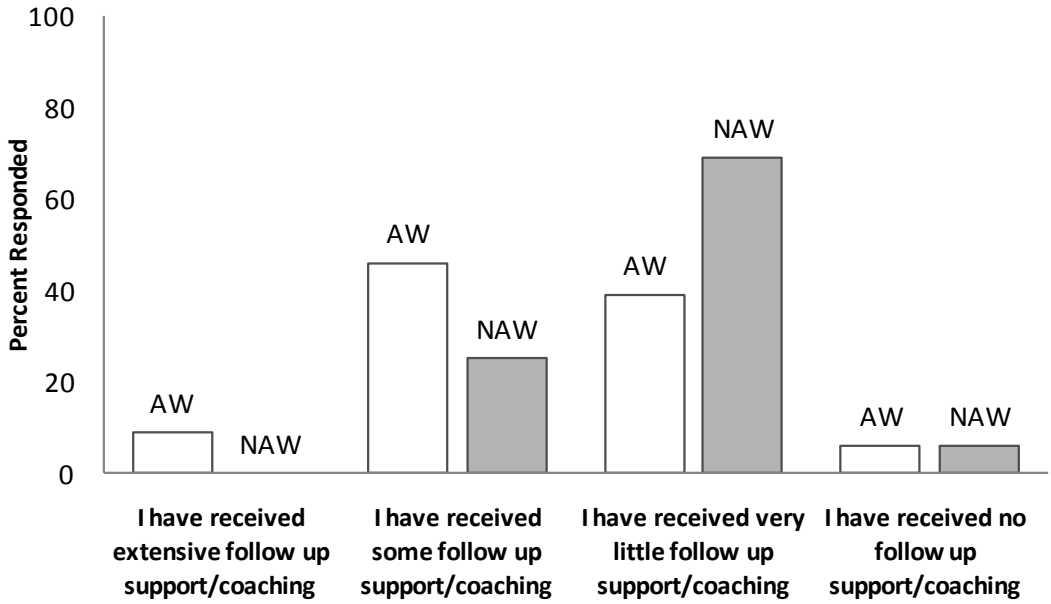


Figure 4. Average Response Rate of AW and NAW Groups to the Question "To what extent have you received follow up support and coaching from your manager or others after attending the program?"

Figures 5 through 9 illustrate responding to question 3: "To what extent have you completed the following learning objectives?" Question 3a, asked participants to report the degree to which they used a "tool" from the tool kit. As indicated in Figure 5, there were obvious visual differences between groups with reference to implementing tool usage. The AW group responded positively 79% of the time, compared to 59% for the NAW group. This finding meant that a smaller portion of the AW group (21%) reported not implementing tool use, compared to the NAW group (41%). Upon conducting a statistical test, we found no significant difference between group means at the alpha level of .05, $t(49) = -1.56$, $p > .05$, $d = -0.44$. We did find a significant difference between groups, at the 0.1 alpha level.

In addition to the survey, behavioral results measures were collected specifically for question 3a, as a means of verifying participant responding. For these data, refer to the "Behavioral Measures" section, which follows the current section.

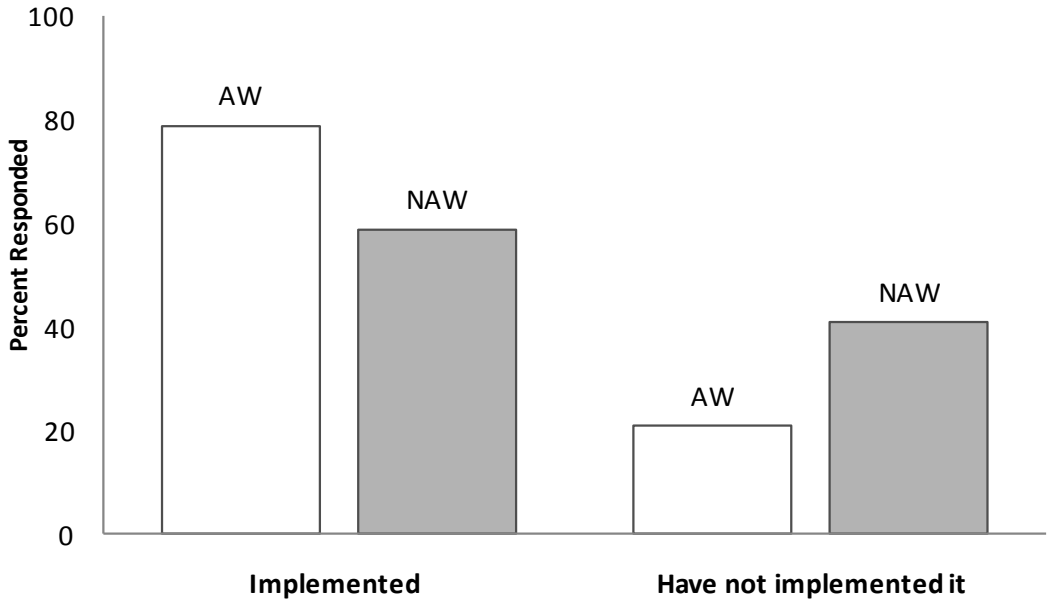


Figure 5. Average Response Rate of AW and NAW Groups to the Question "Using the scale provided, rate the extent to which you might have applied any learning from this training experience."*Used a tool from the "Change Management Tool Kit" (e.g., Risk Assessment, Stakeholder Plan, Change Plan, Communication Plan)*

Figure 6 indicates participant responding to question 3b. Here, participants reported the extent to which they applied learning from training to "lead a change initiative" at work. The two groups were almost identical in responding. Participants in the AW and NAW groups said they led a change initiative as a result of training at a 66% and 65% response rate, respectively. This means that participants from the AW and NAW groups reported not leading a change initiative as a result of training at a 34% and 35% response rate, respectively. These findings led to no statistically significant differences between group means, $t(49) = 0.00$, $p > .05$, $d = 0.00$.

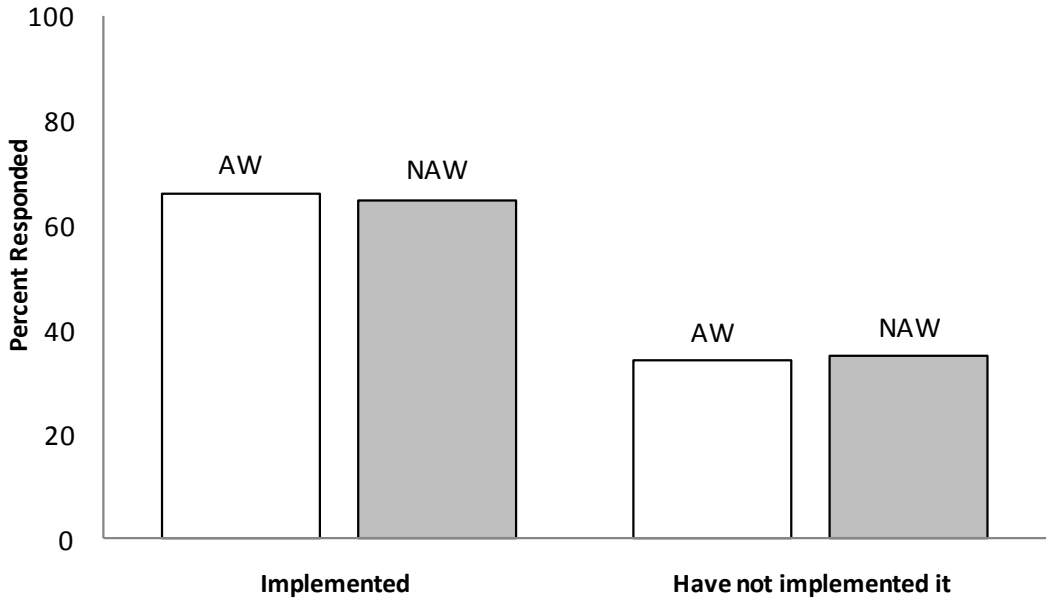


Figure 6. Average Response Rate of AW and NAW Groups to the Question "Using the scale provided, rate the extent to which you have applied any learning from this training experience." *Leading a change initiative using the tools, concepts, and processes I learned*

Figure 7 shows responding to question 3c, which asked to rate the extent to which participants helped another individual manage his/her personal transition through change, utilizing the change techniques learned. Upon visual inspection, it appears that a significantly larger percentage of AW participants (65%) reported helping another individual manage transition than NAW participants (41%).

Although visual inspection indicated a difference between group means, the statistical analysis did not at the .05 alpha level, $t(49) = -1.61$, $p > .05$, $d = -0.47$. Further statistical testing *did* indicate a significant difference between group means at the 0.1 alpha level.

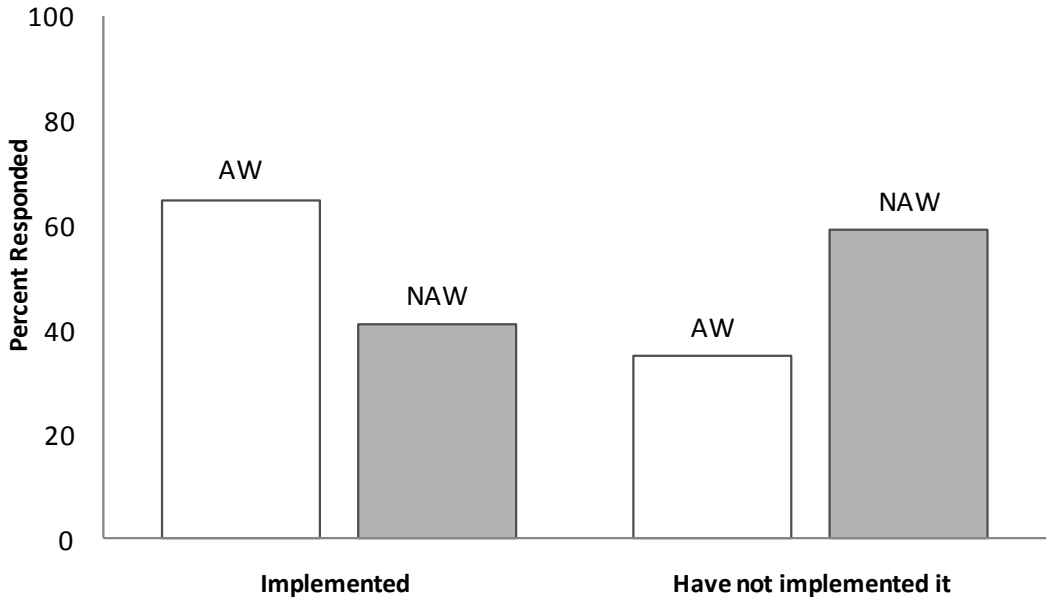


Figure 7. Average Response Rate of AW and NAW Groups to the Question "Using the scale provided, rate the extent to which you might have applied any learning from this training experience." *Helped an individual manage his/her personal transition through change utilizing the change techniques I learned*

Figure 8 represents responding to question 3d, which asked participants to rate the extent to which they utilized techniques to build personal resilience during change. Both groups indicated they completed the objective 53% of the time, which means both indicated not completing the objective 47% of the time. Statistical tests concluded no significant difference between the two groups $t(49) = 0.00$, $p > .05$, $d = 0.00$.

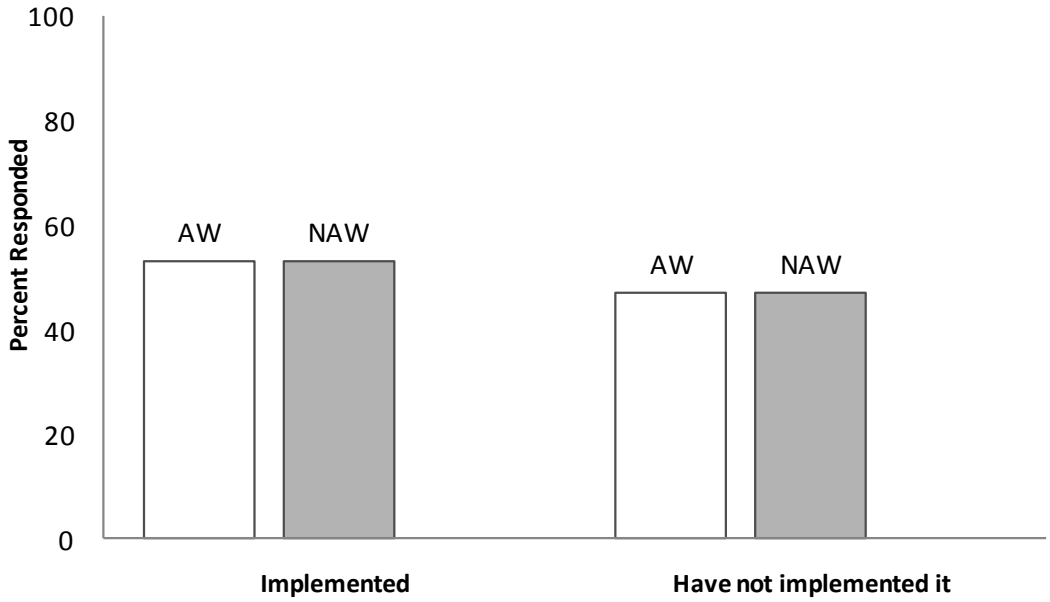


Figure 8. Average Response Rate of AW and NAW Groups to the Question "Using the scale provided, rate the extent to which you might have applied any learning from this training experience." *Utilized techniques to build personal resilience during change*

Figure 9 represents responding from question 3e. Participants responded whether or not they "shared best practices regarding leading". Visually, a large percentage (73%) of AW participants indicated they did share best practices, compared to about half (53%) of NAW participants. Statistical tests did not verify the visual analysis at the .05 alpha level, $t(49) = -1.47$, $p > .05$, $d = -0.44$. We *did* find a significant difference at the 0.1 alpha level.

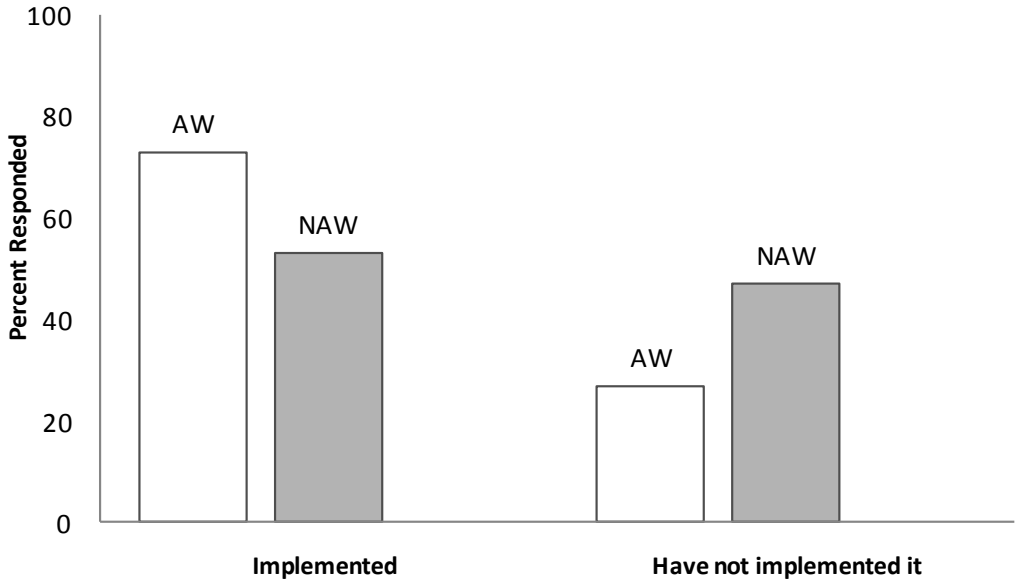


Figure 9. Average Response Rate of AW and NAW Groups to the Question "Using the scale provided, rate the extent to which you might have applied any learning from this training experience." *Shared best practices regarding leading*

Figure 10 displays group responding from all parts of question 3, *combined*. A visual analysis shows that many of the participants from both groups indicated they applied their training on the job, and that the AW group reporting this finding at a higher rate than the NAW group (68% AW and 55% NAW). Statistical testing further verified this finding, $t(49) = -2.44$, $p < .05$, $d = -0.27$.

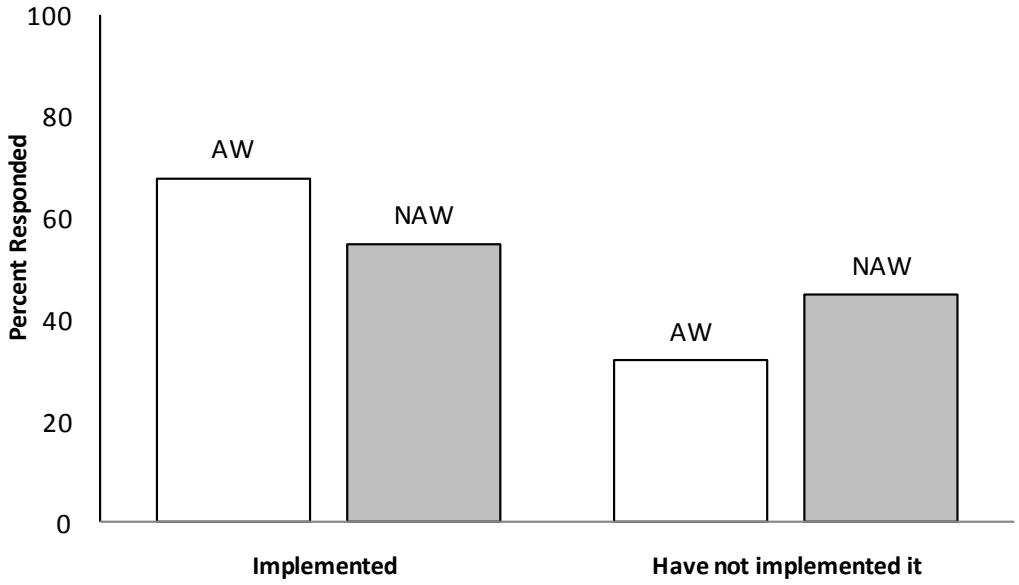


Figure 10. Average *Combined* Response Rate of AW and NAW Groups to all Parts of the Question "Using the scale provided, rate the extent to which you might have applied any learning from this training experience."

Figure 11 represents responding to the question 6: "Which statement best characterizes your experience regarding this training?" Clear differences can be seen between groups. The AW group reported that they transferred training 100% of the time compared to 88% for the NAW group. Statistical testing further verified this finding, $t(49) = -2.09$, $p < .05$, $d = -0.51$.

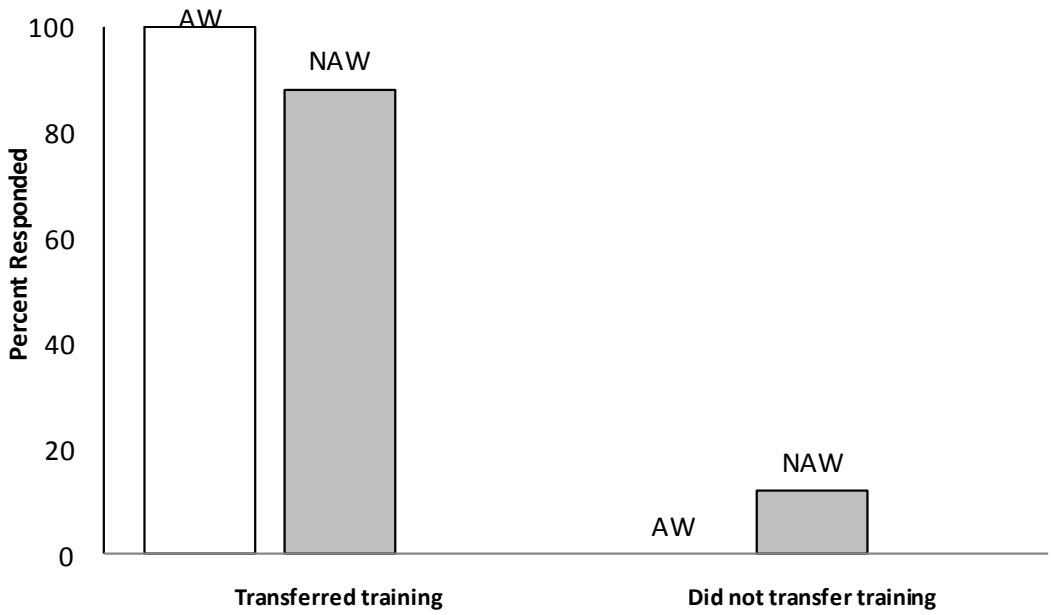


Figure 11. Average Response Rate of AW and NAW Groups to the Question "Which statement below best characterizes your experience regarding this training?"

Table 1 represents complete results from the statistical analyses conducted for all survey questions.

Table 1

Statistical Analyses for Survey Questions

Question	Mean (AW)	Std. Dev (AW)	Mean (NAW)	Std. Dev (NAW)	t-Statistic	Cohen's d
1. Extent to which clear expectations were set (*max value = 2*)	1.47	0.66	1.59	0.51	-0.64	-0.20+
2. Extent to which expectations were set with manager (*max value = 2*)	1.56	0.56	1.29	0.47	1.67**	0.51+++
3. Extent to which the following objectives were completed (*max value = 1*)						
a. Used tool from "Change Management Tool Kit"	0.79	0.41	0.59	0.51	1.56*	0.44++
b. Led change initiative	0.65	0.49	0.65	0.49	0.00	0.00
c. Helped individual manage personal transition	0.65	0.49	0.41	0.50	1.61*	0.47++
d. Utilized techniques to build personal resilience	0.53	0.51	0.53	0.51	0.00	0.00
e. Shared best practices regarding leading change with colleagues	0.74	0.45	0.53	0.51	1.47*	0.44++
3. Objectives a-e combined (*max value = 1*)	0.68	0.47	0.55	0.50	2.04**	0.27+
4. Extent to which there is accountability for using training (*max value = 2*)	1.48	0.50	1.41	0.51	0.48	0.14+
5. Extent to which follow-up support/coaching from management was received (*max value = 3*)	1.58	0.75	1.19	0.54	1.84**	0.60+++
6. Extent to which training was transferred (*max value = 1*)	1.00	0.00	0.88	0.33	2.09**	0.51+++

+small effect size. ++medium effect size. +++large effect size.

*p < 0.10, results were significant at the 0.10 alpha level.**p < 0.05, results were significant at the 0.05 alpha level.

A Pearson correlation test revealed that there was a weak positive correlation between the extent to which participants met with managers before training, and amount of training transfer, r = .202, n = 51, $p > .05$. No other significant correlational relations were found among survey question responses.

Behavioral Measures

As indicated earlier, participants who responded affirmatively to implementing the tools learned in training (see Figure 5) were asked to support their response by submitting verifiable documentation to the participating organization's L&D department. Of the 34 participants in the AW group, 27 reported using a tool as a result of training (79%). Of the 17 people who responded to this question from the NAW group, 10 said they used a tool as a result of training (59%).

Of the 27 AW participants, 12 (44%) provided documentation of tool use implementation. Five of the 10 NAW participants (50%) provided documentation to L&D.

Participant Interviews

We used the completed survey results to select individuals from both groups to participate in in-depth interviews. For "high success" interviews, we selected: (a) all nine participants who indicated that they learned something new in the training and used it in their work to produce valuable business impact for the company; and (b) nine of the 18 participants (randomly selected) who indicated that "While this training was mostly a reminder of what I already knew, it was a valuable refresher and motivated me to put it to use in ways that have led to worthwhile results." For "low success" interviews, we

selected both participants who indicated in their survey that "While I may have learned something new, I have not put it to use yet."

The objective of the interviews was to find out whether each participant could support his/her survey responses by providing further verbal evidence, and also to receive feedback for improving the training in the future. Interview questions were tailored based on participant responding throughout; however all interviews followed a general framework which aimed at further understanding a number of topics. For high success interviews, questions were asked in order to more fully understand the following:

1. What was learned?
2. What new job behaviors have been exhibited?
3. What results have been achieved?
4. How many tools have been used as a result of training?
5. What was the most useful tool?
6. Were the Community of Practice sessions helpful/how many were attended? (AW group only)
7. What were the important contributors to success?
8. What areas of the learning process should be refined?

No formal statistical testing was conducted for interview responding, however patterns were noted and then used to supply a report of findings to the participating organization. Table 2 shows a sampling of responses to each topic listed in the previous paragraph, for "high" success interviews.

Table 2

Sampling of Responses from High Success Interviews

Question	Response & Group
What was learned?	Learned how to use change tools and communicate with co-workers about the importance of the tools. (AW/NAW) Can apply tools in a more practical, "timely" manner. Before training tool knowledge was at a more conceptual level. (AW) More effective management skills around change training and change projects (applying communication plans, risk assessments, and stakeholder plans). (AW)
What new job behaviors have been exhibited?	Applied training to projects, using tools such as stakeholder and change plans. (AW/NAW) Developed and launched compliance training. (AW) Co-led a communication piece for a new change project. (AW) Wrote new benefits for stakeholders. (AW) Applied gap analysis to help in the development of potential talent. (AW)
What results have been achieved?	Better conversations with colleagues around who stakeholders are, clearing up communication within various levels of _____. This provides for greater understanding of, and adherence to change within _____. (AW) During change initiatives, new procedures (e.g. use of change tools) have provided a clearer message to employees, improving buy in and acceptance to change. (AW/NAW) Employees are worried less: A better understanding of organizational change has provided employees with a more common language to use and an increased comfort in job roles. This increase in awareness can impact employee retention. (AW) Using commitment curve to identifying policy owners, recruitment dollars have been saved where policy owners have sustained new change initiatives. (AW)

Table 2 (continued)

Sampling of Responses from High Success Interviews

Question	Response & Group
Number of tools used/Most useful tool?	2 /Stakeholder and Communication Plan (AW/NAW)
Were the COP sessions helpful/how many were attended? (AW group only)	3 sessions: Found first two to be helpful. Saw how people were applying training and barriers they were coming up against. 2 sessions: Although level of interaction was limited in the first meeting, in the second there was meaningful dialogue with other participants; Discussed the impact of change tools 4 sessions: Very useful. Project is used as a template example during COP sessions.
What were contributors to success?	Having a systematic approach for how the tools and processes were deployed. (AW/NAW) Seeing examples on a large scale and understanding them from that large scale perspective. "It's good to have an example of real world change initiative". (AW) Allotment for flexibility with tools. (Morphed multiple tools into a single tool, which was very useful) (AW) Training session specifically targeted to the group provided a clear focus and purpose which encouraged learning.(NAW) Timing of training. (NAW)
Areas for improvement?	Be sure all the various levels of the organization are consistent on expectations around change management, particularly upper management. *"We have change management as a bullet in our performance review; however it's a bullet you can choose to talk about or not. We need to be explicit in HR about change if we are serious about it."* (AW) Tailor the training for the audience a bit more (based on individual/group needs/change projects). (NAW) Place workshop participants with similar objectives/goals together into groups. (AW) Provide COP sessions during normal business hours for non North American regions. (AW)

For low success interviews, questions were asked in order to more fully understand the following:

1. What prevented training transfer?
2. What would make training more impactful?

Table 3 shows a sampling of responses to questions based on these two topics, for both "low" success interviews. No participants from the AW group qualified as "low" success candidates.

Table 3

Responses from Low Success Interviews

Question	Response & Group
What prevented you from transferring training?	Stopped particular project that I was working on that would have allowed me to use my new knowledge. Had no use for training at that point.(NAW) The changes that are going on (at work) are ongoing and require a more reactive, immediate, and nimble response. In this case it's easier to "not" use the new tools/concepts. (NAW)
What would make the training more impactful?	Use better examples in the training. Sometimes they didn't make sense in the context of the types of change experiences we might actually run into. (NAW) More hands on examples during training, that we are likely to experience on the job, after training is complete. (NAW)

Figure 12 represents the rate that each group reported *pinpointed* (observable and measurable) new behaviors, as a result of attending the training. Upon visual inspection, participants in the AW group reported pinpointed new behaviors at a higher rate than those in the NAW group (92% AW and 63% NAW).

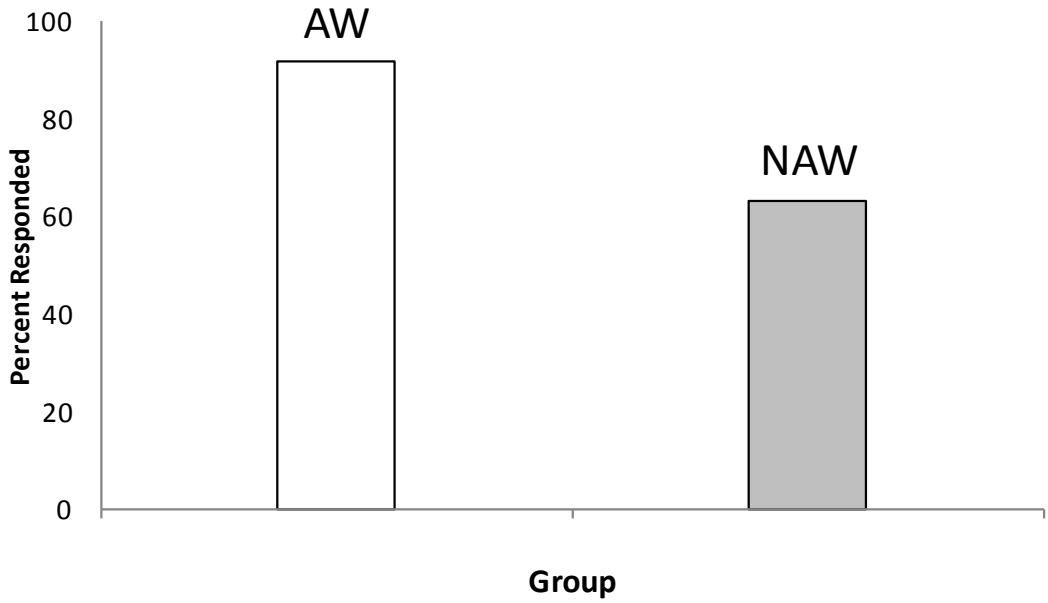


Figure 12. Average Number of Participants in AW and NAW Groups who Reported Engaging in new Behaviors on the Job, as a Result of Training.

Figure 13 indicates the average number of "tools" used on the job after training, as reported by both groups during interviews. Participants in the AW group reported using a higher number of tools on average, than participants in the NAW group (2.5 AW compared to 1.6 NAW).

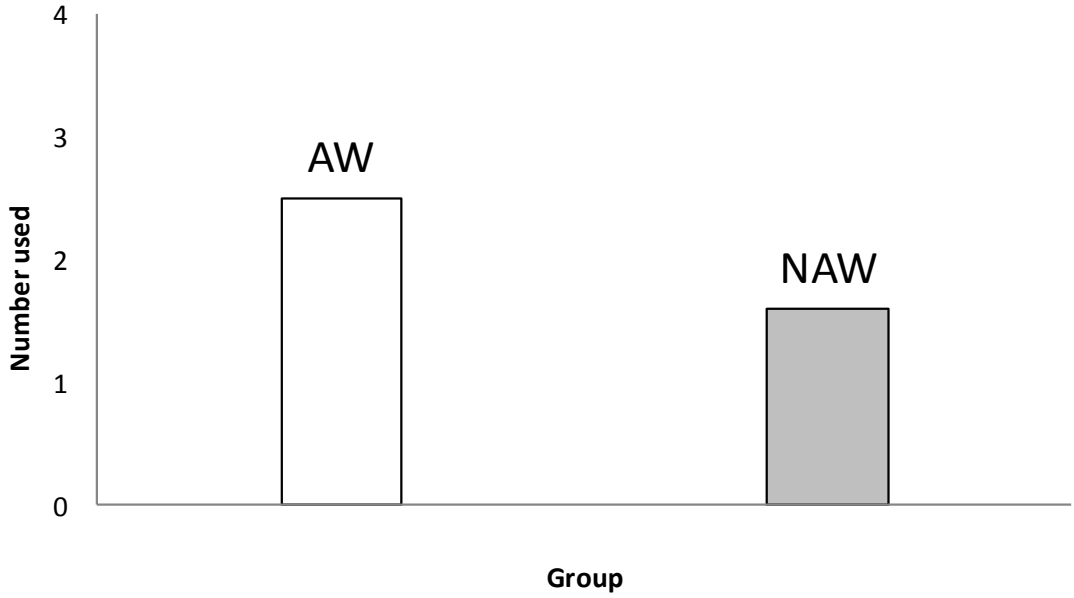


Figure 13. Average Number of Tools Used by Each Group on the Job After Training.

Of the 4 total "Community of Practice" (COP) sessions offered to the AW group after training, the average participant attended 2 sessions, and found the sessions to be helpful in increasing the changes participants reported transferring training. Table 4 displays the number of COP sessions attended for each of the 12 participants who were interviewed in the AW group. Also listed in Table 4 for each participant, is whether they responded "yes", "no", or "unsure" to the question "In general, do you think that attending the COP sessions increased the chances that you used training on the job?" Our low sample size limits us from drawing any definitive conclusions, however it was interesting to note that all participants who said that COP sessions *did not* increase training transfer attended two sessions or less.

Table 4

Community of Practice Attendance (AW Group)

Participant	Number of Sessions Attended	Increased Chance of Transferring Training?
1	1	No
2	2	Yes
3	4	Yes
4	3	Yes
5	2	Yes
6	2	No
7	1	Yes
8	1	No
9	2	Yes
10	2	Yes
11	1	Unsure
12	2	No

Senior Leader Interviews

Along with conducting 20 participant interviews, the evaluators talked with seven additional people, identified as the senior leaders within HR. In most cases the senior leaders did not directly supervise participants. The purpose of these interviews was to solicit feedback about the training process, from "higher up" within the organization. Each interview lasted about 15 minutes, depending on availability. As with the participant interviews, no formal statistical testing was conducted for interview responding. Specifically, we asked leaders the following questions:

1. Are you interacting with course attendees?

2. What areas of the training program are essential to employee success?

Table 5 lists a sampling of responses from senior leaders on each of the topics discussed during interviews.

Table 5

Sampling Of Responses from Senior Leadership Interviews

Question	Response & Group
Do you have any direct reports who attended the training/In what ways are you interacting with course attendees?	No. Yes, 1 Yes, 4. I've met with my reports to set expectations and review training objectives. We've had conversations around when and how to apply learning on the job. Yes, 5
What would make the training more impactful?	More feedback (on employee performance) Integrate change concepts more in leadership programs Having a safe community of people to bounce new ideas off of Increased support, dialogue, and coaching among trainees and management

Five out of seven (71%) senior leaders reported limited interaction with participants. This was most commonly the case because senior leaders often had a direct report who interacted with participants, and served the function of "support" for them. This finding loosely verified a particular concern, apparent in a number of responses from participants during the interview process (see Table 2). These participants indicated that senior leaders could do a better job of advocating the "change management" concepts

that were taught during the training course. Some participants requested a more consistent “top to bottom” approach to change management, from senior leadership.

Senior leadership generally agreed that moving forward, for the training to sustain its effectiveness it must continue to incorporate dialogue and coaching between managers and trainees, accountability on the part of the participants (and leaders), and tangible expectations of participants. One senior leader also confirmed the need for more involvement on his/her part, in order to achieve the highest level of training transfer for employees.

DISCUSSION

Behavioral science states that behavior is a function of one’s environment. The current research addressed this theory by providing opportunities for trainees to interact with management within their working environments. A performance based methodology was applied where management was encouraged to interact with trainees, thus providing work environment support variables to participants. Manager meetings before training created an opportunity for participants to set expectations of themselves, forming rule governed behavior. Goal setting functioned as an antecedent to performance and feedback and COP meetings as a form of task clarification. Our findings have provided us with evidence that components of a performance based methodology, implemented in the work environment, can be an effective intervention to increase training transfer.

Results of our study suggest that managers who interact with employees in the work environment before and after training may increase the likelihood that employees transfer training to the job. Specifically, participants who received support and feedback from management and set goals reported higher transfer rates than participants in a

control group. They responded more favorably to both questions in our survey, aimed at measuring the extent to which they transferred new skills to the job. Survey results were further verified during phone interviews, and new job behaviors were confirmed using behavioral results measures. Approximately half of participants who reported using "tools" (a key training objective) provided documented evidence. Furthermore, of the 20 participants who were interviewed, the only (two) participants identified as being "low success" candidates were in the control group.

Of the seven survey questions where we found no statistical significance between groups, three of them *did* show statistical significance at a 0.1 alpha level. It is possible that similar responding in a larger group would have provided an increased probability of finding statistically significant differences between groups. We found no statistically significant results when we analyzed responding between groups to questions 3a-3e. We *did* however find that the experimental group was significantly more likely to report training transfer than the control group, when responding to questions 3a-3e were *combined.* In other words, when patterns in responding remained the same, but group size increased, statistical tests were more likely to indicate that our intervention had an effect on training transfer. These findings support the assertion that a larger sample size (with similar responding) would have produced an even greater number of statistically significant results between groups.

Next, participants who attended more than two COP sessions following formal training were more likely to report that COP sessions helped increase the chances that they transferred training. Additionally, of the participants who indicated that COP sessions *did not* increase their chance of training transfer, all attended two or fewer

sessions. This finding suggests that as trainees receive more post training support, they become more likely to report using training on the job. That said, because of the small sample size we can't verify the significance of these findings.

Finally, an interesting observation made during interviews was we found that participants in the *control* group who reported transferring training were also likely to report a higher level of support from their immediate supervisors than those who reported transfer at a lower rate. Although we don't have specific data to verify this, if true, this finding would further support the assertion that manager support increases the chances that trainees transfer knowledge to the job context.

Limitations and Recommendations for Future Research

Although our analysis supports the hypothesis that performance based methods increase training transfer, there were some limitations. The most obvious came as a result of our Pearson's correlation analysis. Participants in our experimental group reported that as a whole, they interacted with their managers about expectations more, and received follow up support from them at a significantly higher rate than the control group. They also reported transferring training at a significantly higher rate, as a group. However, when we conducted a Pearson's correlation on individual participant responses, we found very few significant results. What this means is that although members of the experimental group reported transferring training more and receiving more support than the control group, individual responding was not highly correlated across those same variables. Though we *can* say that participants who received support and feedback and set goals reported that they transferred training at a higher rate than those who did not, we *cannot* say with certainty that they transferred training as a direct result of those

variables. Pearson's correlations may have been more likely to produce significant results with larger group sample sizes, a larger effect size, or less variability between groups. As indicated above, future research could evaluate the effects of performance based methodologies on groups with a larger sample size to test for this finding.

Future evaluations might consider tying *additional* survey questions to behavioral measures. Although we incorporated results measures into the survey by asking for verification of one of our key learning objectives, additional behavioral measures could provide the researcher with better evidence for these methodologies. Next, the current research was conducted in partial fulfillment of the requirements of a Doctoral degree for the first author. It was *also* conducted in partial fulfillment of the requirements of the participating organization's training evaluation. Although we did have a lot of control over the evaluative technique for the current research, we did not have absolute control over it. Sometimes compromises must be made by both parties in order to have a successful working relationship. That said, we have a number methodological suggestions for improvement moving forward, that may be acceptable to both sides (see the following section for practical recommendations).

First, although participants did not report difficulty in responding to surveys, we would suggest changing the question format. Of the 11 total questions on the survey, two provided participants with the "least desired" response first, while the remaining nine reversed this order (for example, see Appendix D questions 1 & 4). A simple re-organization of the format would make response options more clear, and thus decrease any chance of confusion. Next, although survey question responding was in a seemingly "Likert style" scale, it wasn't a true Likert scale. Creating a true Likert survey would

make for a more manageable (and probably clearer) statistical analysis between groups. Finally, we suggest changing the specific wording within the survey questions, or eliminating certain responses all together. In order to conduct a logical analysis, we re-organized participant responding into categories that required a somewhat subjective interpretation of available responses. Creating a true Likert scale would avoid this.

Although we did have some interaction with management, it was limited to 15 minute conversations, mostly with people who did not interact with training attendees. For a future study we suggest incorporating trainees' direct managers into survey and interview evaluations. Having this additional measure could serve as providing further verification to participant responding. Direct managers may also have additional insights, such as other suggestions for increasing training transfer.

Practical Recommendations

During interviews we solicited feedback from participants in both groups and from key leaders about the training process in general. These questions were somewhat less formal than our empirical questions, and no IOA was conducted on them. The objective of this portion of our interview was to give employees a chance to provide feedback on the training process in general. We were interested in providing them with the opportunity to speak freely. We have organized the most common themes from our general observations, and will interpret and discuss them next.

A number of participants who reported transferring training at high levels also reported working on their own personal "change initiatives" during the actual training workshop. As part of the workshop, some participants were asked to incorporate their own "change initiatives" into practice. It would seem that those who were able to

incorporate their own real life projects during training were also likely to use training knowledge on the job.

Next, a number of participants expressed their desire for more senior level involvement in the training process. These comments were not intended as calls for more interaction during the training workshop itself, but rather for the advocacy of training principles and concepts on a day to day basis, among leaders in the organization. As mentioned in the results section, during an interview one senior leader also confirmed this suggestion. He agreed that in order for employees to achieve the highest level of training transfer, they needed to feel as though the newly acquired knowledge was in line with the organization's culture. He felt that it was the responsibility of senior leadership to "spread the organization's culture and vision" around training. Moving forward, we suggest senior leaders take steps to align themselves with the training process.

CONCLUSIONS

In 1988, Baldwin and Ford conducted a flagship review where they identified directions for future research, with regard to training transfer methodology. Among their conclusions, they said that one's level of transfer *might* be contingent upon factors in the work environment, and called for further research on the topic. In the 20 years since their review, the literature has been relatively sparse in regards to work environment methodology in general (Brinkerhoff & Montesino, 1995; Holton, Bates, Seyler, & Carvalho, 2003; Noe, 1986; Saks & Belcourt, 2006), and even more so in regards to performance based methodologies in the work environment.

We have explored a number of questions regarding training transfer, and in the process raised a few more. The current study was the first of its kind to use behavioral

results measures to verify verbal reports, and to specifically identify performance based methods in the work environment as a means for increasing training transfer. We do not believe that our study (or any single study for that matter) can address every transfer research question. We do believe, however, that we have provided a sense of direction, and ideas for research moving forward.

REFERENCES

Agnew, J. L. (1998). The establishing operation in organizational behavior management. *Journal of Organizational Behavior Management, 18*(1), 7-19.

Alvero, A. M., Bucklin, B. R., & Austin, J. A. (2001) An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985-1998). *Journal of Organizational Behavior Management, 21*(1), 3-29. doi:10.1300/J075v21n01_02

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and direction for future research. *Personnel Psychology*, *41*, 63–105.

Baldwin, T. T., & Magjuka, R. J. (1991). Organizational training and signals of importance: Linking pretraining perceptions to intentions to transfer. *Human Resource Development Quarterly, 2,* 25-36.

Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology*, *45*, 1017-1028.

Brethower, D., & Smalley, K. (1998). *Performance-based instruction: Linking training to business results.* San Francisco, CA: Jossey-Bass.

Brinkerhoff, R. O. (2006). *Telling training's story.* San Francisco, CA: Berrett-Koehler

Brinkerhoff, R. O., & Apking, A. (2001). *High impact learning: Strategies for leveraging business results from training*. Cambridge, MA: Perseus

Brinkerhoff, R. O., & Montesino, M. U. (1995). Partnerships for training transfer: Lessons from a corporate study. *Human Resource Development Quarterly, 6*(3), 263-274.

Broad, M. L. (2000). Ensuring transfer of learning to the job. In G.M. Piskurich, P. Bechschi, & B. Hall (Eds.), *The ASTD handbook of training design and delivery* (pp. 430-452). New York, NY: McGraw Hill.

Broad, M. L., & Newstrom, J. W. *(*1992*). Transfer of training: Action-packed strategies to ensure high payoff from training investments.* Reading, MA: Addison-Wesley.

Cromwell, S. E., & Kolb, J. A. (2004). An examination of work-environment support factors affecting transfer of supervisory skills training to the workplace. *Human Resource Development Quarterly, 15*(4), 449-471. doi:10.1002/hrdq.1115

Cunningham, T. R., & Austin, J. (2007). Using goal setting, task clarification, and feedback to increase the use of the hands-free technique by hospital operating room staff. *Journal of Applied Behavior Analysis, 40*(4), 673-677. doi10.1901/jaba.2007.673-677

Daniels, A. C. (1994). *Bringing out the best in people*. New York: McGraw-Hill.

Daniels, A. C., & Daniels, J. E. (2004). *Performance management: Changing behavior that drives organizational effectiveness*. Atlanta: Aubrey Daniels International.

Erez, M. (1977). Feedback: A necessary condition for the goal-performance relationship. *Journal of Applied Psychology, 62,* 624-627.

Facteau, J. D., Dobbins, G. H., Russell, J. E. A., Ladd, R. T., & Kudisch, J. D. (1995). The influence of general perceptions of the training environment on pretraining motivation and perceived training transfer. *Journal of Management, 21*(1), 1-25.

Fitzpatrick, R. (2001). The strange case of the transfer of training estimate. *Industrial-Organizational Psychologist, 39*(2), 18-19.

Ford, J. K., Quinones, M. A., Sego, D. J., & Sorra, J. S. (1992). Factors affecting the opportunity to perform trained tasks on the job. *Personnel Psychology, 45*(3), 511-527.

Gilbert, T. F. (1978). *Human Competence: Engineering worthy performance.* New York: McGraw-Hill Book Company.

Gregoire, T. K., Propp, U. J., & Poertner, J. (1998). The supervisor's role in the transfer of training. *Administration in Social Work, 22*(1), 1-18.

Holton, E. F., III, Bates, R. A., Seyler, D. L., & Carvalho, M. B. (1997). Toward construct validation of a transfer climate instrument. *Human Resource Development Quarterly, 8,* 95-113.

Locke, E. A. (1996). Motivation through conscious goal setting. *Applied & Preventive Psychology, 5,* 117-124.

Locke, E. A., & Latham, G. P. (2002). Building a practical useful theory of goal setting and task motivation. *American Psychologist*, *57*, 705-717.

Machin, M. A. (2002). Planning, managing, and optimizing transfer of training. In K. Kraiger (Ed.), *Creating, implementing, and managing effective training and development* (pp. 263 – 301). San Francisco, CA: Jossey-Bass.

Mager, R. F. (1997a). *Making instruction work.* (3rd ed.) Atlanta, Georgia: CEP Press.

Mager, R. F. (1997b). *Measuring instructional results.* (3rd ed.) Atlanta, Georgia: CEP Press.

Mager, R. F. (1997c). *Preparing instructional objectives.* (3rd ed.) Atlanta, Georgia: CEP Press.

Mooney, T., & Brinkerhoff, R. O. (2008). *Courageous training.* San Francisco, CA: Berrett-Koehler

Noe, R. A. (1986). Trainee's attributes and attitudes: Neglected influences on training effectiveness. *Academy of Management Review, 11*, 736 - 749

O'Hora, D., & Maglieri, K. A. (2006). Goal statements and goal-directed behavior: A relational frame account of goal setting in organizations. *Journal of Organizational Behavior Management, 26*(1), 131-170. doi:10.1300/J075v26n01_06

Paradise, A., & Patel, L. (2009). *State of the industry report.* Alexandria, VA: American Society for Training and Development.

Prue, D. M., & Fairbank, J. A. (1981). Performance feedback in organizational behavior management: A review. *Journal of Organizational Behavior Management*, *3*, 1-16.

Rouiller, J. Z., & Goldstein, I. L. (1993). The relationship between organizational transfer climate and positive transfer of training. *Human Resource Development Quarterly, 4*(4), 377-390.

Reeves, L. M., & Weisberg, R. W. (1994). The role of content and abstract information in analogical transfer. *Psychological Bulletin, 115*(3), 381-400.

Rummler, G. A., & Brache, A. P. (1995). *Improving performance: How to manage the white space on the organization chart.* San Francisco: Jossey-Bass.

Rummler, G. A., & Brache, A. P. (1988). The systems view of human performance. *Training, 25*(9), 45 – 53.

Saks, A. M., & Belcourt, M. (2006). An investigation of training activities and transfer of training in organizations. *Human Resource Management, 45*(4), 629-648. doi:10.1002/hrm.20135

Salas, E., & Cannon-Bowers, J. A. (2001). The science of training: A decade of progress. *Annual Review of Psychology, 52*, 471-499

Smith, R. D. (1998). Simulation Article. *Model Benders Encyclopedia.* Retrieved from http://www.modelbenders.com/encyclopedia/encyclopedia.html

Tannenbaum, S. I., & Yulk, G. (1992). Training and development in work organizations. *Annual Review of Psychology, 43,* 399-441

Tittelbach, D., Deangelis, M., Sturmey, P., & Alvero, A. M. (2007). The effects of task clarification, feedback, and goal setting on student advisors' office behaviors and customer service. *Journal of Organizational Behavior Management, 27*(3), 27-40. doi:10.1300/J075v27n03_03

Tracey, J. B., Tannenbaum, S. I., & Kavanach, M. J. (1995). Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology, 80*(2), 239-252.

Wexley, K. N., & Latham, G. P. (1981*). Developing and training human resources in organizations*. Glenview, IL: Scott Foresman.

Wilk, L. A., & Redmon, W. K. (1990). A daily-adjusted goal-setting and feedback procedure for improving productivity in a university admission department. *Journal of Organizational Behavior Management, 11,* 55-75.

Yamnill, S., & McLean, G. N. (2001). Theories supporting transfer of training. *Human Resource Development Quarterly, 12*(2), 195-208.

Appendix A

Introduction E-Mail

Congratulations. You have been identified by the HR Leadership Team to participate in our second HRCCD (Human Resources Change Capability Development) program. You have been selected because of your involvement in a change initiative due to your role and/or change in your BU or function that you currently involved in or will be in the coming months.

This program is designed to develop your change management skills through training and applied learning. As a participant in this program you will be expected to complete all of the following over the next six months:

1. Pre-work prior to the Fluency and Awareness training

2. Attend the training for Fluency and Awareness Train the Trainer

3. Utilize change tools for existing change effort that you are involved in

4. Facilitate a minimum of one Awareness training session (i.e. with your own team members, your BU/Function team)

If you are concerned about your ability to deliver upon these expectations, please discuss this with your direct manager.

The dates for the training are scheduled for: Monday, May 24th – Wednesday, May 26th 8:00-5:00 pm in _____ . The days will be full, so please plan on being present for the entire session.

As this is the initial invitation, you can expect further details regarding pre-work and an agenda to follow in the coming weeks.

Please confirm your attendance by emailing _____ _____directly by April 15, 2010

Regards,

Action Required: Please complete the following pre-work prior to the HRCCD Training Session on Monday, May 24th – Thursday, May 27th. (Note: the dates of the training originally sent were Monday – Wednesday. They should have been identified as Monday – mid-day on Thursday. A meeting notice will be sent in the near future).

Pre-work

1. Impact Map for setting expectations.

    a. Prior to the training on May 24, 2010, you will be expected to have a conversation with your manager regarding the objectives and key results you will achieve as a result of the training. To enable this communication we have created an Impact Map and will provide it to your manager via a debriefing session during the month of April. You will be expected to bring the impact map to the training and be prepared to discuss your understanding and accountabilities.

2. Change Awareness Training.

    b. If you have not taken Change Awareness training, you are expected to take the e-learning option for this training prior to May 24th. Click on this link to actually take the e-learning module. Change Awareness
    c. If you have taken Change Awareness training, please review your change materials prior to the session or feel free to take the e-learning option above.

3. Facilitation Self Assessment Survey.

Your answers will not be shared with the group; we will use this information to form teams and customize the material in the Train the Trainer portion of the training session.

If you have any questions regarding this pre-work, please feel free to contact

Appendix B

Manager E-mail

Greetings,

As you know, a goal of the HR Function is to build the change capabilities in our employees in order to be positioned within _____ as the SME in the change discipline. Deployment of the HRCCD (HR Change Capability Development) is one step in helping us to achieve this goal. As a manager of one of the employees that is attending HRCCD II, you will be expected to have an impact map discussion with your employee prior to their attendance in May. The impact map is used to drive alignment between the learning objectives and the HR function objectives for the individual learner.

To prepare you for the discussion, I will be setting up meetings to review the impact map with you. If you attended one of these meetings with the HRCCD I group and feel comfortable having the Impact Map discussion, please let me know and I will forward the updated Impact Map to you.

For your reference, below is a list of the employees that are expected to attend the HRCCDII program. If your name is next to the attendee, you have been identified as the manager and the person expected to have the discussion with the individual. If this is not accurate, please advise.

In addition, I have attached the pre-work communication that will be sent to the participants for your reference.

If you have any questions or concerns, please feel free to contact me or _____ _____

Thanks

Appendix C

Impact Map

Learning Objectives	On the Job Behaviors	Key Results	HR Goal s	SI2015 Focus Areas
Change Fluency: Provide context and deeper understanding of how to build a Change Plan using the _____ Change Tool .	• Lead small -medium change initiatives using the tools and processes in the _____ Change Tool kit • _____ _____ _____	Demonstrated understanding of chang e model and tools by utilizing change management tools for a business change effort within 6 months of completion of training.	The HR function will help ____ achieve SI2015 goals by developing change leadership skills in the HR function. HR Function will build the change capabilities in our employees in order to be positioned within _____ as the SME in the change discipline The HR function will be recognized for utilizing change models to lead key change projects to successful implementation .	**Talent Management** The convergence of change impact factors affecting HR requires our employees to be positioned to lead, coach and respond to change effectively and efficiently. **Strategic Fit** It is essential to build change management capabilities in the HR function in order to further enable the change capabilities within _____. **Customer F ocus** The more capable we are of adapting to change within _____ and with customers, the more responsive we will be to our external customer needs. **Competitive Advantage** Our ability to adapt to change on many levels will allow greater com petitive advantage for our Business Partners to provide to their customers.
Community of practice Provide an opportunity for participants to collaborate and share best practices in leading change	• Actively participate in the HRCCD Community of Practice by sharing and learning with other members of the HRCCD	Leverage the HRCCD Community of Practice to collaborate with classmates in building the skill set and subject matter expertise of the HR Function.		
Awareness TTT: Raise awareness of change management, build insight of individual roles in the change process, and challenge participants on what it takes to change behaviors. Awareness training in your Business Unit/Function allows you to deploy Change Management Awareness workshops as needed to help employees deal with change.	• Recognize individual response to change • Manage individual transition through change utilizing the change techniques learned . • Utilize techniques to build personal resilience during change. • Provide change leadership coaching to others in the organization. • _____ _____ _____	Instruct at least one Change Awareness session to HR peers within 6 months from completion of training .		

Appendix D

Survey

Change Management Program - Impact Survey

Change Management Program - Impact Survey

Page 1 - Heading

Select the best answer for each question.

Page 1 - Question 1 - Choice - One Answer (Bullets)

What were your expectations as you began the Change Management learning experience? (Select one.)

- I really had no specific expectations other than to participate and somehow gain from it
- I had some idea of what I might learn from it, but not much beyond that
- I was very clear about what new skills and knowledge I could gain
- I had specific objectives not only for what I would learn but also how I would apply it in my work

Page 1 - Question 2 - Choice - One Answer (Bullets)

How were your expectations set? (Select one.)

- Any expectations I had came only from my own thinking or e-mail communications about the program
- I had some interaction with my manager about my participation, but no discussion about expectations for results
- My manager and I talked generally about how I might benefit from this, but we did not jointly set any expectations for applying what I would learn
- My manager and I jointly discussed and set expectations for where I could apply these skills

Page 1 - Question 3 - Rating Scale - Matrix

Using the scale provided below, rate the extent to which you might have applied any learning from this training experience.

	Implemented, got positive results	Implemented, but not sure of results yet	Have not implemented it, but plan to	Was already doing this	Will not be doing this (not part of my role)
Used a tool from the "Change Management Tool Kit" (e.g., Risk Assessment, Stakeholder Plan, Change Plan, Communication Plan)	❍	❍	❍	❍	❍
Leading a change initiative using the tools, concepts, and processes I learned	❍	❍	❍	❍	❍
Helped an individual manage his/her personal transition through change utilizing the change techniques I learned	❍	❍	❍	❍	❍
Utilized techniques to build personal resilience during change	❍	❍	❍	❍	❍
Shared best practices regarding leading change with colleagues	❍	❍	❍	❍	❍

Page 1 - Question 4 - Choice - One Answer (Bullets)

To what extent is there accountability for using this training in your work? (Select one.)

- I feel fully accountable for applying this learning; my manager and I mutually discussed these expectations and accountabilities; and there are procedures in place for follow-up and feedback
- There are some procedures in place for follow up, but no specific timelines or plans were set or acted upon
- Any accountability I feel for applying at least some of my training comes only from my own determination
- No one other than me really knows or cares if I apply this training

Page 1 - Question 5 - Choice - One Answer (Bullets)

To what extent have you received follow-up support and coaching from your manager or others after attending the program? (Select one.)

- I have received extensive and helpful follow-up support and coaching
- I have received some follow-up support and/or coaching
- I have received very little follow-up support and/or coaching--but I didn't need any more
- I have received very little follow-up support and/or coaching--and would have benefited if I had more
- I have received virtually no follow-up support and/or coaching

Page 1 - Question 6 - Choice - One Answer (Bullets)

Which statement below best characterizes your experience regarding this training? (Select one.)

- I learned something new, have used it in my work to produce significant business impact for my unit, and have concrete evidence to describe that impact
- I learned something new, have used it in my work, and fully expect worthwhile results though none have been achieved yet
- While this training was mostly a reminder of what I already knew, it was a valuable refresher and motivated me to put it to use in ways that have led to tangible results
- While I may have learned something new, I have not put it to use yet
- This training was mostly a reminder of what I already knew and was already doing
- This training did not cover anything new or useful

Appendix E

Introductory Survey E-mail

One of the key ways that we, as HR leaders, will help _____ achieve SI2015 goals is by developing change capabilities in the HR function. Within the last two years, you have participated in the Change Management training aimed at helping you become an effective leader of change. We are conducting a measurement study of the impact that this Change Management training has had on the business results, and I would like to ask for your participation in this study. The results of the study will provide us with important information that will help us determine our next steps in building change capabilities in our HR professionals.

The survey will take less than five minutes to complete. After all surveys are returned, you may be contacted to gather more in-depth data about your change management experiences. The interview will take approximately 30 minutes and be conducted via telephone.

We appreciate your participation in this process by providing candid responses to the questions. Your responses will be confidential. Only the external evaluation team will have access to your individual responses so that they can use your feedback to improve the value of training programs attended.

Please click on the link and complete the survey ***by February 14, 2011.***

_____

Thank you,

_____ _____

Appendix F

Follow-up Survey E-mail

As a reminder, please ensure that you take this short 5 minute survey by ***Monday, February 14th.***

Your input is appreciated

Thanks

(Original E-mail)

One of the key ways that we, as HR leaders, will help Cargill achieve SI2015 goals is by developing change capabilities in the HR function. Within the last two years, you have participated in the Change Management training aimed at helping you become an effective leader of change. We are conducting a measurement study of the impact that this Change Management training has had on the business results, and I would like to ask for your participation in this study. The results of the study will provide us with important information that will help us determine our next steps in building change capabilities in our HR professionals.

The survey will take less than five minutes to complete. After all surveys are returned, you may be contacted to gather more in-depth data about your change management experiences. The interview will take approximately 30 minutes and be conducted via telephone.

We appreciate your participation in this process by providing candid responses to the questions. Your responses will be confidential. Only the external evaluation team will have access to your individual responses so that they can use your feedback to improve the value of training programs attended.

Please click on the link and complete the survey ***by February 14, 2011.***

_____

Thank you,

_____ _____

Appendix G

"High Success" Interview Structure

Introduction:

- Thanks for talking with us today
- We are doing follow-up interviews with several of the people who responded to the survey
- By the way, all the information that you provide to us is confidential; no names will appear in the final report that we provide to senior management
- The purpose of the interview is to learn how people have been able to use the concepts from the Change Fluency training back on their job
- This will help _____ refine the implementation to ensure maximum return on investment
- You were one of several people who said that they _____
- You reported in the survey that you have been able to use the concepts and by doing so you have been able to achieve some concrete results.

Bucket 1: What did you use that worked?

- How did you apply what was learned in the training?
- With whom did you use it?
- When did you use it?
- Under what circumstances did you use it?
- What parts of the training were used the most, least, or not at all?
- What evidence is there that they really did what they say they did?

Bucket 2: What results were achieved?

- What outcome did your use of the Change Fluency concepts/tools help achieve?
- What measurable difference was achieved?
- How do you know you made a difference (e.g., who noticed, what feedback did you get, what changed)?
- What evidence is there that they really achieved what they say they did?

Bucket 3: What good did it do?

- What value was achieved or contributed to?
- Why are these results important?
- What business goals were contributed to?
- What accomplishments were helped or what goals were contributed to?
- What costs or negative outcomes were avoided as a result of your actions?

Bucket 4: Did anything else in the environment contribute to these results?

- What in your environment did you use or access that helped you?

- Were there any special incentives, rewards, job objectives, work requirements, etc. that contributed to your success?
- What about your manager's support (or lack of if) helped or hindered?
- What tools, references, information sources, or job aids did you use?
- What priorities, urgencies, or other extenuating circumstances spurred you to success?

Bucket 5: Suggestions (optional)

- What suggestions (additional program resources, better tools, better incentives, more training, etc.) does the interviewee have that would have increased success?
- What suggestions can the interviewer make for improvement (these may be based on intuition, hunches, cross-interview observations, etc.)?

Appendix H

"Low Success" Interview Structure

Introduction:

- Thanks for talking with us today
- We are doing follow-up interviews with several of the people who responded to the survey
- By the way, all the information that you provide to us is confidential; no names will appear in the final report that we provide to senior management
- The purpose of the interview is to learn how people have been able to use the concepts from the Change Fluency training back on their job
- This will help _____ refine the implementation to ensure maximum return on investment
- You were one of several people who said that they _____

Bucket 1: Why weren't you able to transfer training?

- What suggestions (additional program resources, better tools, better incentives, more training, etc.) does the interviewee have that would have increased success?
- Have you been able to use any of the skills at all?
- What has prevented you from using the concepts or approach?
- Was there anything else happening that prevented you from using the skills you learned in the training?
- What recommendations can you make to improve the applicability of the concepts and training?

Appendix I

Change Management “Toolkit”

Change Management Toolkit

Tool (What)	Trigger (When)	Purpose (Why)
Gap Analysis	Early in the Lifecycle of All Change Projects	Assess the gap between current and desired state.
Stakeholder Plan	Early in the Lifecycle of All Change Projects	Define people or groups with interest in the project.
Sponsorship Plan	Early and Periodically in the Lifecycle of All Change Projects	Link the project to 2015 strategy.
Communication Plan	Early and Periodically in the Lifecycle of All Change Projects	Identify the communication needs of the project.
Education Plan	For All Change Projects, at the Point in the Lifecycle where Impacts on People have been Clearly Defined	Identify the education needs of stakeholders.
Roles and Responsibilities	Early and Periodically in the Lifecycle of All Change Projects	Clarify expectations and accountabilities.
Change Work Plan	Early and Periodically in the Lifecycle of All Change Projects	Planning actions needed.

Appendix J

Survey Response Scoring Guide

Scoring Guide

Because we were not concerned with responding at the same qualitatively small level as the participating organization was, we grouped participant responding for our analysis. Survey questions are listed in their entirety.

Question 1

What were your expectations as you began the Change Management learning experience? (Select one.)

- ❍ I really had no specific expectations other than to participate and somehow gain from it **GROUP 1**
- ❍ I had some idea of what I might learn from it, but not much beyond that **GROUP 2**
- ❍ I was very clear about what new skills and knowledge I could gain **GROUP 3**
- ❍ I had specific objectives not only for what I would learn but also how I would apply it in my work **GROUP 3**

Question 2

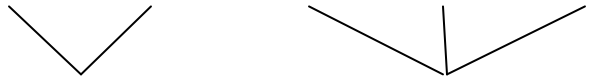
How were your expectations set? (Select one.)

- ❍ Any expectations I had came only from my own thinking or e-mail communications about the program **GROUP 1**
- ❍ I had some interaction with my manager about my participation, but no discussion about expectations for results **GROUP 2**
- ❍ My manager and I talked generally about how I might benefit from this, but we did not jointly set any expectations for applying what I would learn **GROUP 2**
- ❍ My manager and I jointly discussed and set expectations for where I could apply these skills **GROUP 3**

Question 3

Using the scale provided below, rate the extent to which you might have applied any learning from this training experience.

	Implemented, got positive results	Implemented, but not sure of results yet	Have not implemented it, but plan to	Was already doing this	Will not be doing this (not part of my role)
Used a tool from the "Change Management Tool Kit" (e.g., Risk Assessment, Stakeholder Plan, Change Plan, Communication Plan)	❍	❍	❍	❍	❍
Leading a change initiative using the tools, concepts, and processes I learned	❍	❍	❍	❍	❍
Helped an individual manage his/her personal transition through change utilizing the change techniques I learned	❍	❍	❍	❍	❍
Utilized techniques to build personal resilience during change	❍	❍	❍	❍	❍
Shared best practices regarding leading change with colleagues	❍	❍	❍	❍	❍



GROUP 2 **GROUP 1**

Question 4

To what extent is there accountability for using this training in your work? (Select one.)

- ❍ I feel fully accountable for applying this learning; my manager and I mutually discussed these expectations and accountabilities; and there are procedures in place for follow-up and feedback
  GROUP 3
- ❍ There are some procedures in place for follow up, but no specific timelines or plans were set or acted upon
  GROUP 2
- ❍ Any accountability I feel for applying at least some of my training comes only from my own determination
  GROUP 2
- ❍ No one other than me really knows or cares if I apply this training
  GROUP 1

Question 5

To what extent have you received follow-up support and coaching from your manager or others after attending the program? (Select one.)

- ❍ I have received extensive and helpful follow-up support and coaching
  GROUP 4
- ❍ I have received some follow-up support and/or coaching
  GROUP 3
- ❍ I have received very little follow-up support and/or coaching--but I didn't need any more
  GROUP 2
- ❍ I have received very little follow-up support and/or coaching--and would have benefited if I had more
  GROUP 2
- ❍ I have received virtually no follow-up support and/or coaching

GROUP 1

Question 6

Which statement below best characterizes your experience regarding this training? (Select one.)

- ○ I learned something new, have used it in my work to produce significant business impact for my unit, and have concrete evidence to describe that impact
  GROUP 2
- ○ I learned something new, have used it in my work, and fully expect worthwhile results though none have been achieved yet
  GROUP 2
- ○ While this training was mostly a reminder of what I already knew, it was a valuable refresher and motivated me to put it to use in ways that have led to tangible results
  GROUP 2
- ○ While I may have learned something new, I have not put it to use yet
  GROUP 1
- ○ This training was mostly a reminder of what I already knew and was already doing
  GROUP 1
- ○ This training did not cover anything new or useful
  GROUP 1

Appendix K

Interobserver Agreement Data Sheet

Observer **participant** **Tool Use? Yes No**
_____ **number_____** **(Circle one)**

HRCCD Group: Yes No (Circle one) Number **Response to SURVEY question six: (Circle one)**
_____ **1 3 4**

Mark a "1" for each topic covered and "0" if it is not and "NA" for not applicable: (doesn't have to be in order)	*Stated?*	Response
My name is Rich Kazbour and I am a doctoral student at Western Michigan University		
2 reasons for having this phone call: 1) Help _____ answer some questions and 2) This is part of my dissertation		
Sent survey to 80 people and randomly selected 20 to interview		
Do you consent to having your data used for purposes of the dissertation?		Yes No
What are your primary responsibilities at _____?		
**On the survey you said that as a result of your experience in this training …..		
How many community of practice sessions did you attend? **(For HRCCD group only)**		0 1 2 3 4
How many tools have you used as a result of the training? **(For interviewees who reported tool use only)**		
Is there one tool that you have found most useful? **(For interviewee who reported more than one tool)**		Yes No
IF YES WRITE IT HERE _____		
Had you been exposed to any of the tools before this course? **(only for category "3" interviewees)**		Yes No
Thank you for your time. To recap: We'll be doing 20 interviews and we will combine that information to produce a report		

**The remainder of this statement will be one of the
following:
1) you've learned something new, have used it in yhour work to produce significant business impact for your unit, and have concrete
evidence to describe that
impact
3) that while the training was mostly a reminder of what you already knew, it was a valuable refresher and moitvated you to put it
to use in ways that have led to
tangible results
4) that while you may have learned something new, you have not put it
to use yet.

Appendix L

HSIRB Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: January 13, 2011

To: Heather McGee, Principal Investigator
Richard Kazbour, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number: 11-01-10

This letter will serve as confirmation that your research project titled "Evaluating the Impact of a Performance Based Methodology on Transfer of Training" has been **approved** under the **exempt** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: January 13, 2012

Walwood Hall, Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276