



# Optimizing Knowledge Transfer and Use

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## Introduction

Is the success of your organization dependent on the efficient transfer and use of knowledge? If your people need specific skills and knowledge to effectively perform their functions, you are dependent on effective knowledge transfer. In most organizations, effective utilization of knowledge increases productivity, creates competitive advantage and, ultimately, improves profits.

However, efficiently transferring knowledge has proven to be a difficult challenge. It has been difficult to find and gather superior knowledge and to get people to use the knowledge. How then is an organization to transfer knowledge to the many people who need it to optimize their productivity?

This article examines the knowledge transfer challenge and presents a new, more effective method for transferring critical knowledge. More specifically it discusses conditions required for effective knowledge transfer, the current approaches for knowledge transfer, and presents Digital Coaching Technology (DCT) as the most efficient and advanced form of knowledge transfer. Organizations currently using DCT have consistently seen incredible transfer results including:

- Increasing insurance sales 15% in just 6 months
- Reducing training time for railroad inspectors 66%

## Defining 'Knowledge Transfer'

Although there are many definitions of "knowledge," for the purposes of organizational learning and efficiency we define knowledge as:

- (1) The fact or condition of knowing something with familiarity gained through experience
- (2) the range of one's information or understanding

Knowledge consists of the attitudes, cumulative experiences and developed skills that enable personnel to consistently, systematically and effectively perform a function. As such, knowledge goes well beyond information and data, focusing more on subtleties such as forming attitudes, understanding meaning, interpreting new circumstances and realistic application to different situations.

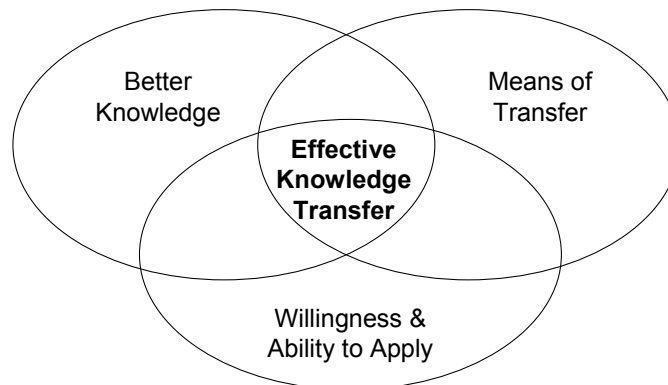
Why does an organization want to transfer knowledge? In any organization, some people have knowledge that is more important to the success of an organization. The goal of knowledge transfer is to enable new, less experienced and/or less effective personnel to understand and use another person's knowledge in ways that significantly improve productivity. This causes them to be effective much faster and to levels only attained by the experienced top performers.

## Conditions Required for Knowledge Transfer

Although there is nearly universal agreement about the value of knowledge, actually transferring knowledge has proven to be a consistent challenge for organizations. In order to successfully improve performance by transferring useful and important knowledge the following conditions must exist (Figure 1):

1. There must be knowledge available to transfer that is sufficiently better than the user's existing knowledge
2. There must be a means of transmitting it from the holder, or 'source,' to not just one, but many recipients, or 'consumers'
3. The consumers must be both willing and able to use this better knowledge, both immediately and over the long-term

While these conditions may seem obvious, they are often quite difficult to achieve. For example, why must the knowledge transferred be "better"? Having "better" knowledge is important because there is simply no reason to transfer less effective knowledge. Furthermore, if the user doesn't perceive that the knowledge is better, the user won't be motivated to learn or apply it.



**Figure 1: Conditions Required For Knowledge Transfer**

But what does "better" knowledge mean? Every person that performs a function within an organization has knowledge of how that function should be performed. This is obvious, since they perform the function every day. However, some people perform the function better, or more effectively, than others. Better

knowledge is knowledge that enables less effective personnel to improve their performance to top levels, thereby improving the overall performance of the organization. Realism, comprehensiveness, and applicability are key attributes of better knowledge. Again, knowledge is only better if it has an impact on improving an organization's productivity and, ultimately, its profitability.

Assuming that an organization can identify and gather "better" knowledge, the organization must move the knowledge from a source to the person who needs it, or, more accurately, to the many people who need it. Knowledge transfer is usually only an issue if transferring it improves the performance of a large enough group of people to have a significant effect on the overall performance of the organization. If only a few people need the knowledge, informal one-on-one discussions are usually sufficient. Effective knowledge transfer, however, includes the ability to move the knowledge on a large scale, which has been very difficult to do using traditional methods.

Finally, in order for knowledge to have value, the potential user of the knowledge must have both the desire and the ability to use the knowledge to improve performance – both immediately and repeatedly over a long time period. Motivated learners are always more open to learning and applying the better knowledge than people who are, for whatever reason, closed to new ideas. Furthermore, the recipient, no matter how motivated, must be able to apply the knowledge to their unique situation in a variety of circumstances. The knowledge must, therefore, incorporate the nuances that occur in a wide variety of real situations or it quickly loses its applicability. Thus, the knowledge must contain within it the capability to motivate the user, adapt to differing situations, and still be vital and valuable weeks and months later. Without these conditions, you once again have knowledge without impact. Why bother to transfer knowledge if it isn't going to be used in a meaningful way?

If knowledge transfer is judged on these criteria, is it any wonder that organizations have found it challenging? Since it is essential that all of these conditions exist for effective knowledge transfer to occur, it shouldn't be at all surprising that the standard approaches to knowledge transfer have had little success.

## **Established Methods for Knowledge Transfer**

Given the potential benefits of effective knowledge transfer, organizations have invested substantial resources in creating systems and approaches to overcome these obstacles and transfer critical knowledge. The most common formal approaches for knowledge transfer are:

- *Knowledge management (KM) systems*, which transfer knowledge using databases, search engines, portals, communities of practice and other technologies

- *E-learning systems*, which use internet technology to transmit self-paced, slide driven, self-tested content
- *Operational & management process binders*, which are lengthy compilations of expert procedural content. By following the procedures, the user learns and applies the content
- *Instructor-led training*, which is the classic training course so common in most organizations

Unfortunately, none of these consistently achieve all of the conditions for effective knowledge transfer, and several of them don't meet any of the conditions (Table 1).

Standard Approaches	Quality of Knowledge	Ability to move knowledge	Users willingness and ability to use knowledge
<b>KM Systems</b>	<b>Poor:</b> Difficult to tell if knowledge is good or not	<b>Poor:</b> Difficult for consumer to locate knowledge	<b>Poor:</b> Difficult to establish context and application
<b>E-learning</b>	<b>Poor:</b> Based on marginally relevant 'official' story	<b>Good:</b> Anyone with Internet access can get it	<b>Poor:</b> Very cold, ineffective medium with little feedback
<b>Operational and Management Process Binders</b>	<b>Poor to Mediocre:</b> Sometimes good procedural knowledge but usually an 'official' story lacking nuance, integration and decision-making.	<b>Excellent:</b> Easy to distribute to the masses	<b>Poor:</b> Very difficult to use due to size, complexity, and usually non-engaging format
<b>Instructor-led Training</b>	<b>Poor to Excellent:</b> Very dependent on personal knowledge of the course designer and instructor. Designers and instructors with real, hands-on experience can be great, but most have minimal actual experience. Courses become an "official" story.	<b>Poor:</b> Limited to the number of people who can attend a class, the number of instructors, and availability of facilities	<b>Poor to Excellent:</b> Some emphasis on motivation and application depending on the instructor. Usually lack of practical application and, therefore difficulty sustaining the impact. Too much information, too fast.

**Table 1: Standard Approaches and the Conditions of Knowledge Transfer**

We have discussed KM Systems at length in other articles (see *Humanistic Knowledge Technology*, Seidman, 2002 and *A Behavioral Approach to Knowledge Management*, Seidman and McCauley, 2004) and will not repeat this work. To summarize the findings discussed in these articles, KM systems are very ineffective at knowledge transfer for many reasons. They have minimal capability for distinguishing between good and poor knowledge, make it difficult for the user to identify and isolate the exact information needed, and provide little

useful contextual information to facilitate application. Furthermore, they are expensive to implement. Although KM systems have received a significant amount of publicity in recent years, overall they are the least cost-effective approach to transferring knowledge.

E-learning systems aren't much better. Although they are very efficient at enabling many people to review the content, and are reasonably effective at training for highly proceduralized functions, the content in e-learning systems is often problematic. Usually developed by training groups or consultants with little direct functional experience, the content typically presents an 'official' story (see *Harvesting the Experts' "Secret Sauce" and Closing the Performance Gap*, Seidman and McCauley, 2003) that lacks the realism of 'better' knowledge.

Perhaps more important though is the nature of the learner's interaction with the media. Most e-learning systems are boring, even if they have been enhanced with sharp graphics, programmed learning or streaming video. E-learning is, to a very great degree, passive learning. It does little to motivate learning, guide immediate application of the knowledge or sustain use of the knowledge, and, like KM systems, it can be expensive. Developing or purchasing the underlying learning management system is expensive and converting classroom training into e-materials can push the cost of these systems up significantly. For these, as well as other reasons, the impact of e-learning on knowledge transfer has been disappointing.

Process binders present a different picture. The quality of the content in process binders varies tremendously depending on how it was created. Occasionally, true subject matter experts participate in the creation of the content. This tends to make the knowledge more valuable and realistic – that is 'better' than the knowledge generally held by the population. However, even when subject matter experts participate in their development, binders are usually very procedural and official, containing specific lists and operational checklists that quickly become outdated. As such, they too lack the trade-offs, nuances, integration and guidelines for real decision-making essential for having better knowledge. Also, the binders that we're familiar with tend to be difficult to use and incredibly boring. How many binders do you have sitting on your shelf right now? We have 12, not counting another 20 or so in the closet. When was the last time you actually used one? If you're typical, after the initial pass-through, often as part of a training course, you never touch it again. Binders, even though very inexpensive to develop and distribute, frequently fail on both the "better" knowledge and consumers willingness and ability to use the knowledge criteria. While better than KM Systems or e-learning, binders have not been tremendously effective either.

Instructor-led training presents a more complex picture. Training is probably the most common form of formal knowledge transfer in any organization, but, like the other approaches, it has had only mixed success. The quality of training is very dependent on the development process, particularly the role of subject

matter experts, and on the knowledge and skills of the instructor. When highly experienced subject matter experts are deeply involved in the development of the course materials and actively participate in the instruction, the learning experience can be truly extraordinary. Well designed and delivered courses cannot only provide superior content, but they can motivate the attendee to learn and use the content.

Unfortunately, relatively few instructor-led courses are extraordinary. Most of the time professional instructional designers with minimal functional knowledge develop the courses. While they will certainly interview subject matter experts, the content in these courses tends to be, like the process binders, relatively superficial and procedural, lacking many of the most critical elements of better content. When delivered by professional instructors, which is the norm, all that gets delivered is a minimally credible 'official' story that is quickly discarded by the attendee. For example, when specifically questioned about the validity of their course content, field training instructors in a large pharmacy chain stated that their course on managing expired inventory was, "somewhat outdated and essentially wrong, but corporate makes us teach it anyway." This perspective is unlikely to promote effective transfer or result in any productivity improvement.

Furthermore, training courses that are part of a sequential curriculum can undermine, instead of promote, knowledge transfer. At one retailer, new store managers went through 36 highly procedural modules in 10 weeks. At one manufacturing company new engineers went through 25 equally procedural courses in 6 months. What do you think the retention rate was from this training? It shouldn't surprise you to know that it was minimal. Because of the procedural, micromanagement-like focus of the content, little was done to create an underlying mental model to organize and integrate all of the information. Also, because course attendees usually have, at best, only a brief opportunity to apply the content of each module before proceeding on to the next one, the content is not 'anchored' in practical application. As a result, each succeeding course displaced the learning of the previous courses until no one could tell what had been retained. It was bits and pieces of knowledge, without any reusable core.

Not surprisingly, training experiences do not often have substantial long-term impact. When people leave a course, even if the course is great, they are usually bombarded by the many others pressures of their day-to-day jobs. This causes the recipient to quickly forget the knowledge they obtained in the course. Also, their supervisors rarely are knowledgeable and skilled enough to directly support the content from the training (even if they believe it is correct, which they usually don't), so there is little support for applying the knowledge outside of the classroom. A high percentage of the knowledge is retained only in the very rare cases where practical application of the new knowledge to a real work setting is directly incorporated into the class. As one executive of a chain put it, "Our training follows the 72-72 rule. 72% of everything that is learned in class is lost in the first 72 hours after the training." In the vast majority of cases, training has not had the sustained impact that was expected.

Finally, instructor-led training is not very portable. The number of people who can attend a course (usually related to cost), the number of instructors, and the availability of adequate facilities all limit training's portability. Consequently, it can take years to train all relevant personnel in a large organization. So while training can be an excellent knowledge transfer approach, it usually isn't.

Organizations are able to transfer knowledge, though. If these traditional methods are all so ineffective, how does the knowledge transfer occur?

## On-the-job Training (OJT)

Ask anyone how he or she really learned their job and they will usually describe some form of informal coaching experience, which is commonly referred to as 'on-the-job training (OJT).' OJT occurs when a less knowledgeable person works with someone more experienced. In the course of working together on actual work, the more experienced person either verbally conveys their personal knowledge of how to perform a function, physically models how to perform the function, and/or observes the less experience person performing the function and critiques their performance. OJT is very immediate and focused almost exclusively on the application of relevant, better knowledge.

But how does OJT rate on the criteria for knowledge transfer that we discussed in the previous sections? Table 2 suggests that while it is better than most of the formal approaches, it still has severe limitations.

	Quality of Knowledge	Ability to move knowledge	Users willingness and ability to use knowledge
<b>On-the-job Training (OJT)</b>	<b>Mediocre to excellent:</b> Most realistic content but little quality assurance of content. Content is ad hoc and incomplete	<b>Poor:</b> A one-on-one session with no mass capability	<b>Excellent:</b> Completely focused on application of the knowledge

**Table 2: OJT and Conditions for Knowledge Transfer**

Not surprisingly, while the applicability of the knowledge during OJT is extremely high, the quality of knowledge can vary widely depending on the experience of the coach or mentor. Certainly some people have extraordinary insight and understanding, and have content far above the norm. However, most are, of course, average, meaning that they are no better than the norm and a portion may be outright wrong. With OJT it is difficult to determine if the content is, in fact, better.

In addition, even if they have superior knowledge, many of these experts are not great communicators. Furthermore, even if the knowledge is excellent and they can transfer it effectively, it can only be communicated to at most a few people at a time, severely limiting its value. Thus, OJT is not really better than the other approaches at systematically transferring knowledge in large environments.

What then can an organization do to become more effective at transferring knowledge? The answer is Digital Coaching Technology.

## Optimizing Knowledge Transfer

Digital Coaching Technology (DCT) was specifically designed to meet the conditions that facilitate knowledge transfer (Table 3).

	Quality of Knowledge	Ability to move knowledge	Users willingness and ability to use knowledge
<b>Digital Coach Technology (DCT)</b>	<b>Excellent:</b> Gathers the experts' secret sauce, their unconscious competence for key management areas in no more than three days	<b>Excellent:</b> Knowledge contained in a small, easy-to-move database, accessible to anyone on the Internet	<b>Excellent:</b> Provides guided coaching for immediate engagement and monitoring for long-term internalization

**Table 3: DCT and Conditions for Knowledge Transfer**

### Ensuring Better Knowledge

Let's begin with the first condition, having 'better' knowledge. How does DCT ensure that an organization is transferring only better knowledge?

DCT guides a management team to identify:

- The management processes that are most critical to the organization's success
- The personnel who are most successful in performing these processes
- The key knowledge that enables these personnel to be significantly more successful than others at performing the process

As a result, an organization can feel confident that the knowledge to be transferred is important, because the management team has already agreed that these management processes are critical and that it is better, because it comes from people who are better at performing the function. (See *A Behavioral Approach to Knowledge Management*, Seidman and McCauley, 2004, for a more detailed description.)

However, actually getting this superior knowledge from the experts has long been a challenge. Fortunately, DCT knowledge harvesting has proven to be an extremely efficient technique for gathering superior knowledge.

DCT uses 'naïve new person questions' to prompt the identified top performers to tell 'real' stories (which are very different from 'official' stories) of their jobs (See *Harvesting the Experts' "Secret Sauce" and Closing the Performance Gap*, Seidman and McCauley, 2003). These real stories are always filled with the

subtle nuances, decision-making criteria and integration that comprise the true knowledge required for success. This is the top performers' unconscious competence or, as we call it, their 'secret sauce.'

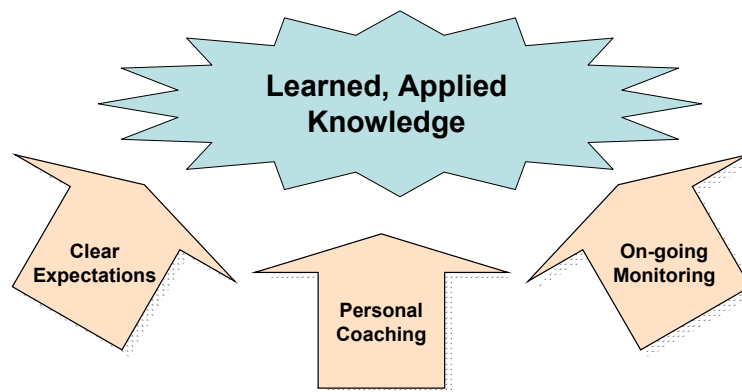
The secret sauce includes the top performers' organizing mental models of the process and the major phases and principles for performing the process. These are supported by very specific details, well-defined roles and responsibilities, high-level and detailed schedules, complete risk management plans and any supplemental resources required. 'Real stories' contain all of the better knowledge needed to improve performance in the organization.

Finally, knowledge harvesting leads the experts to express themselves in language that is very realistic and powerful. When less effective personnel use this content, they are immediately struck by its realism (it has 'instant credibility') and its usefulness for their own situation ('instant application').

This approach ensures that the knowledge an organization wishes to transfer is actually better than the current norms by focusing it on the most important management processes, while gathering it from the most effective personnel in a way that makes it easy for others to accept and apply.

### **Moving Knowledge from Source to Consumer**

Fortunately, the above approach of focusing in on the most important knowledge also reduces the distribution problem drastically. By narrowing the notion of better knowledge to key management processes and the most effective personnel, it significantly reduces the amount of knowledge that needs to be moved. Instead of big thick binders or complex databases, it can be stored in relatively small, easily portable databases. In DCT databases, it is rare to have more than 6-8 key management processes, all of which are described in plain language. Anyone with Internet access can find them without having to endure a complex search that may result in 100's or even 1000's of possible 'hits.'



**Figure 2: Ensuring Knowledge Is Learned and Used**

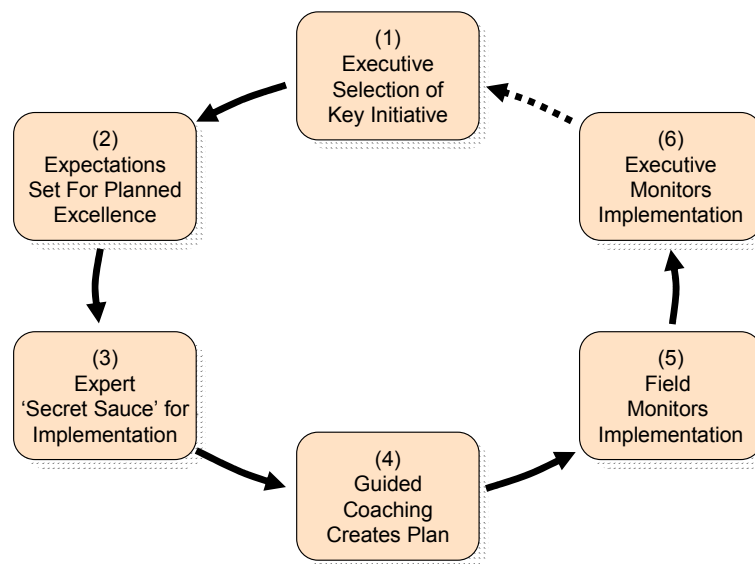
## Ensuring that Consumers are Willing and Able to Use Knowledge

Creating an environment that ensures a knowledge consumer will be willing and able to use the new knowledge, both immediately and in the long-term, is the most challenging step in effective knowledge transfer.

DCT includes three elements that ensure knowledge is actually learned and used, both immediately and over a long time (Figure 2). DCT:

- Guides executives to set a clear expectation that improving performance on critical management processes is important enough that personnel will allocate time to learning and applying the knowledge to their personal situation (thus the importance of selecting the key management area)
- Presents the knowledge in a way that simulates the interactions with a great personal coach to create instant credibility and instant application. Great personal coaches consistently use behaviors that promote motivation, understanding and immediate application of knowledge, thereby optimizing knowledge transfer
- Enables the management team to continuously monitor the use of the knowledge both immediately and over a long enough period to ensure completely internalization

These processes are described in *8 Minutes to Performance Improvement* (Seidman and McCauley, 2003) and *The Performance Improvement Multiplier* (Seidman and McCauley, 2003).



**Figure 3: The DCT Knowledge Transfer Process**

The complete DCT knowledge transfer system is shown in Figure 3. It begins with executive selection of a key process, progresses through knowledge harvesting, guided coaching and local monitoring, and concludes with the executive role in monitoring of knowledge use.

## Summary

We live in a knowledge economy where an organization's widespread use of knowledge is one of the essential determinants of success. Yet most organizations are ineffective at transferring critical knowledge and, as a result, miss opportunities for competitive advantage. By understanding and consciously creating the three conditions that promote knowledge transfer, organizations can achieve tremendous benefits. Those already using DCT to transfer their 'better' knowledge have:

- Reduced the time it takes for an initial transfer of key knowledge throughout their organization to just six days
- Improving retail customer conversions 6%
- Saved \$2M per week in manufacturing costs

This type of productivity gain is, of course, precisely what drives the need to transfer knowledge in the first place!

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