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Chapter 2

TRANSFER OF TRAINING 1988–2008: AN UPDATED REVIEW AND AGENDA FOR FUTURE RESEARCH

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In organizational contexts, positive transfer of training – the extent to which the learning that results from a training experience transfers to the job and leads to meaningful changes in work performance – is generally regarded as the paramount concern of training efforts (Goldstein and Ford, 2002). The critical point is that positive transfer is more than a function of original learning in a training experience. For transfer to have occurred, learned behavior must be generalized to the job context and maintained over a period of time.

Twenty years ago, the first two authors (Baldwin and Ford, 1988) reviewed and critically analyzed the research literature devoted to transfer of training. They observed a growing recognition of a transfer ‘problem’ in organizational contexts whereby there was concern that too little of the training conducted in organizations was positively transferring to the job. Existing reviews of the more general training literature of the time were mixed in their assessment of the utility of the extant research for understanding and improving transfer. Some had concluded that the existing literature offered little of value to trainers and researchers concerned with transfer (Campbell, 1971). Others, however, were suggesting that practitioners too often failed to apply the scientific knowledge that did exist (Goldstein, 1980; Wexley, 1984).
Rather than argue for one viewpoint or the other, the goal of the 1988 review was to 'provide a critique of the existing transfer research and to suggest directions for future research' (Baldwin and Ford, 1988, p. 64). Toward that end, the authors presented a specific definition of the conditions of transfer which included the knowledge and skills acquired as a function of training and the retention of the training content. Transfer was defined as the generalization of knowledge and skills acquired in training to the job and the maintenance and enhancement of that initial learning over time. The researchers further presented an organizing framework consisting of three categories of training input factors: training design characteristics, trainee characteristics and work environment characteristics. The review uncovered 63 empirical studies spanning the period of 1907–1987 and served as something of a 'call to arms' for a more concerted research effort to address the key issues associated with transfer of training (Kraiger, 2001).

It has now been two decades since the publication of that original review and it has been gratifying to see the explosion of interest in training transfer since that time. The 1988 review has been extensively cited in research papers from many different disciplines and these citations have continued unabated throughout the full 20 years. It is clear that transfer of training is widely recognized as an important arena for research and practice.

With that in mind, the time seemed right to again take stock of the state of transfer research, and to offer an updated agenda for moving forward. More specifically, the purpose of this chapter is threefold. First, we identify the significant advances in empirical research since 1988. Toward that end, we systematically analyzed 140 journal articles that cited our prior review in the intervening 20 years. In the course of our analysis, we highlight several well-designed studies which have explored important transfer relationships. Our intent was to assess the progress made with respect to several significant limitations in the research literature circa 1988, and to spotlight the type and form of empirical investigations that are providing the best yield in new transfer knowledge.

Second, we briefly discuss two conceptual advances that help clarify and expand our understanding of transfer. In 1988, we proposed two dimensions of transfer, generalization and maintenance, and presented a set of factors that might influence those two dimensions. Since then, other researchers have made a compelling case for a multidimensional perspective of transfer and we review and comment on that work. We also discuss other intriguing new work that reconceptualizes and categorizes different types of training content and linking different content types to correspondingly different transfer objectives.

Third, we use our review of the existing body of transfer research as a springboard for presenting what we believe are some timely and important directions for the future of transfer research. These directions include exploring the 'personalization' of transfer by trainees, examining transfer experiences as episodes in organizational life, and applying different models of change to understand transfer phenomena.
ADVANCES IN EMPIRICAL TRANSFER RESEARCH

As a starting point for our review, we systematically searched for all journal articles that had cited the Baldwin and Ford (1988) review since the time of its publication. We then categorized each study in terms of task/training content, variables studied, research design, transfer criteria, and key results. A first observation was that many of these studies were from disciplines outside the fields of management or industrial psychology. Indeed, interest in transfer issues extends to disciplines such as education, health care, industrial engineering, ergonomics, advertising, and several others.

In all, we found nearly 300 articles with at least one Baldwin and Ford (1988) citation, but a significant number of those articles were only tangentially concerned with transfer, per se. We therefore narrowed our domain to 140 articles that were primarily focused on training transfer. Most of these articles were published in psychology and human resource management journals, such as Personnel Psychology, Journal of Applied Psychology, International Journal of Training and Development, and Human Resource Development Quarterly. Included in our set were 7 qualitative reviews of transfer, 2 meta-analyses relevant to transfer (i.e. Alliger et al., 1997; Taylor, Russ-Eft and Chan, 2005) and 17 nonempirical reviews or commentaries. The remaining 114 articles were empirical studies.

For the empirical papers, we further delineated whether a study described an intervention to enhance transfer or was a study of one or more factors thought to predict transfer outcomes. Studies were also classified in terms of being lab or field based and cross-sectional or longitudinal in research design.¹

Taken as a whole, the studies in our sample reveal at least four encouraging research trends that represent significant advances since 1988: (1) researchers now increasingly get beyond simple motor tasks and study the transfer of complex and authentic training content, (2) there is a notable increase in the use and investigation of actual interventions expressly designed to enhance transfer outcomes, (3) there has been a significant movement to look outside of the training design itself to explore pre- and posttraining influences on transfer, and (4) there has been a far greater variety of measures and time intervals used to evaluate transfer. We elaborate and comment on each of these advances below.

Studying Complex and Authentic Learning Content

The dramatic increase in training transfer research has led to a much wider range of samples and skills included in studies over the last 20 years. Baldwin and Ford (1988) found many of the studies had used simple motor and memory tasks completed in laboratory settings with college students. A major limitation

¹ A summary table of all 140 studies is available from the authors. Requests should be submitted electronically to Brian D. Blume of the University of Michigan, Flint at: blume@umflint.edu
of such tasks is that they do not mirror the more complex, organizationally relevant tasks that typically make up employee training programs. In addition, the predominate use of student samples invariably limits the generalizability of the results found in such studies.

Fortunately, research samples in training transfer studies now commonly include business employees and managers, health professionals (e.g. nurses and doctors), public safety workers and technical or computer specialists. Studies now also cover a much wider range of training content as well.

For example, Kirwan and Birchall (2006) studied nurse managers who participated in a 12-day management development program. Tracey, Tannenbaum and Kavanagh (1995) investigated new supermarket managers participating in supervisory skills training. Burke et al. (2002) researched hazardous waste workers in a study of safety training, while Kirkman et al. (2006) examined transfer results from a computer skills training program using data collected from 40 geographically dispersed teams in a high-technology company.

The increase in diverse samples and authentic skills is a positive trend that has the potential to increase the generalizability of training transfer findings. At the same time, this is an area that remains sorely in need of further systematic work. As noted by Goldstein and Ford (2002), once transfer validity has been established, the next steps are to consider issues of intraorganizational and interorganizational validity. Questions rightfully arise regarding the extent to which findings from a single sample of learners, or particular training content, can be compared to another sample in the same or different organizational settings. For example, if a specific training approach has proven effective in enabling pharmaceutical sales managers to transfer interpersonal skills back to their workplace, does this mean that a similar approach will be effective with doctors who are being trained in interpersonal skills to work more cooperatively with their hospital nursing staff?

So, while the movement away from artificially simple and contrived learning tasks is encouraging, there is still a need to develop categories or taxonomies of skills and contexts that can lead to cumulating results of transfer studies across different types of knowledge and skill training. One grossly understudied factor impacting transfer remains the objectives of the training in question. Indeed, we find it curious that such information is still conspicuously absent in the reporting of most transfer studies. It is difficult to contemplate a cumulative body of evidence that would provide practical guidance to learning professionals without further classification and taxonomic work on just what is being trained, and what objectives are desired. As Campbell (1989) noted, the question of whether training can work (transfer) has now been affirmatively answered. The more pertinent questions regard what learning content and which learning events can best promote mastery of key knowledge and skills. This orientation leads to different types of research questions such as what should be the content of a training program in leadership and how should it be structured differently across different learner populations and organizational
contexts? It is the investigation of theory-driven substantive issues like those that will most advance the field in the next 20 years.

One good example of such work is a study by Heslin, Vandewalle and Latham (2006) in which the researchers found that the implicit person theories held by trainees in an employee coaching program had significant effects on their subsequent coaching behavior. The researchers further explored ways in which implicit person assumptions could be induced and strengthened in a population of coaching trainees. The movement toward the study of authentic training content in naturally occurring contexts (not contrived for research studies) has been one of the most positive shifts in transfer research of the last two decades. It is a trend that must continue if the field is to advance and inform future training design and implementation.

**Increased Focus on Transfer Interventions**

One of the predominant limitations of the research literature reviewed in 1988 was that it was, for the most part, not action oriented. That is, most existing studies at that time stopped at the point of identifying, describing or measuring factors that may influence transfer without investigating how those factors might be effectively *changed or managed*. More specifically, of all the studies described in the Baldwin and Ford (1988) review, only those dealing with training design dealt much with change or intervention.

Twenty years later, there has been a notable increase in the introduction and study of different interventions before, during and after training experiences. In the pretraining period, for example, Karl and Ungsrithong (1992) examined the impact of realistic training previews. They found that when quantity of information was held constant across training preview conditions, the optimistic training preview had a more positive impact on outcome expectations, motivation, learning, reactions to training, and training transfer than the realistic training preview.

Other researchers have looked at the effects of how training can be framed prior to a training event. Martocchio (1992) framed a computer training program as either an opportunity or a neutral experience. He found that, even after controlling for pretraining expectations about computer usage, trainees in the opportunity condition had higher efficacy and learning and lower computer anxiety than trainees in the neutral condition. Similarly, Quinones (1995) examined the impact of labeling upcoming training as remedial or advanced. He found that the training assignment (as moderated by attributions and expectations) impacted fairness perceptions and motivation to learn. Motivation, in turn, had a positive effect on learning. While these findings are intriguing, it must also be noted that the framing effects have yet to be linked directly to training transfer.

Intervention in the design of the training includes some intriguing applications of error training/management. For example, Heimbeck *et al.* (2003)
allowed trainees to make errors in the belief that such mistakes might lead to the richest and most lasting (transferred) learning outcomes. Results indicated that training transfer (near and far) was greater for trainees given error training with error management instructions compared to an error training condition and to a group that was prevented from making errors during the skill acquisition phase. In addition, Gully et al. (2002) examined the effectiveness of error training for trainees in a decision-making simulation with different levels of cognitive ability, openness to experience, and conscientiousness. Findings suggested that the effectiveness of error training is dependent on the cognitive ability and the dispositional traits of trainees.

Baldwin (1992) examined the use of negative and positive model displays on outcomes of a behavior modeling training program. Trainees in a program on assertive communication who observed a combination of positive and negative model displays had both greater retention and a higher level of generalization of the trained skills. Holladay and Quinones (2003) examined the relationship of practice variability, self-efficacy and near and far transfer. They found that variable practice was superior to constant practice in promoting high levels of self-efficacy. In addition, self-efficacy served as a mediator between practice variability and far transfer.

There has also been a significant amount of research in the area of behavior modeling. Taylor, Russ-Eft and Chan (2005) performed a meta-analysis on 66 (i.e. 9 published and 57 unpublished) studies that evaluated the effects of behavior modeling training on job behavior. They found that for training that incorporated behavior modeling, transfer was greatest when mixed (negative and positive) models were presented, when practice included trainee-generated scenarios, when trainees were instructed to set goals, when trainees’ superiors were also trained, and when rewards and sanctions were instituted in the work environment (Taylor, Russ-Eft and Chan, 2005).

Investigation of posttraining interventions has also increased and among those studied are relapse prevention (e.g. Gaudine and Saks, 2004; Noe, Sears and Fullenkamp, 1990), self-management, goal setting, training in self-talk, and posttraining instructor follow-ups (May and Kahnweiler, 2000; Russ-Eft, 2002). Although not unequivocal, the findings generally show positive effects and suggest that transfer is quite susceptible to intervention (Burke and Baldwin, 1999). A study by Gist, Bavetta and Stevens (1990) explored the use of two popular posttraining interventions: goal setting only versus goal setting and self-management (the latter included identifying obstacles and a plan to overcome them, self-monitoring progress in the implementation of plans, and using self-reinforcement methods to motivate interim accomplishments). After training MBA students on negotiation skills, Gist, Bavetta and Stevens (1990) found that skill generalization was more limited among the goal setting only trainees as compared to the trainees that also received the self-management intervention. While trainees in the goal setting only condition generalized fewer skills to the novel tasks, these skills tended to be used more repeatedly. In
contrast, trainees who also received the self-management intervention showed higher rates of skill generalization and higher overall performance levels on the transfer task, even after the effects of outcome goal level were controlled.

In a study of 38 managers participating in an interpersonal skills training program, May and Kahnweiler (2000) investigated the effects of a postraining mastery skill practice protocol drawn from research in cognitive psychology. Dependent measures included knowledge retention, behavioral skill demonstration, and far transfer to the workplace based on multirater 360-degree survey instrument. Results indicated improvements in retention and behavioral demonstration measures but failed to document any effects on transfer. A key constituency of transfer research is the community of learning professionals who design and implement training initiatives. Such professionals are rightfully interested in evidence-based interventions that have been shown to positively influence transfer. Therefore, studies that explore intentional interventions have the potential for the greatest yield in new and practical transfer knowledge and researchers should be mindful of that reality.

Pre- and Posttraining Transfer Influences

Transfer of training, by definition, can occur only after a learning experience. Not surprisingly, then, the majority of transfer studies in 1988 focused on the nature of the training event itself. Research in the interim, however, has reflected the reality that who enters training experiences and what happens once they are back on the job are also important predictors of transfer outcomes.

The notion that performance, in any setting, is a function of ability, motivation and opportunity is one of the most enduring conceptualizations in industrial/organizational psychology. Factau et al. (1995) noted succinctly that for transfer to occur trainees have to believe: (1) they are capable of learning, (2) the expended effort to learn will change performance, and (3) that changed performance will lead to valued outcomes. Drawing on the seminal work of Bandura (1986) and his social cognitive theory, a number of studies have demonstrated the effects on learning and transfer of self-efficacy and its variants (e.g. Gist, Stevens and Bavetta, 1991; Kozlowski et al., 2001) as well as a variety of outcome expectations related to the organizational context, such as job identification and organizational commitment (Carlson et al., 2000; Cheng and Ho, 2001; Tannenbaum et al., 1991). Other studies have found that the choice to participate can influence training and transfer outcomes – though not always in intuitively obvious ways (Baldwin, Magjuka and Loher, 1991). For instance, in a study of pharmaceutical company managers, Baldwin and Magjuka (1991) found that mandated training signaled a higher level of importance than did voluntary training participation and resulted in higher intentions to transfer.

While research linking ability (e.g. cognitive aptitude) to learning outcomes has a long and robust history (Ree and Earles, 1991), researchers have also
turned their attention to training motivation. In a meta-analytic review, Colquitt, LePine and Noe (2000) concluded that dispositional and situational factors do explain significant incremental variance in learning outcomes (including transfer) over and above cognitive ability. Several studies have shown that individuals who are motivated when they approach a learning situation have a higher likelihood of achieving positive outcomes than those with lower motivation (Mathieu and Martineau, 1997; Mathieu, Tannenbaum and Salas, 1992).

Naquin and Holton (2002) argued that, in organizational contexts, conceptions of motivation have to expand beyond a generic motivation to learn and move toward motivation to transfer. They incorporated both the motivation to learn and motivation to transfer into a construct they labeled motivation to improve work through learning (MTITWL). Using structural equation modeling to better understand the antecedents of MTTWL, Naquin and Holton found that extraversion, positive affectivity and work commitment attitudes directly affected MTTWL. The authors also found that MTTWL predicted transfer at a significantly greater level than measures of training proficiency and more general assessments of motivation to learn.

Similarly, Warr and Bunce (1995) extended existing conceptions of motivation to learn and introduced the notions of distal and proximal motivation. In distal terms, individuals vary in the favorability of their attitudes to training as a whole. More proximally, those general attitudes are reflected in specific motivation about a particular set of training activities. The authors studied 106 junior managers over a 7-month period and found significant relationships between their learning scores and both distal and proximal motivation.

For anyone with organizational experience, it is self-evident that the work environment can be a powerful facilitator or inhibitor of training transfer — and the emerging empirical evidence increasingly supports this intuitive notion. Ford et al. (1992) found that the opportunity to use skills can vary significantly among learners and predicts ultimate transfer. Others have found that the quality of the worker/supervisor relationship (Bates, 2003), feedback and performance coaching (Mathieu, Tannenbaum and Salas, 1992; Smith-Jentsch et al., 1996; Xiao, 1996) and a group norm of openness to change (Tracey, Tannenbaum and Kavanagh, 1995) are all significant predictors of training transfer.

One study explored the extent to which supervisors actively opposed the use of new knowledge and expertise (Tziner, Haccoun and Kadish, 1991) and the deleterious effects of that on transfer. In this vein, harking back to the work of the great sociologist Kurt Lewin, Eddy and Tannenbaum (2003) suggest that a first step and expeditious path to transfer is to focus less on carefully orchestrated interventions and more on removing the obstacles that are so commonly present in organizational contexts. It is now widely accepted that elements that enhance transfer extend beyond the actual training intervention and can be found in both the pre- and posttraining context. Continued research
interest that takes a broad and multidimensional perspective will be the most fruitful in advancing our transfer knowledge.

**Measurement of Transfer**

Baldwin and Ford (1988) closed their review by noting, 'Conclusions from the existing research are problematic, given the relatively short-term, single source, perceptual database that has been created (p. 100).’ These issues pertain primarily to how training transfer is measured. Two advances in training transfer research include a broadening of the measurement of outcomes and the collection of multiple measurements of training transfer over time.

Measures of training transfer now include supervisory or observer ratings. For example, Richman-Hirsch (2001) obtained supervisor and even peer evaluations of trainee transfer 4–6 weeks after customer service training for university employees. More studies are also including objective measures of training transfer such as faster performance (Swezey, Perez and Allen, 1991) and the increased accuracy of performance (Lintern *et al.*, 1989). Studies like these indicate that researchers have given more careful attention to effectively measuring training transfer rather than simply relying on trainees’ perceptions of their transfer (Ford and Weissbein, 1997).

In addition, following the suggestion by Kraiger, Ford and Salas (1993), recent studies now commonly examine the role of self-efficacy in transfer of training research (e.g. Brown, 2005; Gaudine and Saks, 2004; Kozlowski *et al.*, 2001; Schoenerer *et al.*, 2005). Studies show that individuals high in self-efficacy are more likely to be active in trying out trained tasks and attempting more difficult and complex tasks on the job. For example, Ford *et al.* (1992) found that trainee self-efficacy was related to the opportunities they had to perform the trained tasks on the job. Results indicated that airmen high in self-efficacy performed more tasks than airmen low in self-efficacy, as well as performing more complex and difficult tasks. Gist, Stevens and Bavetta (1991) also found that trainee self-efficacy was related to the acquisition and maintenance of negotiation skills. Therefore, we now know that self-efficacy is an important variable that is relevant to training transfer outcomes and is a good example of how both theoretical and empirical research has increased our understanding of training transfer outcomes.

The second advance is that researchers are conducting more longitudinal studies of training transfer. Many of these studies include measures at multiple times and/or multiple types of measures. More specifically, common times to obtain longitudinal measures in the studies we reviewed were 1 week (often times shorter time frames were seen in lab studies using undergraduate students), 4 weeks, 2–3 months, and 6–12 months. Nearly all measures were taken within 1 year, although the longest time frame in the articles we reviewed was 2 years (i.e. Hazucha, Hezlett and Schneider, 1993). We found nearly a
dozen studies obtained longitudinal measures (i.e. not including measures taken immediately after the training) at more than one time after the training session, with several of these obtaining measures 6 months to 1 year after the training.

One good example of this is a study by Axtell, Maitlis and Yearta (1997). They examined factors affecting the initial and sustained transfer of interpersonal skills training to the workplace. They measured transfer using both self and managerial ratings at 1 month and 1 year after training. One limitation to this study and others that attempt to obtain manager ratings after a significant time lapse (e.g. Cromwell and Kolb, 2004) is that the sample size of managerial ratings is not large enough to use in the analyses. This is often due to low response rates as well as the fact that some employees and managers change positions. Although this was the case in Axtell, Maitlis and Yearta (1997) and Cromwell and Kolb (2004), they were still able to compare managerial ratings to self-ratings to give more credibility to the self-ratings.

These types of longitudinal studies are encouraging, given that such work is needed to examine the transfer maintenance curve. In fact, a recent meta-analysis of the effectiveness of behavioral modeling training illustrates how close we are getting in at least one area to being able to aggregate primary research studies to examine the maintenance curve. When Taylor, Russ-Eft and Chan (2005) regressed meta-analytic effect sizes on the number of months between training and posttest, they found a positive relationship for measures of procedural knowledge skills. They also found a positive relationship for on-the-job behavior, although it was nonsignificant. Taylor, Russ-Eft and Chan (2005) interpret this to mean that the skills represented in their meta-analysis are actually greater with the passage of time after training, which would indicate that the maintenance curve would have a positive slope. Taylor, Russ-Eft and Chan (2005) point out that the majority of the studies included in their meta-analysis measure transfer behavior within 6 months of training. Despite this limitation, it is exciting to begin to see attempts to examine posttraining maintenance curves.

CONCEPTUAL ADVANCES IN UNDERSTANDING TRANSFER

The scope and length constraints of this chapter prohibit discussion of all the different themes and commentaries that have been offered on transfer. However, there are two conceptual advances that we believe warrant particular mention and discussion. Those are: (1) expansion of the dimensions of transfer and (2) more precise specification of what is being transferred.

One conceptual advance in transfer research has been the expansion in the dimensions of its definition. The conventional definition of transfer suggests that trainees’ need to effectively apply the knowledge, skills, and attitudes
gained in a training context to the job context. Expected outcomes of the transfer process have traditionally included both the generalization of trained skills to the job and the maintenance or long-term retention of trained knowledge and skills (Baldwin and Ford, 1988; Ford and Kraiger, 1995).

Smith, Ford and Kozlowski (1997) contend that in addition to these outcomes, the capacity to adapt what has been trained in the face of novel or changing situations is also a key indicator of learning (see also Schmidt and Bjork, 1992). Smith, Ford and Kozlowski (1997) reviewed the applied cognitive literature that distinguishes between routine and adaptive expertise. Routine experts apply solutions or strategies to well learned and familiar contexts but have more difficulty with novel problems (Holyoak, 1991). In contrast, adaptive experts can invent new procedures based on their knowledge and skills attained (through training and experience) to make new predictions and recognize when current strategies must be changed to respond to novel circumstances (Cox, 1997). The importance of building adaptive expertise as a goal of training has started to become a focus of transfer research – at least in laboratory settings (e.g. Kozlowski et al., 2001).

A second conceptual advance toward greater understanding of transfer has focused on the context surrounding the process of transfer. Yelon and Ford (1999) present a conceptualization of potential training content that consists of two dimensions. One dimension deals with the types of skills being trained. Many jobs have moved from an emphasis on ‘closed skills’ to a necessity to train for more ‘open skills’. Closed skills are those where workers must respond in one particular way according to a set of rules – implemented in a precise fashion. For example, an auto mechanic changing turn lights on a car has a prescribed process and time to complete this task. On the other end of the scale are highly variable open skills – where there is not one single correct way to act but rather freedom to perform. With open skills the objective is generally to learn principles and not solely discrete steps. For example, a manager who is trying to motivate staff members cannot look up a ‘cookbook’ of steps to take. A manager could, however, use motivational principles to accomplish the objective. A similar argument is made by Salas, Milham and Bowers (2003) with respect to the evolution of many military jobs from what were once primarily physical roles to now more cognitive demands. Salas, Milham and Bowers argue that not only are the skills more difficult to train but also that tasks requiring high-level cognitive components are subject to greater and more rapid decay then are simpler motor skills.

Yelon and Ford's (1999) second dimension focuses on the extent of supervision. With increased emphasis on downsizing (or rightsizing) and empowerment, many jobs have moved from situations where individuals are heavily supervised to situations in which workers have more autonomous jobs (and thus less direct supervision). Autonomous workers can decide what they will do and how they will do it as a supervisor may rarely directly see the person actually performing the job.
The training field has typically been concerned with jobs that could be considered as having closed skills and being heavily supervised (Kraiger and Ford, 2007). Today’s reality, however, is that more jobs require open skills and are not heavily supervised. This makes it more difficult to determine what to look for in the job setting after training. It is also more difficult to evaluate job impact given the limited supervision. Yelon and Ford (1999) conclude that the intersection of these two dimensions – the quadrant where skills are open and the individual is autonomous – poses the greatest challenges for training transfer research. Indeed, the framework supports the need for transfer research to consider measuring both how well individuals can generalize from the training to the job context and how well trainees can adapt their strategies gained in training to the changing conditions of the job context. In addition, research on how individual, design, and environmental factors may impact training transfer should consider the potential for the transfer situation (closed or open skills, heavily supervised or autonomous) to moderate the impact of those factors on job performance.

Along the same lines as Yelon and Ford (1999), Barnett and Ceci (2002) have developed a taxonomy of near and far transfer. They contend that two key characteristics of transfer are: (1) content – what is transferred; and (2) context – when and where it is transferred. The content factor is divided in turn into three dimensions: (1) the specificity/generalizability of the learned skill, (2) the nature of the performance change to be assessed, and (3) the memory demands of the transfer task. For example, a learned skill could be a procedure to follow or a principle to apply. This dimension is quite consistent with the Yelon and Ford (1999) discussion of closed versus open skills. Performance change desired could be about improving speed or improving accuracy or changing one’s approach or strategy. Memory demands can be minimal (execute what you already know – application is obvious) to more extensive (recall, recognize and then execute an action). The transfer context includes issues of knowledge domain, physical context, temporal context, functional context, social context and modality which are aligned in terms of what it means in a near transfer versus far transfer setting. For example, the functional context concerns whether the activities in training are presented in a way that is similar to how they would be viewed in the ‘real world’ (e.g. academic exercises versus problem-oriented training on real-world issues). The social context concerns whether the task is learned alone or in a group and is then performed alone or in collaboration with others. The taxonomy provides a potentially useful way to classify and bring order to a vast literature on workplace training relevant to understanding if transfer occurs and if so under what conditions.

FUTURE DIRECTIONS FOR TRANSFER RESEARCH

Socrates once said, there are no final answers – only better questions – and this section of the chapter is written in that spirit. Our review of the last 20 years
of transfer research is encouraging on several fronts. In particular, researchers have made progress in several areas, particularly the development of models of what is meant by transfer and empirical tests of the individual differences, pretraining readiness, and posttraining climate that impact on the transfer of training to the job.

At the same time, the challenge of transfer persists and there are at least three areas where the existing body of research is still in its infancy and which we believe constitute timely, important and exciting future directions: (1) exploring the ‘personalization’ of transfer by trainees, (2) examining transfer experiences as episodes in organizational life, and (3) applying different models of change to understand transfer phenomena.

The Personalization of Transfer Research: Transfer as a Personal Choice

As noted earlier, much of the traditional research on training transfer has focused on factors such as training design and external factors such as supervisory support. More recently, however, researchers have gravitated toward individual-level factors which include personality characteristics and the motivation to learn. The practical implication is that if we can improve trainee ‘readiness’, and perhaps also enhance supervisory support, we will have a greater probability of transfer. While this assumption is intuitively appealing, such a view tends to present the trainee as a passive rather than an active player in his or her own behavior in relation to on the job after training. Yet, we know that individuals come into training with all sorts of differences in terms of their goals, expectations, needs, and attitudes toward training. As one example, Ford and Noe (1987) showed that attitudes about the quality of past training experiences in a company affected the extent to which the individuals stated a need for new training.

It makes sense, then, that in addition to (or in spite of) the influence of various factors on transfer effects, the decision to transfer ultimately resides with each individual trainee. From an active learning perspective, we can view trainees as making personal choices to transfer, or not to transfer, as the case may be. The choice might more commonly be what elements or aspects to transfer and what to leave behind. In this way, individual trainees customize or personalize the training process to fit their own conception of needs and wants from the experience.

This issue of customization or personalization of training transfer has to date been relatively ignored in the training literature. However, research by Yelon and his colleagues (Yelon, Reznich and Sleight, 1997; Yelon and Sheppard, 1999; Yelon et al., 2004) has begun to shine some light on this personalization process. Using qualitative methods, the authors interviewed medical professionals, in relatively autonomous positions, about their intentions to transfer learning from recent educational programs. They then followed them up to see what they actually transferred and why. In essence, the medical personnel
were encouraged to tell their own story – similar to a learning history approach taken by organizational learning researchers (e.g. Kleiner and Roth, 1997).

An analysis of the stories revealed that some trainees came into the training program with a clear agenda of what they wanted to learn so they could immediately apply the skills to their job – others had only a vague idea of what they might want to apply – and still others came into the training with little thought of what to do with the material. The stories also revealed individuals who saw at some point during training something they could immediately apply to their job or could envisage using it at some later time when a clear opportunity arose. Based on these stories, Yelon et al. (2004) developed a model of decision making leading to the intention to transfer. The key decision criteria were (1) how credible the information was, (2) how practical the skills were, and (3) the extent to which the knowledge or skill was needed. Yelon and his colleagues related these decision criteria and transfer intentions back to momentary observations made by the trainees during training and its interaction with how the material in training was presented (e.g. ideas, modeling, examples, practice). The qualitative data from the stories clearly showed that individuals actively customized or personalized the training – intending to transfer only parts of what was trained and coming up with their own strategies for how to apply the new knowledge and skills. The customized transfer ‘choices’ differed substantively across trainees.

The research by Yelon and his colleagues focused on trying to understand why individuals transfer trained knowledge and skills. A related research stream on decision making and choice focuses on why individuals do not make a decision or choice of action (Steel, 2007). For example, Steel (2007) argues that nonaction often has value, especially when it is uncertain what the outcome will be if a choice to act is made. He notes that people tend to favor tasks that are more pleasant in the short term, even if they are detrimental to themselves in the long term. Hence, the more intrinsically unpleasant a task is, the more likely people are to avoid doing it, leading to procrastination – voluntarily delaying an intended course of action despite expecting to be worse off for the delay.

The literature on choice and procrastination could help us understand why trainees may have good intentions to transfer but ultimately do not make a choice to actually try to apply the new skills on the job. Steel (2007) provides the results of a meta-analysis to offer a number of individual difference factors that might affect the extent of procrastination including fear of failure, low self-confidence, self-handicapping, impulsiveness and present time orientation (where thoughts of the future do not weigh heavily in decisions as instead the individuals pursue immediate gratification and thus neglect or ignore longer term responsibilities). Similarly, Van Hooft et al. (2005) have noted that procrastination, defined as the delay in starting or completing an intended course of action, can be viewed as a moderator in the relation between implementation intention and behavior. Individuals characterized by high levels of this trait may have good intentions to transfer but never get around to actually
trying out new skills or knowledge. Or during the learning phase the more trainees dislike the learning task, the more they will consider it effortful or anxiety producing which in turn will lead the trainees to procrastinate – that is, delaying any attempt to transfer new skills to the job.

Anderson (2003) also provides a convincing case for why not making a decision or choice is a likely outcome in many situations. As he notes ‘the experience of postponed certain choices is universal yet often appears to work against individual goals. Delays transform into lost opportunities and adhering to the status quo is frequently unjustified given advantageous alternatives. Still individuals persist in seeking default no action, no change options’ (p. 139). Therefore, Anderson views decision avoidance as a pattern of behavior in which individuals seek to avoid the responsibility for making a decision by delaying or choosing options they perceive to be a nondecision (cf. Janis and Mann, 1977). Research is cited that highlights the tendency to avoid making a choice by postponing it or by seeking an easy way out that involves no action or no change. This research stream contends that in general, people prefer no change (status quo bias), no action (omission bias – preference for options that do not require action), inaction inertia, and choice deferral.

Anderson presents a number of principles that lead to no decisions that have implications for understanding training transfer. For example, positive prior outcomes (such as belief that my performance on the job has been good) increase the tendency to select the status quo option. Anticipation of regret (e.g. worrying that trying out a new skill may not succeed or make one look silly) is likely to favor inaction and maintaining the routine behavior that was occurring before training. For example, decision makers tend to associate action with more regret than inaction – this could have important implications for understanding lack of transfer efforts. In addition, speeded decisions produce more inaction inertia as well as higher regret ratings such that attempts to force individuals to immediately decide to apply trained skills may backfire without adequate discussion and support.

Interestingly, the research suggests that people choose not to defer if they expected feedback about the future opportunities and explicitly considered regret that may occur if they have not pursued a certain course of action such as trying out new behaviors. Finally, Anderson uses prospect theory and the loss aversion model to note that people tend to weight potential losses greater than potential gains of the same amount. Hence, the utility of potential ‘rejoicing’ experienced as a result of taking action (i.e. applying skills) would be less than that for potential increased regret if the action is not successful (i.e. anticipated problems with successfully trying out new skills). This situation would lead to an increased preference for the omission option (i.e. preference for the option that does not require action).

In the light of Anderson’s work, research on training transfer could be enhanced in the future by considering transfer as a conscious choice that individuals make. One could study why transfer is attempted, how choices are made
to personalize or customize training received or why a choice is made not to try and transfer a trained skill to the job. There are exciting new avenues for pursuing these research questions that can lead to a greater understanding of the transfer process.

Exploring Training as an Organizational Episode

Most traditional research on transfer has taken an 'all things equal' perspective which suggests that people enter and leave training experiences under roughly the same conditions. Moreover, the term 'training' has generally connoted a one-dimensional and uniform experience. For example, prior to 1988 it was common (and it is still frequently the case) that research articles reported only that participants 'went through training', or 'participated in a training program', or 'received a certain number of days of training', or, more recently, 'completed an online learning module', with little further description of the nature of the context or overall trainee experience.

Of course, for people in organizations, training is not a uniform or isolated event but more aptly described as an episode — a series of cumulative stimuli and the cognitions associated with those experiences (Baldwin and Magjuka, 1997). All training episodes occur among many other organizational episodes experienced by those employees. Today's training episodes occur in greatly varying organizational contexts with learning stimuli no longer limited to classroom-based, instructor-led stimuli. We contend that transfer research would benefit from a significant shift that underscores the importance of the organizational context and the new learning realities of today.

Organizational Context

A considerable amount of writing in the organizational literature has suggested that the context or environment in which interventions take place will have profound effects on the outcomes of those interventions. Although some systematic consideration of the context of training interventions has begun (e.g. Latham and Crandall, 1991; Rouiller and Goldstein, 1993; Tracey, Tannenbaum and Kavanagh, 1995), such research continues to be slow to emerge. Organizational training takes place amid individuals doing their jobs, functioning in teams, and being exposed to a host of other organizational activities unrelated to the training in question. Participants have learned organizational rules that guide their behavior in that everyday context, and their reaction to different training episodes (i.e. episodic stimuli) will reflect their interpretation of the appropriate rules to apply.

For example, consider the seemingly straightforward activity of setting training performance goals. The focus of most goal-setting research has been on the objective characteristics of effective goals. There has been relatively little interest in examining the interpretation of goals by the trainee. Goal-setting
studies have rarely considered the influence of the situation, the location within a training process, or the cumulative experience of training participants.

From an episodic perspective, when managers formulate performance goals, the act potentially communicates more to respondents than numerical targets and behavioral strategies. The communicated signal attached to goals may be positive or negative. When goals are formulated, one signal to employees may be that management has a clear idea concerning the desired outcome and is willing to assume some responsibility for the accomplishment of the established goals. However, it could also be the case that employees interpret the provision of goals in a less favorable fashion as just 'wishes' with no accountability or consequences for lack of accomplishment. The general point is that the motivating influence of any training design element is partially contingent on the trainees' accumulated experience with that design element in other settings.

The lesson for transfer researchers is to more explicitly address the social environment and organizational context of training activities. This does not mean abandoning the core of transfer research. Rather, it means more careful attention to variables that have been either ignored or controlled. Rather than generating additional ways to exclude these variables/questions from study, our research needs to explicitly explore how these variables may interact with training design to facilitate or inhibit transfer outcomes. The challenge is to identify and investigate the factors that combine to increase transfer effectiveness, using criteria such as robustness, parsimony and designability.

A robustly designed training intervention yields the highest level of predictable outcomes reliably and over time. Based on existing evidence, successfully inducing a high level of trainee self-efficacy prior to training would constitute a robust design strategy. A parsimonious design includes the fewest design elements. For example, if goal setting is shown to overwhelm other posttraining interventions, then simply using goal setting may be the most parsimonious strategy. Designability refers to the ease with which a training administrator can adopt recommendations for training design within reasonable time and budget constraints. It appears that certain labeling strategies may be exceptionally high in designability. A significant change in company reward or evaluation systems would be a less designable change.

An episodic perspective leads to a host of research questions that remain relatively unexplored. For example, what types of organizational rewards and disincentives affect motivation to transfer and get the attention of trainees? Do various constituencies interpret similarly the meaning of the same contextual elements? Within any single organization, are there any systematic differences in the ways subgroups (managers vs. professionals vs. clerical staff) react to the different design elements? Do different training cohorts affect trainee expectations and motivation?

To address such questions, we need a more concerted attempt to categorize, investigate and report contextual variables that may influence transfer. We
content that organizational context factors can easily overwhelm the effects of the best planned and delivered training, while a favorable context can enhance even suboptimal training interventions. In fact, we suspect that much prior transfer research would be subject to reinterpretation if contextual factors and trainee perceptions had been measured and reported.

The E-learning Reality

An episodic perspective reveals a second gap in the extant transfer research concerning the nature of the 'training' stimuli itself. That is, while it may have once been the case that training was synonymous with instructor-led, classroom experiences, today's learning episodes are typically much different. Indeed, it is hardly provocative to suggest that conceptions of what constitutes training have now changed dramatically from a generation ago. Just as CDs and DVDs and iPods have changed the way music is delivered and consumed, so too has the Internet, wireless technology and portable video capability transformed the way learners experience training. For example, recent estimates suggest that over 30% of all corporate training is now technology based rather than instructor led (Paradise, 2007).

Unfortunately, the present review suggests that transfer research has been slow to adapt to these learning realities. More specifically, only a very few of the 140 empirical studies we collected focused on training that would be considered outside the traditional structured, instructor-led, face-to-face, classroom education model. One notable exception is a recent study by Kirkman et al. (2006) who investigated transfer outcomes from computer-assisted (i.e. technology based) team training among 40 geographically dispersed teams in a high-technology company.

The authors found that the relation between teams' average training proficiency and team performance was complex and moderated by several factors. In particular, teams' average training proficiency had a positive association with customer satisfaction when teams were higher, rather than lower, in both trust and technology support and when team leaders had longer, rather than shorter, levels of tenure within their specific team. A key direction for future research, then, is to fully acknowledge that learning is no longer a synonym for classroom instruction and the traditional tenets of training excellence – great coursework and stimulating trainers – are no longer sufficient.

Nontraditional, e-learning coursework has many apparent advantages that can theoretically facilitate transfer. It presents great opportunities for the customization of learning and the creation of so-called J3 learning (just for me, just in time, and just enough). Learners across the globe can have access to the best instruction available, they can set their own pace and schedule; discussions can continue after formal training sessions, using e-mail and e-discussion groups; and learners can gain access to immediate feedback (Horton, 2000; Schwann, 1997). E-learning can also save organizations time and money. One
study found e-learning to be 40–60% less expensive than training delivered in the traditional classroom setting (Becker, 1999).

In theory, e-learning provides for minimization of transfer concerns – users have direct access to the information they need, when they need it (Filipczak, 1996). However, we know from many other technological advances that technology by itself is rarely the answer – and that is the case with transfer. The limited evidence suggests that e-learning does not eliminate the transfer challenge, only changes it. For example, some work on self-directed e-learning suggests that it can be less effective than other forms of instruction, particularly so for low-ability learners (Kraiger and Jerden, 2007). Furthermore, most of the organizational cost savings for training fail to report any transfer metrics; that is, e-learning may well cost less to administer the same training content but data are still elusive with respect to the overall impact (transfer) or effectiveness of those expenditures relevant to learning outcomes.

As we pursue a more concerted focus on transfer from e-learning it is worth noting the seemingly self-evident, but often neglected, reality that all e-learning initiatives are not the same. Carliner (1999) has presented a useful typology that categorizes e-learning in four ways: (1) online training and education where the trainee develops specific knowledge and skills by interacting with a computer, (2) performance support; that is, computer aided support to workers as they perform their jobs (e.g. a customer service representative may have a list of diagnostic questions pop-up onscreen as a guide during a customer interaction), (3) knowledge management or attempts to capture, store and organize information from employees and make the information available to others throughout the organization, and (4) online collaboration which are situations where people work together online from different locations (this form of e-learning is seen often in coaching, mentoring or tutoring relationships). The overall point is that we have heretofore too rarely acknowledged the reality that e-learning is multidimensional and future transfer research will benefit from more precision in observing and reporting the nature of the e-learning stimuli under investigation.

Beyond e-learning, it is also worth noting the research by the Center for Creative Leadership and others which continues to find that much of what gets referenced by people as their most critical training occurs outside of any structured learning environment – digital or otherwise (McCauley et al., 1994). Such things as challenging assignments, good mentors and an organizational climate of success are factors that rank higher. Indeed, every situation that contributes to growth and development of an individual has a learning dimension to it. Unfortunately, the continuing focus on structured training has led to a conspicuous void in the literature regarding on-the-job tutoring and mentoring, action learning, or job rotation programs, though all signs suggest that such activities are increasingly employed in today’s progressive firms (Paradise, 2007).

Given the increasing pressure to realize greater gains from organizational learning initiatives, a further key direction for transfer research is to explicitly
acknowledge the wide variance in contemporary learning experiences and design accordingly investigations consistent with that reality. As these new forms of training emerge and evolve, the transfer literature would benefit enormously from more qualitative data such as observation, open-ended interviews and even participant observation (Mertens, 2005; Patton, 2002). Our more general prescription is to expand beyond classroom training design issues toward a more systematic consideration of the increasingly wider range of training stimuli and, indeed, the increasingly wider range of intra and extraorganizational contexts in which training experiences are embedded.

**Implications of Organizational Change Research for Understanding Training Transfer**

The key issue with transfer is change – changes in knowledge, skills, and attitudes as a function of training – which lead ultimately to changes in behavior and performance on the job (Goldstein and Ford, 2002). Despite the fundamental reality that change is embedded in any training transfer study, there have been only limited attempts to incorporate organizational change theories into training transfer research.

The organizational development and change field has evolved from a focus on humanistic beliefs and values (e.g. McGregor’s Theory X and Y) into an integrated framework of theories and practices that are useful for understanding the dynamic aspect of change from individual, team, and organizational levels of analysis (Porras and Robertson, 1992). Organizational development is defined as planned change in order to align people and systems to improve individual and organizational effectiveness. Organizational change efforts typically involve altering the way individuals do their work. The theories and practices of OD, then, have important, but underappreciated, implications for expanding our understanding of training transfer because transfer is fundamentally about changes in behavior – altering how individuals do their work.

Nonetheless, the conventional assumptions underlying organizational change research are often quite different from the assumptions underlying training transfer research. First, organizational change theories challenge assumptions of the linearity of change, whereas transfer research has typically embraced an assumption of linearity. Second, the organizational change literature has tended to ask process questions of how individuals change, whereas transfer research has tended to focus on external factors that may impact on individuals’ on-the-job behaviors. Third, organizational change perspectives have looked at the unintended consequences of change processes, whereas transfer research has focused on intentional outcomes. Methodologically, change research has focused on measurement issues over time and incorporating time into theories, whereas transfer research has tended to ignore issues of time.
The Nonlinearity of Transfer

The transfer literature has tended to make an unstated assumption that behavioral change is a linear process. One indicator of this assumption is the meta-analytic reviews that have correlated learning scores gathered in training sessions with posttraining transfer ‘scores’ (e.g. Alliger et al., 1997). The language of linear change is embedded in the training literature in other ways. For example, Alliger et al. (1997) note the need to examine the extent to which utility-based reactions to training correlate more or less strongly with on-the-job application of trained skills than do affect-type reaction measures.

Organizational development and change models challenge assumptions of linearity. A basic framework for thinking about change comes from Lewin (1947) who framed change around three phases of unfreezing, moving, and refreezing (see also Schein, 2004). A key component of unfreezing is how ready the individuals are to change. Moving requires the adoption or altering of attitudes and behaviors to be consistent with the expectations of the change effort. Institutionalization or sustainability occurs with refreezing – where the change in behavior becomes a stable part of the employee’s day-to-day activities. The assumption underlying this change perspective is that these are dynamic processes that are not well captured by linear perspectives.

As noted by Amis, Slack and Hinings (2004), organizations that enter programs of change (and individuals affected by the change process) will encounter ‘delays, reversals, and oscillations’ – especially in more contentious areas that have a significant impact on the way people operate. Similarly, Gersick (1988) discussed punctuated equilibrium models of change. From this perspective, groups do not go through a predictable set of stages but instead develop through formation, maintenance and sudden revision of the framework for performance. The patterns suggest not a linear progression but a major shift at some point (e.g. the halfway point of a project team’s life). This notion of times of incremental change coupled with periods of more substantial change has been discussed at the individual, group, and organizational levels (e.g. see Gersick, 1991).

What if transfer researchers loosened the assumption of linearity of change? For example, consider an organization that is training all personnel in the popular ‘six-sigma’ approach to quality processes. It is likely that individuals who are trained will make fits and starts in trying to apply the principles and techniques. Other individuals may watch and wait and see if the new initiative has ‘legs’ before trying out the new processes. In both cases, one might not see much behavioral change on a day-to-day basis until some turning point – punctuated equilibrium points where all of a sudden behaviors have definitely changed for a number of people who have been trained. In this case, the time of measurement becomes critical – before the sudden shift one would think that change has been agonizingly slow – measurement after would show great success
(i.e. transfer) for the six-sigma program. In this case, the shift in behavior may not be direct but seen as it unfolds over time (see Brown and Eisenhardt, 1998).

**Transfer as a Change Process**

Bartunek and Moch (1987) provide a theory of first, second and third order change that supports the notion of nonlinearity of change, while also adding more of a framework on what is actually changed as a function of a new initiative. First order change is the reinforcement of present understandings in the organization. In this case, the change effort and the changes in attitudes and behaviors do not question underlying cultural assumptions of the organization. Second order change is the conscious modification of existing schemata in an organization (shared meanings or frames of reference for the organization). Third order change occurs when individuals can recognize that a change in schemata is necessary for organizational survival. This framework highlights that the depth of a change intervention that is needed depends on what type of change one is interested in achieving. Second order change requires a change in schemata and thus sets a higher bar for considering a change initiative as a success. In addition, second order change suggests a major shift in behavior while first order change does not.

Zell (2003) discusses organizational change as a process of death, dying and rebirth. Zell discusses how change is a graduate process as individuals work through their resistance to change. In working through resistance, individuals can go through five stages (based on work of Kubler-Ross, 1969): (1) denial, (2) anger, (3) bargaining, (4) depression, and (5) acceptance. This perspective contends that resistance to change is ultimately maladaptive but that individuals may or may not eventually progress through the stages to acceptance. This change framework provides an affective perspective to change. Zell’s approach to understanding change suggests that an individual may be resistant to the required change in behavior that is the goal of the training because they do not feel that the change is necessary. If so, the individual will begin to feel a number of different emotions that may impact whether behavioral change will actually occur.

Bridges (2003) argues that it is not the ‘changes’ per se that are the problem; rather, it is the transitions and how individuals manage the transition from one form of behavior to a new or altered behavior pattern. According to this view, change is situational – such as attending a training program at a particular location. Transition is psychological as individuals come to terms with the new situation and what it requires to be successful. Hence, getting people through the transition is essential if the expected change is actually to work as planned. Bridges contends that managing transitions is a process of helping individuals move through three phases: (1) letting go of old ways of doing things, (2) going through the in between time when the old is gone but the new is not fully functional (called the neutral zone), and (3) coming out of transition to
a new beginning where the altered behaviors make sense and begin to work for the individual.

There are key implications for understanding training transfer from these three perspectives. The notion of schemata leads to asking about what the objectives of training are – how much of a change is expected in terms of an individual’s mental model as well as that of the collective. The issue of stages of acceptance provides a more affective approach rather than a strict cognitive perspective that pervades the field of training and work in training transfer and indeed cognition in organizations more generally (Ashkanasy and Ashton-James, 2005; Hodgkinson and Healey, 2008). The transfer literature focuses on the impact of changes in self-efficacy on behavioral change on the job but tends not to focus on emotional reactions to the intended change and how that might affect transfer. The issue of focusing on transitions suggests that training transfer research needs to examine more clearly the process of letting go of the old as well as studying the strategies that led individuals to more quickly let go of the past. For example, the work of Bridges points to the importance of clearly defining ‘what is over and what is not over’ with a change effort. This provides a clear implication that trainers and supervisors should clearly identify what skills gained in the past are still relevant to job performance despite the addition of new skill sets and consider how to manage appropriately the attendant emotional processes associated with the transition.

The transition framework also points to the need for transfer research to take seriously the neutral zone and the threats and opportunities that present themselves to trainees once going back to the job. Most training programs are not going to lead to full competency at the end of training – full competency will only occur with practice and experience on the job. We know very little about what trainees are doing, thinking, or feeling during transition through the neutral zone once back on the job. The change research on transitions would suggest that this period might lead to heightened levels of individual anxiety and decreases in motivation. Performance, at least in the short run, might actually become worse. As noted by Bridges at these points, some individuals will want to rush forward and other want to go back to the old ways of doing things. It is time to encourage short-range goals and checkpoints as well as experimentation and embracing setbacks as ways to improve toward the goals of the training program.

Transfer Over Time: Intentional and Otherwise

Although the mechanism or intervention to change is often seen as an event that occurs during a certain identifiable time frame, it is actually occurring continuously (Purser and Petranker, 2005). From this perspective, stability is a convention used to pin down an experience. Amis, Slack and Hinings (2004) discuss the pace of change and the sequence of change. Pace is viewed as the speed by which change is implemented (rapid, incremental, or slow). Sequencing deals
with the question as to which part of the organization the change effort should be focused on and when (e.g. focusing first on people in high-impact jobs).

Other change researchers have concentrated on the readiness for change. Readiness has been defined as the extent to which individuals are prepared to participate in change activities and try new things (Holt et al., 2007a; Huy, 2001). Readiness, then, is reflected in the motives and aims of the individuals relevant to the proposed change. In addition, readiness has been defined as beliefs that the change being proposed is actually needed, is valued, and that the organization has the will and capability to actually change. If these beliefs are negative toward the change, resistance is highly likely. Holt et al. (2007b) reviewed the readiness literature and defined it as ‘the extent to which an individual or collection of individuals is cognitively and emotionally inclined to accept, embrace, and adopt a particular plan to purposefully alter the status quo’ (p. 326). They noted that readiness includes various attitudes and behaviors relevant to adopting the change strategy or in deciding to resist the change.

One implication of research on time and stability for training transfer is that a major change in behavior that seems to occur within a short time frame after a planned intervention like training may in fact have been developing for a long time. The change perspectives on pace and sequencing are not discussed in the transfer literature but have implications for understanding transfer at an organizational level. For example, one could ask whether the pacing for the training intervention – how fast or rapid the program is moved throughout the organization has an impact on transfer. Similarly, one could ask how the sequence of training program implementation in the organization might impact transfer results. Which groups are the first to be trained; or which departments/units go through the training and in what order – and does that matter in terms of transfer?

In addition, training research has focused on readiness for training – a concept that focuses on the extent to which individuals have the knowledge and skill levels to benefit from the training – as well as the concept of motivation to learn – are they ready to learn? Less attention has been focused on how ready the individual is to change their behavior patterns once back at work – to what extent the individual is cognitively and emotionally inclined to accept, embrace and adopt a particular training plan that alters the status quo. We need research that focuses on the forces for and against change (or for and against maintaining the status quo). Crucially, the organizational development and change frameworks and models discussed above have the potential to shed light on this issue.

**CONCLUSION**

Questions concerning transfer of training are not new. In fact, they were among the first issues addressed by early psychologists such as Thorndike and Woodworth (1901). However, until fairly recently, the majority of research
attention has been focused on the design and delivery of learning events. The research literature is much different today than in 1988 when we put forth the challenge for researchers to ‘take into account a variety of factors and linkages that, to date, have not been adequately examined’ (Baldwin and Ford, 1988, p. 98). Indeed, much progress has been made in examining transfer from a broader and more dynamic perspective. The future looks bright for greater understanding and the successful management of transfer and, with a concerted focus on some new directions, our hope is that the next 20 years will be as fruitful as the past two decades have been. We look forward to our 2028 review!

REFERENCES


