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The Role of Relapse Prevention and Goal Setting in Training Transfer Enhancement

Abstract

This paper reviews the effect of two post-training transfer interventions (relapse prevention and goal setting) on trainees' ability to apply skills gained in a training context to the workplace. Through a review of post-training transfer interventions literature, the paper identifies a number of key issues that remain unresolved or underexplored, e.g., the inconsistent results on the impact of relapse prevention on transfer of training, the lack of agreement on which goal setting types are more efficient to improve transfer performance, the lack of clarity about the distinction between relapse prevention and goal setting, and the underlying process through which these two post-training transfer interventions influence transfer of training. We offer some recommendations to overcome these problems and also provide guidance for future research on transfer of training.

Keywords:

goal setting, post-training transfer interventions, relapse prevention, transfer of training

Introduction

The main purpose of training is to develop human resources in organizations (e.g., enhancing technical skills, innovation and tacit skills, and performance), which may in turn influence the improvement of quality and quantity of products/services, profitability, organizational competitiveness, and may also influence the society as a whole (e.g., by developing a nation's human capital) (Aguinis and Kruger, 2009; Grugulis, 2009). The success of training

and development programs depends on the ability of trainees to successfully apply the skills acquired from training classroom to the workplace, i.e., *transfer of training* (Alvarez, Salas and Garofano, 2004; Baldwin and Ford, 1988; Cheng and Hampson, 2008). Failure to transfer the new training skills may result in diminished return of investment in training, and may also adversely affect employees' confidence to apply the acquired skills and their inclination to attend future training (Berk, 2008; Russ-Eft, 2002).

Recently, there is a growing interest in examining post-training methods that may help to enhance effective transfer of training to the workplace. Studies in this stream of research are particularly concerned with the examination of specific interventions that need to be implemented to help trainees in applying their newly learned skills to the workplace, i.e., *post-training transfer interventions* (Brown, 2005; Burke and Hutchins, 2007; Gaudine and Saks, 2004; Salas and Cannon-Bowers, 2001). Two post-training transfer interventions that dominate the literature are relapse prevention (hereafter, RP) and goal setting (hereafter, GS). These interventions emerged from a robust theory called the social cognitive theory and have their structures related to each other but could still be developed in different ways as a single intervention. Numerous studies suggest that the implementation of RP or GS interventions has important attitudinal or transfer behavioral outcomes with important implications for the efficacy of training and organisational performance (Brown and Warren, 2009; Gaudine and Saks, 2004; Gist, Stevens and Bavetta, 1991; Johnson, Garrison, Hernez-Broome, Fleenor and Steed, 2012; Latham and Brown, 2006; Latham and Sejts, 1999; Richman-Hirsch, 2001; Pattni, Soutar and Klobas, 2007; Wexley and Baldwin, 1986)

Despite the importance of this topic, there have been only two reviews, so far, of the relationships between post-training transfer interventions and transfer of training. Hutchins and Burke (2006) conducted a review that exclusively focused on the relationship between RP and transfer of training. Brown and McCracken (2010) offered a critical review to the GS

literature, specifically focusing on the relationship between GS and transfer of training. However, none of these reviews has considered the issue of differential effectiveness between RP and GS. In fact, the major focus of the two reviews is solely on the effect of each intervention on transfer of training, without comparing the relative efficacy of each intervention. In particular, Hutchins and Burke's (2006) review does not provide a clear distinction between the effectiveness of complete RP model and the effectiveness of modified RP model in influencing trainee attitudes or transfer behavior. Similarly, it appears that Brown and McCracken's (2010) review is not strictly about goal setting, where goal orientation studies have also been included, which leads to some inconsistencies in content. We argue that supplementing an updated review with a comparative assessment would go a long way toward helping the researchers or practitioners acquire a clearer sense of the relative worth and utility of each intervention.

The aim of the present paper is to critically revisit the post-training transfer interventions literature, to reveal the gaps, and to provide comprehensive insights into latest developments, challenges and possibilities in this literature. The paper makes three contributions to the post-training transfer interventions literature. First, it extends previous reviews by including the studies that remained ignored, providing consistency of focus and definition, and updating the literature with several new studies. Second, it informs the researchers about the distinction between RP and GS, current state of research, and the gaps that should be filled in future empirical research. Third, the paper encourages researchers to focus on suitable transfer interventions model for future development in the human resource development (HRD) research.

The structure of the paper is as follows. First, we describe our process of searching and selection of papers in the present review. In the second section, we critically review the post-training transfer interventions literature. Specifically, we discuss the key features and

theoretical foundations of RP and GS, elucidate their roles in enhancing transfer performance, provide a review of studies that compared and contrasted both interventions, and identify potential gaps that linger in the extant literature. Here we acknowledge that our review of the RP and GS interventions is limited to only those RP and GS approaches that are relevant to the transfer of training. In the final section, we offer a number of recommendations to direct future research.

Selection of Relevant Literature

We began our research in the post-training transfer interventions literature by setting important keywords and considering relevant databases according to our review purpose. We systematically searched several databases such as *Academic Source Premier*, *Business Source Premier and Complete*, *PsycINFO*, *ERIC* and *ISI Web of Knowledge*. The following keywords were used to identify published empirical articles in post-training transfer interventions area: *post-training strategies*, *post-training interventions*, *post-training transfer interventions*, *training transfer strategy*, *relapse prevention*, *self-management strategy*, and *goal setting*. We limited our study to specific time range from 1986 to 2013. We chose 1986 as a starting point because the term of RP and GS as a training transfer enhancement started to emerge in the management context from this date. Conference presentations were not included and conference proceedings were rarely utilized to be consistent with our selection criteria of using peer-reviewed studies.

The database search identified 56 papers as relevant for our study. We read the abstract of each paper, looking for an indication that an RP or GS (or combination of these two) was performed on an aspect of transfer of training (i.e., generalization and maintenance). Once we found a relevant paper, we did a cursory reading of the paper itself. We found 24 papers with post-training transfer interventions studies pertaining to transfer of

training. In the final step, we re-checked our papers' list to assess any systematic bias in our search procedures but could find no evidence to that effect.

We categorized the papers into three study areas affecting training transfer (RP, GS, and the comparative studies of both). Each is discussed and critiqued in the next section.

Post-Training Transfer Interventions

The term 'post-training transfer intervention' has many exchangeable names. Wexley and Baldwin (1986) called it post-training strategies which they defined as a series of methods in the period after training to facilitate positive transfer. In addition, there are scholars who called it transfer of training improvement strategies (Tziner, Haccoun, and Kadish, 1991), which are defined as behavioral techniques relevant to specific trainee characteristics to enhance transferability. Other scholars called it post-training supplements (Tews and Tracey, 2008), defined as an additional complement beyond training classroom environment that may motivate and promote transfer. Drawing on a range of definitions, we view post-training transfer interventions as a set of guidance or procedures that is implemented after training program to help trainees transfer their newly learned skills into workplace context.

RP and GS are supplemental meta-cognitive techniques that can help trainees to strengthen their awareness about the environment stimuli and use this stimulation to structure, understand and manipulate their own cognitive processes (Tews and Tracey, 2008; Wexley and Baldwin, 1986). We include these interventions in our review paper because, although these interventions have dominated post-training transfer interventions literature, these interventions, either when examined separately or taken as a whole, are rife with inconclusive empirical result and lack of mechanism explanation (Brown and McCracken, 2010; Hutchins and Burke, 2006). This situation reinforces the mistrust between researchers and practitioners about the interventions' effectiveness, and may in turn adversely affect the

researchers' and managers' interests in examining or using the interventions. Therefore, there is a need to re-visit the RP and GS literature to provide clarity on these issues.

Relapse Prevention

Marx (1982) introduced the term '*relapse prevention*' for the first time in the corporate training context. He adapted Marlatt and Gordon's (1980) medical interventions model, which suggested that the alcohol or illegal drugs addicts would not fall back to their old-behavior if they have strategies to overcome their relapse. Marx (1986) defines RP as a self-management intervention that teaches trainees the strategies to overcome the potential threats (known as high-risk situation) that impede the generalization of the newly learned skills. He structures RP into seven steps: 1) set specific skills to transfer; 2) identify potential threats to the transfer of skills; 3) define advantages or disadvantages when transferring skills to the job; 4) learn specific RP strategies (e.g., understand the difference between the training and the job contexts, create a support network); 5) predict the first slip in the transfer of training; 6) develop a threat coping strategy; and 7) monitor the process of skill transfer. These steps are reported to provide clear guidance to anticipate future failures by monitoring past experiences and presents environmental situations, which in turn may prevent trainees from reversing to their pre-training behavior, and ultimately enhance trainees' transferability (Noe, Sears, and Fullenkamp, 1990; Pattni et al., 2007).

The above insights are consistent with the social cognitive theory, which assumes that humans can control their behavior and increase their performance, if they understand the environmental stimuli that initiate their cognitive process and recognise the way to handle it appropriately (Bandura, 1986, 1999; Wood and Bandura, 1989). Congruent with this theory, trainees may be motivated to transfer their new skills if they successfully transform and restructure bad experiences into more understandable cognitive symbols, and construct a

model to overcome undesired experiences. The more the trainees can structure their knowledge, the more they may produce a better post-training performance (Zigarmi, Nimon, Houson, Witt and Diehl, 2009).

Several scholars have tested the effectiveness of RP intervention on training transfer. Table 1 offers an overview of such scholarship.

INSERT TABLE 1 ABOUT HERE

Table 1 implies that the RP literature can be classified into two main categories. The first category consists of researchers who applied the complete seven-step model proposed by Marx (1986). The second category includes those researchers who modified this complete model in fewer steps.

In the first category, scholars, such as Noe et al. (1990) and Burke (1997), found that RP could positively affect the transfer effectiveness and several transfer outcomes (e.g., course content retention, use of transfer strategies). Burke and Baldwin (1999), who extended this view by including transfer climate as a moderator, argued that the interaction between unsupportive transfer climate and RP could increase the numbers of supervisor's coaching session and subordinate measure of effectiveness. In the mental health context, Milne, Westerman and Hanner (2002) pointed out that RP produced a significant learning effect and positive skill transfer.

In the second category, there are several researchers (e.g., Huint and Saks, 2003; Tziner et al., 1991; Wexley and Baldwin, 1986) who modified the complete RP model by operating it in fewer-steps (i.e, second category). They argued that the key to RP intervention lies only in identifying and developing strategies, so trainees only need to select appropriate steps to increase their skill generalization and retention. While the advocates of modified RP model (e.g. Gist, Bavetta, and Stevens, 1990) support a positive correlation between the modified RP model with that of skills generalization and maintenance, others take an

opposing view and question the strategy of modified RP model. For example, Huint and Saks (2003), who investigated the interaction between manager perception of the utility analysis and RP in influencing transfer of training, found no evidence that certain elements of the RP model influenced the transfer of training.

Despite the persistence of each group of these scholars in advocating their own perspective, there seems to be a dearth of empirical evidence to conclude a relationship between RP and transfer of training. As Table 1 shows, some studies demonstrate the insignificant effect of RP on transfer of training (e.g., Gaudine and Saks, 2004), some studies support the effectiveness of RP on transfer of training (e.g., Noe et al., 1990), and some other studies indicate partial results (e.g., Burke and Baldwin, 1999). These inconclusive results have caused a significant question mark about the reliability of the RP intervention, which may affect an organization's desire to use this approach as a valid transfer intervention. While theoretically, RP has a positive influence on the transfer of training, empirical results of the RP strategy offer only a hazy picture.

Another issue evident from Table 1 is that little work has been devoted to modelling the mechanism on the relationship between RP and training transfer. Two studies out of nine examined the interaction between several moderator variables and RP in understanding training transfer. For example, Huint and Saks (2003) reported that the generalization of the decision-making skills into real action is influenced by the interaction between modified RP and the extent to which trainees research the skills-related information before utilizing these skills. However, only one study (i.e., Hutchins, 2004) discussed the role of mediating variable in this stream of research. Clearly, most studies in this area have assumed that once the trainees learn the RP approach, their level of transfer ability will improve without understanding how and why it improves.

The abandonment of mediating variable is a key concern because, in most situations, a transfer intervention is unlikely to have a direct and immediate, i.e., unmoderated, effect on the transfer of training. Tews and Tracey (2008) suggest that “the inability to demonstrate these mediating influences could be attributed to limitations of the measures” (p. 396). Furthermore, the complexity of situations (or processes) in the training transfer makes it impossible to treat the transfer process as a linear approach and that other factors too need to be taken into account (Holton, 2005; Holton, Bates, and Ruona, 2000). In short, the lack of studies that investigate mediating mechanisms will limit our understanding of how a transfer intervention creates a value to the trainee, especially their characteristics, and subsequently produce a certain level of transfer of training.

Table 1 also highlights the importance of national context in transfer of training. There is hardly any study published in this field that offers a perspective from developing countries (e.g., in Asia and Africa). Almost all studies have examined this relationship in one specific organization in well-developed economies (e.g., Canada, United States). Indeed, there are certain important cultural and institutional differences between organizations in developed and developing countries, such as power distance, individualism vs. collectivism, long-term orientation vs. short-term orientation, the structure of the organization, and economic resources and budget (Hofstede, Hofstede and Minkov, 2010; Holton, Chen and Naquin, 2003; Subedi, 2006). Such differences, in turn, may need a different organizational approach to designing and conducting training, and may lead to divergent results.

Goal Setting

GS intervention has its root in social cognitive theory (Bandura, 2005). Goal setting (GS) deals with identifying a set of specific, challenging, and difficult goals to help individuals with expressing attention, organizing effort, increasing determination, motivating strategy

development, and therefore improving overall performance (Latham and Locke, 2007; Locke, and Latham, 2002). GS is characterized by three key elements: *specific*: the goal must be very focused, clear, and can be achieved within a certain time frame, *challenging*: the goal must be challenging and stimulating the individual motivation; *difficult*: the goal must be made as difficult but realistic as the individuals can, so they have an enthusiasm to reach the goal (Brown, 2005; Latham, 2004).

It can be argued that setting specific and challenging goals may lead trainees to a positive transfer of training. This idea is supported by several scholars (e.g., Brown, 2005; Brown and Warren, 2009) who point out that the higher the level of goal, the higher the level of transfer. The underlying reason is that goal setting can enhance individual expectation about their new training skills, which in turn help trainees to mobilize their efforts in achieving goals, and developing the best ways to achieve goals, thereby affecting their ability to utilize and retain skills back to the job (Hutchins and Burke, 2007; Locke and Latham, 1990; Luthans and Jensen, 2002). In parallel to achieving organizational goals, goal setting may also serve as a platform and guidance to help individuals reach the personal objectives (e.g., productivity and performance) (Locke and Latham, 2002).

Scholars have discussed several types of goal setting, namely, assigned, learning, outcome, distal, and proximal plus distal goal setting (Brown and Latham, 2002; Morin and Latham, 2000; Werner, O’Leary-Kelly, Baldwin, and Wexley, 1994). In their studies on combination of distal and proximal goal effectiveness, Brown (2005) and Brown and Warren (2009) found that trainees who combined various goal strategies demonstrated an improvement in their training transfer abilities, compared with the trainees who set a distal goal or “do-your-best” (DYB, hereafter) goal setting strategy alone. Other studies (e.g., Latham and Seijts, 1999; Seijts and Latham, 2001) offer support to this finding by suggesting

that higher skill generalization and maintenance will be achieved if trainees are able to set the distal and proximal goals simultaneously.

In the same vein, studies of learning and outcome goal setting intervention (e.g. Johnson et al., 2012; Seijts, Latham, Tasa, and Latham, 2004; Winters and Latham, 1996) report a significant relationship between these types of goal setting and the perceived transfer of training. Specifically, the extant research evidence suggests that the learning goal setting is preferable to the performance goal setting. The reason is that the learning goal setting teaches individuals how to understand the way to reach the goal and urges them to master that way, while the outcome goal setting teaches individuals merely how to reach the goal without an obligation to master the way to reach there (Seijts et al., 2004). Latham and Locke (2007), however, remind us to be more cautious when applying these goal settings not least because trainees' skills play a moderator role in such types of goal setting strategy.

In another major study, Latham and Brown (2006) conducted a test to understand the effectiveness of outcome and learning goal settings on students' satisfaction, self-efficacy, and performance. They found that the learning goal setting was significantly correlated with satisfaction and performance, whereas the outcome goal setting reportedly increased student self-efficacy. So while both the outcome and learning goal settings may influence trainees' performance in applying their new skills to the actual work context, they seem to be more effective under different scenarios. While the former is more suitable if trainees do not have basic skills to do their job, the latter is preferable if the trainees are equipped with sufficient basic skills. Table 2 presents a summary of goal setting literature discussed above.

INSERT TABLE 2 ABOUT HERE

There are, however, three limitations that linger in the GS literature. First, the present review on the efficacy of GS intervention reveals that although there has been a plethora of studies on the influence of various types of GS on the transfer of training, it is rather

impossible to find conclusive evidence in support of any specific GS strategy. One criticism of much of the literature on GS is the lack of clarity about what specific goals affect the transfer of training. In the words of Brown and McCracken (2010), “the current literature fails to provide clear guidance concerning which goals enhance transfer in management development programmes” (p. 30). Diverse goals and goal setting strategies may confuse trainees not least because they may be overwhelmed by various choices and their respective pros and cons (Locke and Latham, 2009; Seijts and Latham, 2000). As a consequence, trainees may find it convenient to use a very simple strategy in this field, namely, the do your best (hereafter, DYB) strategy. Kanfer and Ackerman (1989) argue that urging trainees to do their best in generalization leads to higher performance than other goal setting strategies. However, recent research found that DYB does not have a positive effect on the transfer of training (Brown and Latham, 2002; Brown and Warren, 2009).

Such absence of hard and objective evidence of the superiority of one type of GS approach over the other could lead to an organisational tendency to encourage trainees to use a DYB goal approach which, according to Brown and Warren (2009), has insignificant and marginal contribution to the transfer of training. In order to resolve the inconsistency in the research findings and avoid the adverse potential implications for users, future research could provide insights into the most appropriate GS types in various contexts, or perhaps into the efficacy of a synergy of two or more types of GS, e.g., proximal plus distal GS.

Second limitation of the GS approach is that there are only a few studies that consider mediator variables (e.g., self-efficacy). We identified four studies (e.g., Morin and Latham, 2000; Seijts et al., 2004) out of 11 that examined the role of mediating variables (e.g., self-efficacy). Although the number of studies that consider mediator variables is higher in GS than in RP studies, difficulties still arise when an attempt is made to explain why GS influence training transfer, what kind of trainee attitudes have been changed during the

application of GS, why these attitudes change, and how this change affect the trainee's ability in transferring the newly learned skills. These questions would not have been arisen if the previous research had included relevant mediating variables in their theoretical models.

The third limitation in the GS literature pertains to the methodological approaches, specifically in terms of the study setting and sample of respondents. Almost two third of the GS studies are drawn from artificial workplace situations (i.e., laboratory experiment), using students as their sample. From 11 studies on GS (see Table 2), we found seven studies employed students as participants. Furthermore, a range of other related studies utilized simulated task or lab experiment to measure the effectiveness of the post-training transfer interventions on the transfer of training. The heavy reliance on lab experiments is a key limitation of the GS research because it may lead to over-generalizing or unexpected results when translating findings to the actual work environments. As Yearta, Maitlis and Briner (1995) remind us, "it may ... be erroneous to assume that the relationships found to exist in controlled settings will hold true within organizations" (p 237). Surely, in laboratory studies, the individuals face mild pressure, receive full support from the supervisor, or are provided a clear time constraint. In the actual job context, however, the situation may be very different in terms of the supervisor's support, work environment, or time duration. Furthermore, Brown (2005) finds it rather difficult to generalize results from a student sample to actual employment context because of different characteristics of students and employees. The complex situation of the work context, the fact that employees are paid by the organization, and the responsibilities they have, are important employee characteristics that students do not have. Clearly, there is a need to reconsider the use of "artificial" employees or workplace situations in the training transfer research.

Studies that Compare the Differential Effectiveness between Relapse Prevention and Goal Setting

Few attempts have been made to examine the differential effectiveness between RP and GS. Table 3 offers a summary of studies that examined distinction between RP and GS.

INSERT TABLE 3 ABOUT HERE

From the 24 relevant studies that we reviewed, only four compared the respective effect between RP and GS on the transfer of training (e.g., Gist et al., 1990, Wexley and Baldwin, 1986). Wexley and Baldwin (1986), for example, investigated the relative effectiveness of modified RP to two GS strategies called assigned and participative. They found that the two GS interventions were superior to RP in maintaining behavioral change. Richman-Hirsch (2001) supports this finding and argues that GS has some edge and may have a better contribution to the transfer of training than modified RP intervention. However, Gist, Bavetta and Stevens (1990) showed a contrary result by arguing that RP exhibits higher rates of skill generalization and performance than GS. Another study (Gist et al., 1991) showed a more moderate result and pointed out that RP or GS is accentuated or attenuated by the role of self-efficacy, i.e., it depends on trainee's self-confidence.

Two interesting issues can be derived from the studies above. First, Table 3 clearly shows that all of the four studies employed modified RP model when comparing its effectiveness to GS intervention. Two studies showed the inferiority of modified RP model to GS, and one study identified its superiority. However, no attempt was made to compare the complete RP model with GS. This imbalance raises an unsolved important question: does the complete RP model show the same inferiority compares to GS?

Second, these studies are far from conclusive, which provide the researchers or practitioners a fuzzy understanding of what interventions work better in what context. Richman-Hirsch (2001) argues that GS is preferable because the term is more familiar to

managers and trainees than other terms including RP. However, Pattni et al. (2007) challenge this argument by highlighting certain research design related issues in Richman-Hirsch's study. As a result, there is still a lack of clarity on the actual risks and benefits of RP and GS interventions. The lack of comparative study may lead to erroneous conclusion about what interventions work best in what context. It is, for example, not clear which types of intervention works in what context, in what manner, for what reasons, and to what extent the distinction between RP and GS influences the transfer of training. Therefore, future research on their relative effectiveness is needed.

Agenda for Future Research

The present review has highlighted several key limitations in the literature. Theoretically, there are issues regarding the attributes of RP intervention (complete RP vs. modified RP), the lack of clarity on the type of GS intervention, the direct vs. indirect relationship between transfer interventions and training transfer, and the comparative effectiveness between RP and GS. Methodologically, there are issues regarding the study sample (students vs. employee), the study setting ("artificial" vs. real situations), and the study context (developed vs. developing countries). The limitations identified above encourage us to propose five substantial recommendations. Table 4 provides a summary of the gaps in the post-training transfer literature and agenda for future research. It also provides recommendations for future research, lists some possible variables that may be considered to overcome the problems in the literature.

The five recommendations listed in Table 4 are discussed below. Our hope is that the following discussion will pave the way for future theorization and research in the HRD area.

1. Corroborate the Effectiveness of the Complete RP Model

As stated above, the current RP research is characterized by inconclusive results. Several reasons have been identified for the instability of the results, e.g., inaccessibility of a certain term relative to the other, or insufficient time given to the RP intervention (Pattni et al., 2007; Richman-Hirsch, 2001). However, we argue that this problem occurs due to the modification process of the complete RP model. This modification eliminates many crucial steps in the complete RP model, which in turn reduces its natural effectiveness in preventing trainees from relapse condition. Table 1 shows that most of mixed results stem from the incomplete application of the RP model (i.e., modified RP model). This view is consistent with Hutchins and Burke (2006) who too notice the inconsistency of results. Thus, it is reasonable to argue that the modified RP model does not offer much additional value to the transfer of training.

In view of the above, we recommend the operationalization of complete RP model proposed by Marx (1986) in examining the training transfer process, and leave the temptation to reduce it into a fewer-steps model. It is important because it may corroborate the effectiveness of RP in the training context. By adding more studies on the complete RP model, scholars could get a better understanding of the actual effectiveness of RP intervention. Moreover, some important RP strategies that were not included in the modified RP models, such as “avoid implementing new skills in overwhelming situations” or “recognize seemingly unimportant behaviors that lead to errors” can be covered in the complete RP model. Finally, the application of the complete RP model can be used as an entry point to provide a “real” modification to the RP intervention: a modification that does not eliminate the crucial steps but reinforces and strengthens the weak steps in the complete RP model. Therefore, researchers may wish to operationalize the complete RP model in their

future studies. One possible question that can be investigated in future research is: “*how does complete RP model affect transfer of training?*”

2. Apply the Proximal plus Distal GS Intervention

In the literature review, we identified various types of GS strategy but found little agreement in the literature about which goal setting interventions are the more efficient in enhancing transfer performance. Although GS interventions are generally known to have a positive influence on the transfer of training, it is worthwhile to focus on one robust GS strategy to increase the confidence level of researchers and practitioners in terms of any follow-up application.

In the light of our review, we identify the combination of proximal goal and distal goal (hereafter *proximal plus distal GS*) as a contemporary GS strategy that may be useful for the transfer of training. We consider this type of GS to be of paramount importance in two ways. First, proximal plus distal GS is the only goal setting type that accommodates the importance of feedback mechanism. The feedback mechanism is one type of attentional advice that is most useful for trainees because it may help trainees to support their intention to achieve the next target, and ultimately affects the transfer of training (Foster and Macan, 2002; Nesbit, 2012). The integration of feedback and proximal GS will inform trainees whether they are on a right track, and thereby enhancing their ability to achieve the longer-term goal. Second, the proximal plus distal GS strategy also represents other goal setting methods that have been introduced in the literature (e.g., outcome goal, learning goal). Based on their short-term goals (proximal goal principle), trainees may learn how to master a skill in the light of their supervisor’s feedback, and they may understand whether they are likely to reach their intended outcome targets when they set a distal goal. We invite future scholars to focus on the application of proximal plus distal GS interventions in understanding the transfer

of training process. One possible research question relevant for future research is: “*how does proximal plus distal GS impact transfer of training?*”

3. Compare the Differential Effectiveness of the Complete RP Model and the Proximal Plus Distal GS

As our third recommendation, we encourage researchers and practitioners to compare the effectiveness of the two specific interventions (i.e., *complete RP model* and *proximal plus distal goal GS*). We notice that there is a dearth of research that compares these specific interventions in the workplace. If a transfer intervention is to be a key part of the solution to a transfer problem, it is important to determine what type of intervention will be most effective. The comparison of these specific strategies’ effectiveness could help organizations develop a better understanding about each intervention and the contexts in which such intervention could be most useful. Furthermore, if policy makers are provided with results about the comparative effectiveness of these transfer interventions, they will find it convenient to rationalize their choice of the intervention strategy as a part of their training management and policy. Research question that may be asked for future research is: “*what is the comparative efficacy of complete RP model and proximal plus distal GS in influencing the transfer of training?*”

4. Conceptualize the Process through which Post-Training Transfer Interventions Affect Transfer of Training

A key issue in the post-training transfer interventions literature is its tendency to ignore mediator variables. We argue that ignoring mediator variables leads to a “black-box” vision, where both researchers and practitioners know the input (i.e., transfer intervention variables) and the output (i.e., the transfer of training), without knowing why and how certain inputs

produce certain outputs. Thus, to develop a more sophisticated model, and to understand the effect of intervention on the transfer of training in a greater detail, scholars need to be attentive to mediator variables. This will help them avoid observing the intervention-transfer relationship in a vacuum (i.e., not affected by an outside influences) or as a linear process (Holton et al., 2000; Hutchins and Burke, 2006). Furthermore, elucidating the mechanism in a relationship may answer why some studies show inconclusive results (Macpherson, Kofinas, Jones, and Thorpe, 2010).

Focusing on the mechanisms may bring us to the question of what mediating variable that is appropriate to elucidate the relationship between RP or proximal plus distal GS and transfer of training. Since the application of these interventions is intended for trainees, particularly to influence their attitudes in transferring the new skills, we suggest considering specific trainee attitudes variable to conceptualise this mechanism. Future research may try to examine the operationalization of specific types of transfer motivation, such as autonomous and controlled motivation (Chiaburu, Van Dam and Hutchins, 2010; Gegenfurtner, Veermans, Festner and Gruber, 2009) or the individual readiness to change (Choi and Ruona, 2011; Lawrence, 1999; Prochaska, Diclemente, and Norcross, 1992; Prochaska and Norcross, 2001) in the future research. Despite its importance, these variables have been overlooked in this stream of research.

Proposing these attitudes to explain the mechanisms is important. First, examining more specific types of transfer motivation may further clarify the role of transfer motivation and provide a detail answer to the question of why trainees have higher energy in utilizing their new skills after they are intervened by transfer interventions. Accordingly, if these types of motivation to transfer are operationalized as mediators, then the process of how and why the transfer enhancement tools work will be clarified. Second, related to the individual readiness to change, Lawrence (1999) argues that if specific intervention tools are used to

help trainees in transferring their new skills to the actual workplace, they will be more likely to change their old habits. Hutchins and Burke (2006) take the argument further by suggesting that trainees who are ready to change their old working habits are more likely to experience positive training transfer. Therefore, by focusing on specific trainee characteristics, we may expect to have a clearer explanation of the effect of the two specific interventions we propose (i.e., complete RP model and proximal plus distal GS) on the transfer of training. One possible research question for future research is: *“to what extent and in what ways do specific trainee attitudes (e.g., readiness to change, autonomous motivation to transfer) mediate the effects of post-training transfer interventions on transfer of training?”*

5. Focus on Actual Organizations and Employees as Research Objects and Subjects

Our final recommendation pertains to research design. The present review pointed to a heavy reliance on laboratory studies and experiments. Over 25 years ago, Wexley and Baldwin (1986) lamented the relative lack of empirical insights in the training transfer literature, a statement that is still relevant. Treating the training transfer intervention in a strictly controlled situation and considering a student as an equivalent of an employee tend to compromise the generalizability and utility of research findings. These concerns are echoed by Yearta et al.’s (1995) comment that using an artificial work setting tends to devitalize the effectiveness of transfer interventions on the actual transfer of training.

A full consideration of the aforementioned concerns and interventions in any future study of actual workplace situations may pose a challenge to organizational scholars. For example, the resistance levels of trainees, supervisors, or trainers may be a key factor in how informative and reliable the results would be. Trainees, trainers or supervisors may think that their activities are being monitored, and may fear that the results will be released to the

employer or to the public. Therefore, they may wish to avoid such studies, as opposed to standing shoulder-to-shoulder on the mutual benefits of effective training strategies. Such resistance could also affect the data because participants may not be motivated or truthful when answering the questions or attending the interventions programme. However, such issues could be resolved by developing a mutual understanding and trust with all stakeholders in the training programme (Hutchins and Burke, 2006).

In addition, it will be worthwhile to conduct research on the relationship between post-training transfer interventions and training transfer in diverse national contexts, specifically focusing on developing or less developing countries. Certainly, each countries or regions have their own cultures. These cultural factors, such as power distance, individuals' way of operations (i.e., individualism vs. collectivism), or individuals' orientation of target (i.e., long-term vs. short term), usually play a role in explaining why the performance in developed countries is different than in developing countries (e.g., Ardichvili and Kuchinke, 2002; Hofstede, Hofstede and Minkov, 2010). It may be equally interesting to assess the interaction between post-training transfer interventions and cultural factors in developing countries, and understand how this interaction may influences transfer of training. By highlighting this interaction, not only may it help such countries in improving the return on training investment (Holton et al., 2000; Saks and Belcourt, 2006), it may also help in advancing this field of research, thereby helping both research objects and subjects. One possible research question to guide future research is *“to what extent does national and organizational context affect the efficacy of post-training transfer interventions on transfer of training?”*

Conclusion

While studies in the training transfer literature have generally focused on individual characteristics, training design or transfer environment, relatively less attention has been given to the importance of post-training transfer interventions. This paper has examined this topic, specifically reviewing the role of two training transfer interventions, i.e., RP and GS. It has updated and extended previous reviews (e.g., Burke and Hutchins, 2006; Brown and McCracken, 2010) by specifically focusing on studies that examine the comparative effectiveness of RP and GS interventions.

The present review has highlighted inconsistent results that characterize the transfer interventions studies, the over-reliance on simulation-based research, the over use of students as participants, the lack of explanation on the distinction between RP and GS, and the lack of studies on mediating mechanisms. We have argued that these issues may hinder further development of transfer interventions studies, and therefore suggested ways and recommendations to address these issues. We have suggested that future researchers may care to be consistent in applying the complete RP model, focusing on proximal plus distal GS strategy, assessing the comparative effectiveness of these interventions, and incorporating specific trainee attitudes as mediators to elucidate the transfer interventions-training transfer mechanism. If these gaps are overcome in the near future, training scholars and practitioners in HRD area may be able to develop and use robust interventions that may help individuals in enhancing their transfer ability, making the most from their newly learned skills, and subsequently yielding better performance in the workplace.

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Table 1. An Overview of the RP Literature

No	Author(s)	Measure(s)	Intervention(s)	Method			Summary
				Context	Participants/ Sample size	Analytical tool	
1	Pattni, Soutar and Klobas (2007)	Learning Self-efficacy Generalization	Modified RP model Control group	Banking	Customer service staff/164	Anova	Both treatments influence learning and self-efficacy, but not generalization; RP contributes more than control group
2	Gaudine and Saks (2004)	Self-efficacy Maintenance Generalization	Modified RP model Transfer enhancement Control group	Canadian hospital	Nurses/ 147	Ancova	Neither intervention improved transfer compared with the control group
3	Hutchins (2004)	Self-efficacy (mediating) Maintenance Generalization	Modified RP model Combination (Modified RP + GS) Control group	US telecommunicati on	Managers, directors, and supervisors/ 39	Manova	Self-efficacy is a predictor for transfer, but both interventions could not influence transfer
4	Huint and Saks (2003)	Utility analysis (moderating) Research information (moderating) Generalization	Modified RP model Supervisor support	Canadian university	MBA students/ 174	Anova	Supervisor support intervention contributes more to generalisation than modified RP but both are not significant
5	Milne, Westerman and Hanner (2002)	Generalization	Complete RP model Control group	Medical	Nurses, care managers, social workers, occupational therapists/ 56	T-tests	RP reports significantly greater generalization than the control group

6	Burke and Baldwin (1999)	Transfer climate (moderating) Generalization of strategy Generalization of skills	Complete RP model Modified RP model Control group	Large midwestern firm	Research scientists/ 78	Hierarcical multiple regression	Complete RP model enhanced training transfer in the least supportive climates; while modified RP shows a contrary result
7	Burke (1997)	Motivation to transfer Ability to transfer Maintenance Generalization of strategy Generalization of skills	Complete RP model Modified RP model Control group	Large midwestern university	Undergraduate students/ 90	Mancova	Complete RP model contribute more to transfer than the modified RP and control group although the effect is found to be insignificant
8	Tziner, Haccoun and Kadish (1991)	Environment support Motivation to transfer Reactions Learning Generalization of strategy Generalization of skills	Modified RP model Control group	Israel defence forces	Officers/ 81	Anova	Modified RP contributes more to the levels of the knowledge of the course content and strategy transfer than control group
9	Noe, Sears and Fullenkamp (1990)	Reactions Generalization	Complete RP model	US University	Employees/ 73	Anova	Complete RP model is valuable to increase trainees' reactions of transfer situation and transfer of training

Table 2. An Overview of the GS literature

No	Author(s)	Measure(s)	Intervention(s)	Method			Summary
				Context	Participants/ Sample size	Analytical tool	
1	Johnson, Garrison, Hernez-Broome, Fleenor and Steed (2012)	Self-awareness skills generalization Developing others skills generalization Building and maintaining relationships skills generalization	Single learning goal Multiple learning goal Control group	Private non-profit, business and public organizations	Leaders and subordinates, supervisors and peers/ 294	Anova	Those who set multiple learning goals enhanced their transfer than those who set a single learning goal or not set a goal
2	Brown and Warren (2009)	Self-Efficacy Generalization Maintenance	Distal goal Proximal plus distal goal Control group	University	Employees/ 89	Anova	Distal goal produces a higher self-efficacy and generalization than proximal plus distal goal; where proximal plus distal goal contribute more to generalization than distal goal
3	Latham and Brown (2006)	Self-efficacy Satisfaction Generalization	Learning goal Distal goal Proximal plus distal goal Control group	Canadian University	MBA students/ 125	Anova	Learning goal leads to higher self-efficacy and performance than outcome goal and do-your-best; proximal plus distal goal has a higher performance than distal outcome goal and do-your-best
4	Brown (2005)	Self-Efficacy Generalization Maintenance	Distal goal Proximal plus distal goal Control group	Canadian provincial government	Employees/ 72	Anova	Proximal plus distal goal and do-your-best have significant influence on transfer of training relative to distal outcome goal

5	Seijts, Latham, Tasa and Latham (2004)	Self-efficacy (mediating) Information search Generalization	Learning goal Outcome goal Control group	University	Undergraduate students/ 170	Anova	Learning goal lead to higher performance than outcome goal and vague goal; goal orientation leads to higher performance when the goal is vague; the interaction between learning goal orientation and learning goal setting influence trainees' performance
6	Brown and Latham (2002)	Self-efficacy (mediating) Commitment Generalization	Learning goal Outcome goal Control group	Canadian University	Undergraduate students/ 50	Anova	Both goal setting interventions are superior to do-your-best goal in enhancing self-efficacy, which in turn correlates positively to teamwork behaviour and goal commitment
7	Seijts and Latham (2001)	Commitment Generalization	Learning goal Outcome goal Proximal plus distal goal Control group	University	Undergraduate students/ 94	Anova	Proximal plus distal goal has a higher task-relevant strategies implemented compare with other goal setting strategies; distal outcome and learning goal have higher performance than proximal plus distal goal setting; strategy development mediates the relationship between self-efficacy and performance
8	Morin and Latham (2000)	Self-efficacy (mediating) Generalization	Combination (outcome goal + mental practice) Outcome goal Control group	Canadian mill factory	Supervisors and engineers/ 71	Ancova	The combination between mental practice and goal setting enhances the trainees' self-efficacy and skill transfer higher than goal setting only or do-your best goal

9	Latham and Seijts (1999)	Self-efficacy (mediating) Generalization	Distal goal Proximal plus distal goal Control group	Laboratory	Young adults/ 39	Anova	Proximal plus distal goal setting leads to a higher performance than distal outcome goal and do-your-best goal; Perceived self-efficacy, which results in higher performance, significantly increased only for trainees' who set proximal plus distal goal setting
10	Winters and Latham (1996)	Self-Efficacy Strategies' quality Generalization	Learning goal Outcome goal Control group	University	Undergraduate students/ 114	Anova	Learning goal setting produces a higher self-efficacy, effective task strategies and quality, and generalisation of scheduling techniques than in the outcome goal setting and do-your-best condition
11	Werner, O'leary, Kelly, Baldwin and Wexley (1994)	Reactions Learning maintenance Behavioural maintenance Generalization	Assigned goal Control group	Large midwestern university	Undergraduate students/ 150	Manova	Assigned goal setting affected learning retention, behavioural generalisation as well as reactions immediately following training

Table 3. An Overview of Studies that Compare RP and GS

No	Author(s)	Measure(s)	Intervention(s)	Method			Summary
				Context	Participants/ Sample size	Analytical tool	
1	Richman-Hirsch (2001)	Work environment (moderating) Generalization Maintenance	Outcome goal Modified RP model Control group	Large midwestern university	Employees/ 267	Anova	No support is found between relapse prevention and other trainees in measuring transfer; When interact with work environment, both interventions are effective in influencing transfer
2	Gist, Stevens and Bavetta (1991)	Self-efficacy (moderating) Generalization Maintenance	Outcome goal Modified RP model	Large state university	MBA students/ 79	Regression analysis	Interaction between self-efficacy and relapse prevention attenuates trainees performance; interaction between goal setting and self-efficacy accentuates trainees performance
3	Gist, Bavetta and Stevens (1990)	Overall performance Generalization Maintenance	Outcome goal Modified RP model	Large state university	MBA students/ 68	Mancova	Relapse prevention exhibits higher rates of skill generalisation and performance than goal setting; both interventions are effective in enhancing a positive transfer
4	Wexley and Baldwin (1986)	Reactions Learning Maintenance	Assigned goal Participative goal Modified RP model	Large midwestern university	Students/ 256	Anova	Both goal setting interventions are superior to relapse prevention in inducing maintenance

Table 4. A Summary of Key Issues in Post-Training Transfer Interventions Literature and Agenda for Future Research

<i>No</i>	<i>Problem</i>	<i>Description</i>	<i>Recommendation</i>	<i>Possible Variable Involved</i>	<i>Possible Research Question</i>
1	The inconclusiveness of the effectiveness of RP	Much research has been done on RP and its relationship to transfer of training, but the results are contradictory	Future research may provide more focus on the operationalization of complete RP model in examining the training transfer process	Complete RP model, Transfer of training	How does complete RP model affect transfer of training?
2	Lack of clarity about which goal setting interventions are the most effective	There is a lack of clarity or agreement about which goal setting types are the most effective or efficient to enhance transfer performance	Future research may focus in examining the effectiveness of proximal plus distal GS intervention in the transfer of training research area	Proximal plus distal GS intervention, Transfer of training	How does proximal plus distal GS impact transfer of training?
3	The distinction between RP and GS is far from conclusive	It is not clear whether RP or GS contributes more to the enhancement of training transfer performance	Future research should be more focus on comparing specific aspect of RP and GS. In line with this suggestion, future research may examine the distinction between complete RP model and proximal plus distal GS in influencing transfer of training	Complete RP model, Proximal plus distal GS, Transfer of training	What is the comparative efficacy of complete RP model and proximal plus distal GS in influencing the transfer of training?

4	The mechanism issue in the relationship between post-training transfer interventions and transfer of training	Little work has been devoted to modeling the process through which RP and GS influence transfer of training, leads to a “black-box” vision (i.e., knowing the inputs without knowing why and how certain inputs produce certain outputs)	Future research may conceptualize a theoretical framework that clearly explains what and why RP or GS influences transfer of training. Future research may incorporate specific trainee attitudes (i.e., readiness to change, autonomous motivation to transfer) as mediators	Complete RP model, Proximal plus distal GS, Readiness to change, Autonomous motivation to transfer, Transfer of training	To what extent and in what ways do specific trainee attitudes (e.g., readiness to change, autonomous motivation to transfer) mediate the effects of post-training transfer interventions on transfer of training?
5	Heavy reliance on laboratory studies and in using developed countries as context	Majority of studies are drawn from artificial workplace situations, using students as their sample, and examine the relationship between post-training transfer interventions and transfer of training in one specific organization in a developed country	Future research should focus on actual organizations in developing or less-developing countries as the context	Complete RP model, Proximal plus distal GS, Transfer of training	To what extent does national and organizational context affect the efficacy of post-training transfer interventions on transfer of training?