

Transfer of Training: Interventions to Facilitate Transfer of Training Based on Time and Role Perspectives

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Transfer of training has been of vital concern for training effectiveness. However, even though a variety of studies have been conducted on transfer of training, little research has focused on action-oriented interventions to facilitate transfer. The purpose of this paper is then to suggest strategies to enhance transfer of training based on literature review. The transfer-enabling interventions are presented based on the "Role" (Manager, Trainer, and Trainee) and "Time" (Before, During, and After Training).

Keywords: Transfer of Training, Transfer-enabling Interventions, Time and Role

Organizations' continuous competitiveness depends on to what extent people in the organization apply what they learn new knowledge and skills to the workplace. Organizations spend much money on training, believing that trainees will use what they learn during the training back on the jobs. Indeed, many companies, which have invested lots of money on training, are interested in whether the training really pays off for organizations and individuals. It is sufficiently understood considering that the ultimate goal of training is to apply what employees learn in training program to their workplace. Unfortunately, it is frequently reported that only about 10% of learning actually transfers to the job (Holton & Baldwin, 2000; Kupritz, 2002). Recently, training professionals from 150 organizations reported that 62%, 44%, and 34% of employees apply training material on the job immediately, six months, and one year after training (Saks & Belcourt, 2006). This result shows that transfer of training is much increased compared to the past report of 10%; however, there is still decline in application of training over period of time.

In this regard, transfer of training has been an issue of vital concern for researchers and practitioners. A growing body of literature, then, has addressed the topic of transfer of training. Nevertheless, there has been little attention on interventions to facilitate transfer with more action-oriented strategies. This lack of prescriptive and action-oriented focus is also indicated by Holton and Baldwin (2003), claiming that the existing research is not action-oriented. Further, they pointed out that most existing authors have just identified and measured factors affecting transfer rather than addressing how those factors might be managed for transfer.

However, there are some exceptions; few studies have conducted to identify what kinds of interventions can be performed to maximize transfer of training. For example, Broad and Newstrom (1992) derived a transfer model including time dimension (before-during-after) with the role dimension (manager-trainer-trainee), and proposed interventions to enhance transfer based on the matrix. Another instance is the work of Machin (2002). In this research, the specific strategies for optimizing the transfer of training based on three training stages noted in Broad and Newstrom (1992). In addition to these efforts, more recently, Haskins and Clawson (2006) presented transfer-enabling activities based on pre, during, and post program for executive education designers and deliverers. Although this research suggests a number of specific and readily implementable activities, only the activities of instructor were identified rather than the roles of manager and learner. Additionally, Saks and Belcourt (2006) investigated the extent to which organizations implement training activities for facilitating the transfer of training before, during, and after training and the relationship between these activities and the transfer of training across organizations. This research found that training activities before, during, and after training were positively related to the transfer of training.

As noted above, even though numerous studies have focused on the issue of transfer, very little work has integrated action-oriented strategies for effective transfer of training. Given the billions of dollars spent each year on training, there remains a compelling need to provide transfer-enhancing interventions integrated in training activities for maximizing training effectiveness. The purpose of this paper is, therefore, to present interventions to facilitate transfer of training with time and role perspectives based on literature review. Considering the action-oriented research needs (Holton & Baldwin, 2003), it is necessary to provide an updated synthesis of the transfer literature that may lay the groundwork for improved transfer-enabling interventions.

Specifically, this paper seeks to answer the following research questions:

- How do managers, trainers, and trainees facilitate the transfer of training in terms of *role* dimension?
- What are the transfer-enabling interventions before, during, and after training to facilitate transfer of training in terms of *time* dimension?

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Method

The method used to inform the literature search involved accessing scholarly literature available. A search was conducted on “Business Source Complete,” “Business Source Premier,” “PsycINFO,” “Education Research Complete,” and “Educational Resources Information Center (ERIC)” under the subject headings “transfer of training” and “training transfer.” In addition, a search also was carried out on books about transfer of training.

Toward Interventions for Transfer of Training

Transfer of training refers to the application of what a trainee learns in training to their job (Baldwin & Ford, 1988; Holton et al, 1997). In transfer of training, a model or typology, including elements for enhancing transfer, has been identified. The seminal work, conducted by Baldwin and Ford (1988), proposed a training effectiveness model focused on trainee characteristics, training design, and work environment. Even though the work of these authors initially identified factors affecting transfer of training, it fails to show how the activities for enhancing transfer can be effectively performed. That is, this model does not consider various roles involved in training according to time period. Next, Broad and Newstrom (1992) derived a transfer model including time dimension (before-during-after) with the role dimension (manager-trainer-trainee) to produce a 3 × 3 matrix of nine cells. The primary goal of this matrix is to present a number of transfer strategies, which are considered as interventions for role players at any time. The strategies for enhancing transfer in their work suggest who needs to perform what kinds of activities in the training processes. Later, Russ-Eft (2002) proposed a typology of training design and work environment factors affecting workplace learning and transfer. This typology includes elements from training situations that can be manipulated and used to enhance workplace learning and transfer. This taxonomy is comprised of pretraining elements, training design elements, posttraining elements, and situational elements. Further, the elements in this research are limited at supervisor’s role. Thus, whereas this typology encompasses time dimensions such as before, during, and after the training as well as work environment, it is ambiguous who is in charge of interventions in the training situation.

Building on the authors’ works above, it is necessary to move toward more integrative action-oriented transfer management interventions based on literature review. In particular, this paper adopts the matrix, consisting of time and role dimensions in line with Broad and Newstrom (1992), since it highlights who is primarily in charge of roles for enhancing transfer at certain point. In addition, this matrix also provides a convenient and systematic format for discussing a number of transfer interventions. Moreover, from the perspective of systems approach, Broad and Newstrom’s (1992) transfer management process matrix is meaningful in that it is appropriate to apply systems approach. The systems view helps us see the whole as well as achieve common goals (Jacobs, 2003; Ruona, 1998). The systems approach means “all natural and artificial entities are systems and that the behavior of systems is relatively predictable, which means that systems can be designed and managed with some confidence” (Jacobs, 2003, p. 30). Then, the systems approach provides implications that transfer-enabling interventions should be considered from the whole processes to attain effective outcomes. This notion is consistent with Holton and Baldwin (2003), indicating that transfer is a function of a system of influences. In the work of Holton and Baldwin (2003), the transfer system is broadly identified, including the factors of person, training, and organization that influence transfer of learning to job performance.

Table 1 presents an overview of underpinning framework for interventions for transfer of training; this framework includes time dimensions of prior, during, and post training as well as individual roles such as manager, trainer, and trainee. For the role players, trainer can be program designer, external trainer, content matter specialist, or line supervisors acting as temporary trainer (Broad & Newstrom, 1992). Also, manager’s role is highlighted since it is believed that management support is a primarily significant factor in enhancing or decaying transfer. It should be also noted that this paper adopts only the matrix frame from the work of Broad and Newstrom (1992) as an analytical structure for conducting this research. A few transfer-enhancing strategies are cited from their work; however, the majority of interventions are derived from the previous studies on transfer of training. Then, the biggest difference between the work of Broad and Newstrom (1992) and this paper would be an updated and comprehensive synthesis of the transfer literature across various disciplines such as industrial/organizational psychology, cognitive psychology, and education as well as human resource development, including empirical study results and conceptual literature.

Table 1. *An Underpinning Framework for Interventions for Transfer of Training (Adopted from Broad & Newstrom, 1992, the transfer matrix, p. 52)*

<i>Role</i>	<i>Time</i>	<i>Before</i>	<i>During</i>	<i>After</i>
Manager				

For identifying appropriate interventions in each cell, as noted above, an extensive literature including conceptual literature and empirical studies is reviewed. In the following sections, we present findings from a literature review based on time period. It is important to note that in placing the relevant elements in time processes, other areas can be also considered even though interventions are described in only one time period. For example, a supportive work environment can be included in the interventions of before and during training, whereas it is introduced in the section of post training. Moreover, in reviewing and suggesting following interventions, it is assumed that good learning outcomes are directly related to effective transfer of training.

Interventions for Before Training

Interventions for before training highlight training relevance, goal setting, and pretraining context and pretraining affective/motivational factors.

Training Relevance

Lim and Morris (2006) found that trainees' immediate training needs (to use new learning in six months) seemed to be the most influential variable among the trainee characteristics variables. Similarly, Yamnill and McLean (2005) found that perceived content validity of the training was identified as the most important factor in transfer of training. Further, Burke and Hutchins (2007) noted that transfer can be affected by the perceived utility or value related to training. As such, transfer can be enhanced by trainee's belief that training is relevant and applying new learning will improve performance. As a means of maximizing training relevance, needs assessment can be implemented before training, which helps trainer identify appropriate training contents.

Goal Setting

Goal setting theory suggests that learning can be facilitated by providing trainees with specific challenging goals and objectives. Goal setting is recognized as pre-training strategy for improving performance (Machin, 2002). Regarding goal setting, managers can use an "action plan" with trainees including goal, strategies for reaching goal, strategies for receiving feedback about progress, expected outcome, and timeline for progress checks (Noe, 2008).

Pretraining Context and Pretraining Affective/Motivational Factors

Pretraining contextual factors and pretraining affective/motivational factors such as self-efficacy and motivation to learn are indicated as significant predictors on training effectiveness. For example, the extent to which framing the purpose of attending a training program can affect training outcomes: assigning individuals to training because of poor performance (remedial) or superior performance (advanced). In this vein, Quiñones (1995) examined the extent to which framing of training assignment (remedial vs. advanced) as pretraining context can affect training outcomes (trainee reactions, learning, behavior, and performance) through pretraining characteristics (fairness perceptions, pretraining self-efficacy). These were hypothesized to affect training outcomes through motivation to learn. The research findings show that the way in which training programs are framed can enhance or diminish the effectiveness of training interventions. In addition, pretraining self-efficacy and fairness perceptions are revealed to be positively related to motivation to learn. Moreover, motivation to learn had a positive effect on learning and behavioral outcomes of training. This research suggests that individuals need to have a chance to choose their own training program, and it is important for them to perceive these preferences are honored. The study also implies that motivation to learn on 'before training' stage is essentially critical. Indeed, motivation theories in pre-training are largely related to motivation to learn. Motivation to learn refers to trainee's desire to learn the content of training and development activities (Noe, 1986). Naquin and Holton (2003) also insisted that motivation is one of core components necessary for workplace training to be effective and result in desired outcomes.

Interventions for During Training

Interventions for during training are related to training design strategies since training design strategies involve controllable manipulations undertaken during training (Broad & Newstrom, 1992). Then, training design features in 'during training' section are highlighted.

Motivation to Transfer

Motivation to transfer plays a key role in transfer of training. Motivation to transfer is described as trainees' desire to use the knowledge and skills mastered in training or associated learning activities on the job (Noe & Schmitt, 1986). Axtell, Maitlis, and Yearta (1997) also indicated that motivation to transfer is a key variable in predicting the levels of transfer. In training, motivation acts at the force that energizes or creates enthusiasm for the program (energizer), is a stimulus that guides and directs learning and content mastery (director) and influences and promotes the application of newly acquired skills and knowledge (maintenance) (Noe, 1986).

Goal Setting

With respect to goal setting intervention, it is recommended to consider both short-term and long-term goals during training. Brown (2005) noted that a very short proximal plus distal goal-setting intervention can have a positive effect on transfer, rather than distal goals, and no goals. Research findings reveal that distal outcome goals are not effective transfer of training interventions. Rather, proximal plus distal goals increased maintenance and generalization relative to distal outcome goals.

Identical Elements, General Principles, and Stimulus Variability

It is believed that when equipment used in training or situation is identical to that used in the workplace, physical similarity is high. Machin (2002) suggests that psychological fidelity can be achieved when the psychological meaning attached to two situations is identical, even without lots of physical similarity. In order to increase psychological fidelity, for example, trainers can explain any dissimilarity between the tasks performed during training and work tasks that will be performed after training. For teaching general principles, a real-life problem that the trainee is familiar with can be used in training (Machin, 2002). In addition, using a variety of examples during training to demonstrate a principle may help trainees develop an understanding of general rules. As a way of implementing this intervention, providing different examples and emphasizing the important features of each example is effective (Noe, 2008).

Self-regulatory Instruction: Metacognition, Emotional Control, and Mastery Goal Orientation

Self-regulation refers to processes that enable individual to guide one's goal-directed activities over time by reviewing and monitoring his or her behaviors. Self-regulatory processes are influenced by three aspects of the person: 1) cognitive perspective, 2) motivational perspective, and 3) affective perspective (Ford & Oswald, 2003). From a cognitive perspective, meta-cognition is recognized as key self-regulatory skills (Ford & Oswald, 2003; Keith and Frese, 2005). Metacognition is defined as a control function of planning, monitoring, and evaluating of one's own thought processes or mental activities. It helps individual monitor and evaluate one's strategies and progresses concurrently during performing task (Ford & Oswald, 2003; Ford, Smith, Weissbein, Gully, & Salas, 1998). In addition, research found that trainees who engaged in greater metacognitive activity demonstrated positive learning outcomes: greater declarative knowledge, superior training performance, and greater self-efficacy (Schmidt & Ford, 2003). Similarly, the work of Ford, Smith, Weissbein, Gully, and Salas (1998) indicates that metacognitive activity is significantly related to learning outcomes and performance on the transfer task. Motivational perspective involves goal orientation; individuals with good motivation-control skills are regarded as having high levels of mastery goal orientation (Ford & Oswald, 2003). Goal orientation refers to the types of goals that individuals pursue in achievement situations. Much of the research on goal orientation characterizes mastery and performance orientations. Mastery goal orientation refers to the characteristics of learning and developing competence. Those who have a high mastery orientation are willing to devote effort to monitor their learning, believing that success follows from effort. Performance goal orientation indicates a desire to publicly achieve greater success compared with others (Schmidt & Ford, 2003). It was also revealed that mastery goal orientation was positively related to metacognitive activity of learner (Ford, Smith, Weissbein, Gully, & Salas, 1998). Finally, from an affective perspective, emotional control is viewed as significant self-regulatory skill (Keith and Frese, 2005). Emotion control emphasizes minimizing anxiety, fear of failure, and other negative distractions (e.g. worry) so as to pay attention to a task (Ford & Oswald, 2003; Keith and Frese, 2005).

Condition of Practice

Condition of practice includes symbolic mental rehearsal, spaced practice, variable examples, over-learning, learner control, and coaching/feedback. Symbolic mental rehearsal refers to a training intervention implemented after observing a model performing a target behavior. Symbolic mental rehearsal is a specific form of mental rehearsal that establishes a cognitive link between visual images and symbolic memory codes (Davis & Yi, 2004). In symbolic mental rehearsal, two information-processing activities are engaged: 1) symbolic coding and 2) cognitive rehearsal (Davis & Yi, 2004). Symbolic coding means a process in which trainees organize and reduce the diverse elements of a modeled performance into a patterned verbal symbols that can be easily stored, retained, quickly retrieved, and used to achieve performance. Cognitive rehearsal refers to the process in which individuals visualize or imagine themselves performing behaviors based on the observation of another individual's performance. The research results conducted by Davis and Yi (2004) demonstrate that symbolic mental rehearsal improves learning outcomes, especially declarative knowledge and task performance. This implies that symbolic mental rehearsal should be incorporated into training design. Massed practice conditions related to the situation in which individuals practice a task continuously without rest whereas spaced practice involve the condition in which individuals are given rest intervals within the practice session (Donovan & Radosevich, 1999). The work of Donovan and Radosevich (1999) demonstrates that the individual's performance in spaced practice conditions is superior to that in massed practice condition. In addition, May and Kahnweiler (2000) found that the lack of transfer is from inadequate learning and retention. That is, this study suggests that adequate learning and retention should precede transfer. This result implies that overlearning

should be considered as a design strategy. Overlearning involves repeated practice even after correct performance has been demonstrated (Burke & Hutchins, 2007).

Training Method

Regarding training method, error-management training, guided discovery learning, and behavioral modeling training are captured. Error-management training is an effort by an individual to exert control over certain aspects of one's decision making and behavior (Frayne & Geringer, 2000). This method is noted as a good intervention for trainees to be encouraged to make errors and learn from them, thereby improving transfer performance, not training performance. Especially, in error-management training, it stimulates self-regulations. The research findings by Keith and Frese (2005) highlight the potential of promoting self-regulatory processing such as emotional control and metacognitive activity during training. They found that trainees could reduce the negative emotions in the face of errors by thinking errors as positive and useful events rather than threatening ones. The research result also indicates that errors encourage thinking of the error's cause and testing of potential solutions. In addition to error-management training, guided discovery learning enable trainee to infer general rules and strategies with guidance (Machin, 2002). Moreover, behavioral modeling training is especially effective when mixed models (both positive and negative models) are used (Taylor, Russ-Eft, & Chan, 2005).

Self-Management and Relapse Prevention

Self-management enables individual to enhance his or her performance by structuring one's environment, establishing self-motivation, and facilitating behaviors for achieving goals (Frayne & Geringer, 2000). During training, trainees can be instructed to write a "written contract" with trainee oneself. This written contract is one of dimensions in self-management training. Written contract plays a key role in increasing goal commitment by specifying the reinforcing conditions for meeting the goal, thereby helping in maintaining desired behaviors and preventing relapse (Frayne & Geringer, 2000). In addition, relapse prevention has been recommended as critical strategy for enhancing transfer. Relapse prevention focuses on developing coping strategies by identifying problematic situations or any potential obstacles to the implementation of their plan and describing how trainee would handle those challenges (Machin, 2002).

Interventions for After Training

The final stage of "after the training" is often neglected in training process. However, it plays a critical role in maximizing the transfer of training. This stage is usually characterized regarding work environment, focusing on improving supportive climate after trainees go back to work. Work environment characteristics can include climatic factors such as supervisory or peer support and opportunities to use learned behavior on the job (Baldwin and Ford, 1998). When trainees lack the opportunities to use what they learned in training, it is unlikely for transfer to occur (Ford, Quiñones, Sego, & Sorra, 1992).

Support of Work Environment

Supportive work environment is believed to influence the degree of application of learning after training. A growing body of research focuses on this work environment factor affecting transfer. Tracey, Tannenbaum, and Kavanagh (1995) examined the influence of the work environment in terms of training-specific organizational climate and continuous learning culture on the transfer of training. The research results indicate that both transfer of training climate and continuous-learning culture directly affect post-training behaviors; both transfer of training climate and continuous-learning culture is closely related to the social support system. Likewise, the study of Cromwell and Kolb (2004) provides information regarding how work environment factors influence transfer of training. They examined the relationship between four work environment factors (organization support, supervisor support, peer support, and a peer support network) on the transfer. The research found that trainees who received high levels of organization, supervisor, and peer support, who also participated in a peer support network, indicated higher levels of transfer of training. Their research finding also indicated that supervisors are recognized as the most importance of support. Along with the factors affecting supportive work environment, the barriers for transfer are identified. Research result shows that the environmental constraints for preventing use of the new learning are time and management support (May and Kahnweiler, 2000).

In order to enhance application of newly learned knowledge and skills on the workplace, tangible or intangible interventions can be considered. The work conducted by Taylor, Russ-Eft, and Chan (2005) reports that the transfer is enhanced when rewards and sanctions in trainees' work environments for using or not using newly learned skills is introduced as post-training strategy. In addition, it can be measured how work environment is favorable to transfer. As a means of measuring a transfer climate, Holton, Bates, and Ruona

Table 2. A Framework for Interventions to Facilitate Transfer of Training (Framework adopted from Broad & Newstrom, 1992, p. 52)

Time	Before	During	After
Role			
Manager	<ul style="list-style-type: none"> • Meet and communicate with trainees about training: the importance, the purpose, content, and processes, expected outcomes, and benefits of training • Motivate trainees to learn new knowledge and skills • Enhance trainee's perceived utility or value on training • Use an "action plan" with trainees • Allow trainees to choose their own training program • Assess organizational culture prior to training • Improve trainee's perception of organizational support for training • Establish supportive training/learning environment 	<ul style="list-style-type: none"> • Participate in training as a trainer if possible • Prevent interruptions • Transfer work assignments to others • Communicate supervisory/managerial support for the program • Monitor attendance and attention to training • Recognize trainee participation • Participate in transfer action planning / relapse-prevention • Review information on employees in training • Plan assessment of transfer of new skills to the job • Develop a positive organizational culture for training to transfer to the work • Develop supportive training/learning environment 	<ul style="list-style-type: none"> • Provide opportunities or technology for trainees to perform skills they learned • Reduce barriers of transfer, such as lack of time, time pressure, and distractions • Schedule trainee briefing for co-workers • Provide positive reinforcement and encourage use of knowledge and skills learned on the job • Introduce rewards and sanctions in trainees' work environments • Use an "action plan" for following-up progress • Create continuous learning culture
Trainer	<ul style="list-style-type: none"> • Identify appropriate training content for content relevance through needs assessment: assess training resources, trainee's basic skills such as cognitive ability, and trainee's self-efficacy by involving supervisors and trainees • Develop learning objectives focused on mastery goal orientation and training motivation • Design the learning process including desirable features: objectives, meaningful material, recall of prerequisites, practice and feedback, assessment of performance, committing to memory, and the strategy of transfer of training or enhancing retention of learning • Provide goal orientation intervention for attributing success to persistence, effort, and strategy rather than a lack of ability • Improve trainee motivation • Enhance trainee's self-efficacy 	<ul style="list-style-type: none"> • Improve trainees' learning outcomes <ul style="list-style-type: none"> - Develop identical elements (physical similarity & psychological fidelity) - Enhance understanding of general principles by using a real-life problem trainee is familiar with - Provide stimulus variability with various examples - Provide more practice time for mastery and overlearning - Provide self-regulatory instruction (metacognition, emotional control) - Provide advance organizers that explain a framework for training - Enhance mastery goal orientation - Consider conditions of practice (e.g. symbolic mental rehearsal (symbolic coding & cognitive rehearsal), spaced practice, variable examples/practice, overlearning, learner control, coaching/feedback) - Consider training methods (e.g. error-based learning by encouraging error-makings as positive and useful events, behavioral modeling negative & positive models, guided discovery) • Improve transfer intentions <ul style="list-style-type: none"> - Use goal-setting for proximal plus distal approaches - Increase motivation to transfer - Let trainee write a "written contract" with trainee oneself - Provide relapse prevention strategies 	<ul style="list-style-type: none"> • Provide refresher/problem-solving/relapse prevention sessions • Provide follow-up support through newsletter, mentors, and electronic support by linking trainees and trainers • Conduct multi-rater 360-degree survey (e.g. self-rating, trainee's boss, peers, subordinates, and customers) and provide feedback
Trainee	<ul style="list-style-type: none"> • Recognize the importance and value of training: believing that training is relevant and applying new learning will improve performance • Set goals for applying learned knowledge and skills through training to the job • Establish self-motivation • Develop an "action plan" 	<ul style="list-style-type: none"> • Participate actively in training, practice skills, and receive feedback • Set short-term (proximal) goals for the immediate application, coupled with long-term (distal) goals for applying new learning to the job • Write a "written contract" with trainee oneself, specifying expectations, plans, and contingencies for the behavior to be changed • Engage in self-regulations (e.g. metacognition and emotional control) • Develop self-management skills and anticipate relapse 	<ul style="list-style-type: none"> • Review training content and learned skills • Engage in self-reinforcement • Practice self-regulatory or self-management • Maintain contact with training "buddies" • Receive feedback regarding transfer progress from managers, peers, customers, etc. • Set goals concerning how to apply learning job

(2000) develop a set of transfer system scale: Learning Transfer System Inventory (LTSI). LTSI measures individual level-perceptions and attitudes about how performance, feedback, and support impact transfer of learning. LTSI can be used as a diagnostic inventory to identify targets for organizational interventions.

Goal Setting

Goal setting has been found to be an effective post-training intervention. Taylor, Russ-Eft, and Chan (2005) found that post-training transfer strategies lead to greater transfer of behavior modeling training: goal setting, training of trainees' superiors, and the introduction of rewards and sanctions for use or lack of use of newly learned skills. The research findings show that transfer was greatest when trainees were instructed to set goals as to how they will apply newly learned skills. As used in pre-training stage, "action plan" can be used in post-training period for effective follow-up regarding trainee's progress (Noe, 2008).

A Summary of Interventions to Facilitate Transfer of Training

The literature review suggests the recommendations regarding interventions or activities needed to facilitate transfer of training, as Table 2 shows. For transfer to be achieved, training can be carefully prepared before training starts, implemented with training design strategies, and managed after training. In this vein, this framework identifies what kind of roles people need to perform for the training processes.

Conclusion

Employers and human resource development practitioners increasingly seek cutting-edge strategies for enhancing training effectiveness as a source of competitive advantage. In this study, action-oriented transfer interventions in training are identified based on individual roles (manager, trainer, and trainee) and time processes (before, during, and after the training). The contribution of this paper is to suggest transfer interventions, which can be implemented in the human resource development field. Moreover, this study advances research on transfer of training by comprehensively synthesizing across various disciplines such as psychology, education, and HRD and updating recent work based on literature review.

Several agenda for future research on transfer of training also follow from our study. Future research needs to address how training design strategies interact and relate during training. Another important avenue for future research would be to find congruence between individual characteristics and learning situations. For example, it needs to be considered how learning contexts matter in terms of affecting trainees' motivation to learn or transfer and self-efficacy. Such interventions have the potential to provide trainers and training designers with a number of strategies for improving learning. Finally, future research is recommended to investigate the match between trainer and trainee, depending on the characteristics of tasks and cultural aspects in terms of transfer of training. That is, as noted by Hinds, Patterson, and Pfeffer (2001), matching skill level between instructor and learner may facilitate the transfer of learning. In addition, a study needed to conduct in the future is to investigate the effect of trainer's level of expertise on transfer of training for more understanding.

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