

Implications of Near and Far Transfer of Training on Structured on-the-Job Training

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The problem and the solution. It is commonly believed that because structured on-the-job training (OJT) programs feature a close match between the training and the job, this training approach should only be used in near transfer of training situations. This chapter proposes that structured OJT can be used in both near and far transfer of training. Yet, how to design structured OJT programs to achieve far transfer, especially when the task is relatively unknown, remains an issue for future human resource development (HRD) research and development.

Transfer of training continues to be an area of major interest among human resource development (HRD) scholars and practitioners. Underlying the concerns about training is the fundamental organizational need to ensure that trainees will be able to use what was learned during the training back on their jobs. One of the most frequently mentioned estimates shows that about 40% of the content of training was transferred to the job immediately after training, about 25% remain after 6 months, and only 15% remain 1 year later (Broad & Newstrom, 1992). Few organizations can show that their training investment results in employees' improved job performance.

There has been much attention paid to the transfer of training in general, but how the topic relates to structured on-the-job training (OJT) has received little if any attention. Many researchers have simply presumed that because there was a close match between the training and the task, transfer of training was not a particular issue of concerns (Jacobs & Jones, 1995). However, upon closer examination, it has been assumed that structured OJT has been used to achieve near transfer of training situations only. This viewing of structured OJT implies that transfer of the program has been restricted within the application of the types of tasks and in the setting prescribed by the training. An important issue here, and one that has received little attention in the HRD literature, is the extent to which training in one domain may generalize to a different or unintended context.

In this regard, this chapter proposes that structured OJT can be used in both near and *far* transfer of training situations. This chapter has four parts. The first part describes structured OJT. The second part discusses transfer of training focusing on near and far transfer. The third part discusses the transfer of training domain of structured OJT and then examines the factors that might affect far transfer of structured OJT. Finally, the last part discusses implications related to far transfer of training and structured OJT.

Overview of Structured OJT

In general, OJT refers to a form of training that occurs at the workplace during the performance of a job rather than in a classroom setting (Jacobs & Jones, 1995; Rothwell & Kazanas, 1994). OJT is the most widely used method of delivering training for a novice employee by an experienced employee today and is one of the most important components of learning in the workplace (Jacobs & Jones, 1995; Rothwell & Kazanas, 1990). Unfortunately, despite its frequency of use, most OJT is informal or unstructured in nature and therefore has received serious criticism for it often being haphazard, incomplete, and unpredictable (Jacobs, 1990; Jacobs & Jones, 1995; Rothwell & Kazanas, 1994).

Structured OJT has recently emerged as a subject of interest in the HRD field. In contrast to informal or unstructured OJT, structured OJT uses a planned approach to the training (Jacobs & Jones, 1995). Structured OJT is generally referred to as a planned process that is conducted by an experienced employee for the purpose of providing the knowledge and skills to perform tasks of a novice employee at or near the workplace. Structured OJT has the following four main points (Jacobs & Jones, 1995).

First, as a planned process, structured OJT requires an investment of time and effort before it can be used. As a result, trainees should be able to learn the appropriate content and achieve the desired training objectives. Second, structured OJT focuses on the task level of jobs. Structured OJT does not involve an entire job, just a small part of it. Third, structured OJT should be delivered by an experienced employee with the qualifications to become a trainer. Not every employee can necessarily become a trainer. Finally, structured OJT usually occurs at the job setting, although in some instances, it may occur near the job setting. The training location depends on constraints in the job setting and the performance requirements of the task.

Near and Far Transfer of Training

Transfer of training refers to the extent to which individuals can apply what was learned in one situation to another situation (Baldwin & Ford, 1988; Holton, Bates, Seyler, & Carvalho, 1997). Transfer of training

involves applying the task to contexts other than those used in the training setting. Trainers expect the trainee to learn the new behaviors and use them back on the job. The literature suggests that the extent to which transfer of training occurs depends on several sets of variables. For instance, Baldwin and Ford (1988) proposed a framework that identified the variables in the training design (principles of learning, the sequencing of training material, and the job relevance of the training content), the trainee characteristics (ability or skill, motivation, and personality), and the work environment characteristics (supervisory or peer support, constraints, and opportunities to practice learned material on the job). Holton et al. (1997) have proposed an instrument to measure the readiness of transfer of training in organizational settings.

Perhaps of greatest importance in determining the transfer of training is the relative match between the training setting and the work setting (Baldwin & Ford, 1988). That is, the principle states that the greater the similarity between the two settings, the greater the likelihood of the transfer of training to occur. To be true, the training setting should have the same critical features, including the physical attributes, the various work-related cues, and social settings that will be encountered later on in the actual work setting. Some of these features might be deduced to their simplest forms with the expectation that the training can focus on these alone, with the elimination of extraneous information. However, the extent to which the match exists and, by extension, the extent to which transfer of training occurs depend in part on the nature of the work and the expected training outcomes.

Transfer of training can be categorized in several ways. For example, Royer (1979) identified some bipolar transfer of training classifications, such as lateral and vertical, specific and nonspecific, literal and figural, and near and far dimensions. Royer emphasized viewing those various constructs as being on a continuum rather than as being two distinct phenomena. As shown in Figure 1, near and far transfer of training can be compared in terms of the relationship between the work task and emphasis of training design. Near transfer requires a close match between training and task content, a close match between the training and task outcomes, and emphasis on specific concepts and skills. In contrast, far transfer requires an approximate match between training and task content, an approximate match between training and task outcomes, and emphasis on general concepts and skills.

The characteristics of near transfer suggest that trainees should apply known sets of knowledge and skills. For example, after an employee learns the repair procedures for a Hyundai engine, they repair only that one particular Hyundai engine once they are back on the job. Far transfer, on the other hand, is akin to having trainees learn more general concepts and principles, which might be applied to a wider set of contexts than those necessarily presented in the training setting. For example, an employee might learn to

	Near Transfer	Far Transfer
Relationship between the training content and work task	Close match such that the training content and outcomes relate to one work task	Approximate match such that the training content and outcomes relate to a set of related work tasks
Training design	Specific concepts Procedures Problem solving Decision making	General concepts Broad principles Problem-solving rules Decision-making rules

FIGURE 1: Comparing Near and Far Transfer of Training

repair a Hyundai engine, but for far transfer to occur, the trainee would be able to transfer what was learned about engines in general during training to an array of other engines, such as Chrysler, Ford, or Honda. Far transfer suggests that by learning the fundamental aspects of something along with specific skills, there is a greater chance for applying that information to more than one setting later on. Thus, the greater similarity between the training and working settings suggests relatively near transfer of training. Less similarity suggests the need for more far transfer.

The concepts of near and far transfer of training are frequently discussed relative to training objectives, transfer theory, and learning requirements. In terms of the training objectives, the distinction between the types of transfer is related to types of skills transferred (Clark & Voogel, 1985). Clark and Voogel distinguished between procedural learning objectives, in which concrete and practical knowledge of relatively simple routines are included, such as something that can be learned as a step-by-step sequence of behaviors, and a declarative learning objective, in which concepts and principles have formal properties. Procedural types of training objectives tend to involve near transfer, whereas declarative training objectives are more likely to contribute to far transfer.

In terms of transfer theory, the literature has focused on two kinds of transfer of training theories. For example, Goldstein (1993) describes two transfer theories necessary for explaining near and far transfer: the identical elements and transfer-through-principle theories. The identical elements theory posits that transfer of training occurs when the material being acquired during the training is identical to that which the trainee performs in an actual context. According to this theory, transfer is maximized to the extent to which the tasks, equipment, tools, and environment at the training setting are similar to those encountered at the actual work setting. In contrast, the transfer-through-principle theory proposes that the general princi-

ples necessary to learn a task should be emphasized in order to solve problems related to the transfer task. Regarding the issue of training environment design, this theory is not highly concerned with similarity between the training setting and the actual work setting. Therefore, near transfer enables trainees to meet the relatively known predictable conditions of their job and apply their knowledge and skills, while in far transfer, the trainees are expected to learn concepts and principles to deal with situations not always encountered during the training.

Finally, research suggests that near and far transfer of training requires different learning requirements. The requirements for near transfer depend mostly on the similarity between the training and the task. However, achieving far transfer of training requires additional considerations. For instance, Laker (1990) stated that far transfer depends on whether the training includes information about the assumptions underlying the skills and behaviors they are learning. In addition, a number of studies have suggested that the more trainees practice in different contexts and use novelty in their practice exercises, the more effective the far transfer (Ellis, 1965; Goldstein, 1986; Baldwin & Ford, 1988). Clark and Voogel (1985) stressed the importance of incorporating a variety of situations and problems to develop and apply skills.

Structured OJT and Transfer of Training

As mentioned, structured OJT has been perceived as an effective training approach in part because of its potential to achieve transfer of training. It is one of the benefits of structured OJT that trainees have much more possibility for transfer than classroom training (Jacobs & Jones, 1995). Transfer of training is often the major concern for managers and HRD professionals. Because structured OJT is conducted near or at the job setting, trainees are available to use the same equipment, tools, and environment that they are supposed to use to perform their actual tasks. Structured OJT also enables trainees to practice the task during training because the task is similar in both training and transfer.

When there is a greater match between a training setting and a job setting, trainees can transfer what they have acquired to the job more successfully. As mentioned, structured OJT has been perceived as an effective training approach in part because of its potential to achieve transfer of training. One of the benefits of structured OJT is that trainees have a greater possibility for transfer than classroom training (Jacobs & Jones, 1995). Transfer of training is often the major concern for managers and HRD professionals. Since structured OJT is conducted near or at the job setting, trainees are able to use the same equipment, tools, and environment that they normally use to perform their actual tasks. Moreover, structured OJT also enables trainees to

practice the task during training because the task is similar in both training and transfer. Because of the inherent association between structured OJT and the feature of transfer, it is commonly believed that structured OJT should only be used in near transfer of training situations.

Figure 2 presents how structured OJT differs by the nature of the task—established or varying—and near or far type of transfer of training. Figure 2 also shows examples of these dimensions. The classifications between near and far transfer and established and varying tasks provide an approach to the transfer-of-training domain of structured OJT. The established and varying classification provides a complementary dimension to near and far transfer. Whereas the near and far transfer is a classification about the conditions under which training and transfer tasks are performed, the established and varying task is a classification about the nature of the tasks themselves. Established tasks involve the specific procedural training content and sequence. In contrast, varying tasks involve the complex of general information in training content and sequence. The combination of a near or far type of transfer and the established or varying tasks can provide a means of characterizing transfer of tasks on structured OJT.

Established tasks and near transfer of training (cell 1) have characterized most structured OJT programs. In this instance, the training focuses on units of work in which the content and sequence are established, so that the trainee is expected to perform closely matching job tasks. Established tasks and far transfer (cell 2) focus on units of work in which the content and sequence are established, but the trainee is expected to perform across a set of related tasks. In this instance, the training focuses more on having trainees learn reliable principles that govern relationships between variables. This combination will attract most attention from organization managers because far transfer would seemingly reduce the amount of training early on.

The combination of having varying tasks and near transfer (cell 3) suggests that the training focuses on units of work in which the content and sequence are changeable, for the purpose of performing closely matching job tasks. At first glance, how to achieve such a combination might appear illogical, but it points to situations where training is provided for complex, constantly changing work situations. Finally, in considering varying tasks and far transfer (cell 4), the training focuses on units of work in which the content and sequence are changeable, for example, to perform a set of related job tasks. In this instance, the training provides the broad principles, often drawn from the underlying structure of the task. This broad base can be transferred to multiple-task situations. Given these combinations, it becomes necessary to present level of transfer, which focuses more on general principles and concepts. This is followed by embedding of suitable training objectives and content for the desired level of transfer.

	Near	Far
Established	Cell 1 Training focuses on units of work in which the content is fixed to perform closely matching job tasks <ul style="list-style-type: none"> • Installing tires in a car • Calculating interest payments on customer mortgage loans 	Cell 2 Training focuses on units of work in which the content is fixed to perform related job tasks <ul style="list-style-type: none"> • Learning Microsoft Word and apply the conceptual understanding and skills to WordPerfect
Varying	Cell 3 Training focuses on units of work in which the content and sequence are changeable to perform closely matching job tasks <ul style="list-style-type: none"> • Determining customers' insurance needs 	Cell 4 Training focuses on units of work in which the content and sequence are changeable to perform related job tasks <ul style="list-style-type: none"> • Learning principles of a discussion and then apply them to the understanding of facilitating team meetings

FIGURE 2: Comparing Types of Tasks and Transfer of Training

Regardless of the level of transfer, a precondition for using structured OJT is that the trainees have the necessary prerequisites and are adequately encouraged and supported to perform the acquired skills or knowledge during training (Richey, 1992). However, when there are other common conditions for near and far transfer, factors more likely important to affect far transfer will exist. In attempting to identify the factors, this section will use Baldwin and Ford's (1988) categories to organize how best to design structured OJT programs for far transfer of training.

Trainee Characteristics

Compared to structured OJT used in near transfer, a trainee's preferred learning style in structured OJT used in far transfer seems to more strongly affect far transfer. For example, a trainee who is field dependent—one who has difficulty detecting simple figures within a complex field—would have more difficulty than a field-independent trainee in identifying the critical features of concepts. Field-independent trainees will ask more questions related to the instruction because structured OJT provides a framework ensuring trainees understand underlying principles, concepts, and assumptions. Research suggests that the more fully trainees understand the underly-

ing principles, concepts, and assumptions of the skills and behaviors they are learning, the more efficient the far transfer will be (Laker, 1990).

Training Design

From the standpoint of training design, providing multiple examples in various contexts and practice in various contexts is required for structured OJT to achieve far transfer, for example, employees in a warehouse distribution center who are trained to pack different products (e.g., books, clothing, and dishes) in different organizational functions (e.g., shipping department or the gift wrap area). A number of studies have demonstrated that the more trainees practice in different contexts and use novelty in their practice exercises, the more effective the far transfer will be (Baldwin & Ford, 1988; Ellis, 1965; Goldstein, 1986). Clark and Voogel (1985) stressed the importance of incorporating a variety of situations and problems to develop and apply skills. Research has also shown that multiple examples from varied contexts are necessary for promoting far transfer than a one-dimensional approach (Clark & Blake, 1997). Nitsch (1977) demonstrated that training in various contexts enhances far transfer and that successive context practice requires that a given task be varied.

Work Environment

Several studies (Ford, Quinones, Sego, & Sorra, 1992; Goldstein, 1993; Jacobs & Jones, 1995; Noe, 1986; Richey, 1992) have demonstrated the need to gain further understanding of the specific conditions that foster the transfer of newly acquired skills to the workplace. In a given training program, transfer, even far transfer, occurs within a general work environment where the training occurs (Richey, 1992). In this case, a work environment is needed and is considered an important part for both the learning task and the transfer of learning to that task. Environmental factors determine training effectiveness, especially regarding far transfer (Richey, 1992). Therefore, when the work environments are supportive of the behavior and concepts achieved in training, far transfer will occur. Laker (1990) supports this notion by claiming that the more positive the reinforcement that trainees receive during training to discuss and apply the training, the more effective the far transfer.

Implications of Far Transfer

This chapter proposes that structured OJT can be used for both near and far transfer of training. Several issues determine whether structured OJT can

actually be used for far transfer. First, to achieve far transfer, structured OJT should be considered a system such that the training inputs, training process, training outputs, and organizational context are considered. Even though it may be believed that training outcomes from far transfer are less predictable, using the systems view to structured OJT would enhance the possibility for more effective training outcomes as best as it can be.

Second, a structured OJT program is viewed as an investment from which the organization can expect a return (Jacobs & Jones, 1995). When an organization needs principle-focused training to apply this to multiple job issues or when training a workforce in a broader perspective, for example in a nation, is needed, structured OJT used in far transfer would be a cost-effective approach. Integrating the principle into structured OJT can achieve job outcomes in near transfer and enhance the potential far transfer.

Third, Versloot and De Jong (1994) and De Jong (1991) supposed that the type of organization must be matched with an appropriate form of structured OJT. In their writing, forms of planned training on the job have varying levels of structuring and include on-site practice, on-site instruction, and on-site study. According to the authors, in certain circumstances, it can be better to structure less than to structure too extensively (De Jong, 1991; Versloot & De Jong, 1994). In this regard, structured OJT for far transfer could be more appropriate than structured OJT for near transfer.

Finally, with regard to the organizational context, for getting successful far transfer, trainees can be encouraged to discuss and apply the training in a context they choose. When trainees participate in the program design, the training would be expected to have a closer match between the employee's interests and the organizational needs. This approach might enable trainees to better meet current and future organizational needs.

Conclusion

Although structured OJT is now widely used as an effective training method, structured OJT has been used within a limited domain of near transfer of training. This chapter sought to explore the transfer-of-training domain of structured OJT to include far transfer. Further research and experience are required to fully examine the various issues related to designing structured OJT for far transfer of training.

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