Hands-On Training

A Simple and Effective Method for On-the-Job Training

GARY R. SISSON

An Excerpt From

Hands-On Training:
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by Gary R. Sisson
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Preface
Low-Cost, High-Return Training

As a training practitioner, I have spent a good deal of my working life documenting jobs and developing systems to help people learn. For over thirty years I have applied numerous up-to-date training methods and have found it fascinating to watch the evolution toward more and more systematic approaches to learning. Yet as effectiveness and efficiency have increased, so has the cost of developing sophisticated training programs. And unfortunately, training professionals still have little ammunition when they face skeptical managers who often weigh the cost of doing nothing at all against what they view as the high cost and unpredictable results of formal training. For all the changes in my chosen profession, that's one aspect that has changed very little.

When the situation doesn't justify a large expenditure or when the choice is to do nothing, the alternative is not "no learning." The learning will happen anyway. It won't be structured or systematic or efficient, but it will happen because motivated workers will find a way to

muddle through, doing the best they can with what they have. And what they have is usually some form of unstructured on-the-job training (OJT): probably the single most expensive training method available. The cost of the resulting inefficiencies will simply be buried beneath the numbers on a chart of accounts as decision makers brag about how much they saved by avoiding a large (and obvious) expenditure to develop formal training. I learned this the hard way, and as I began to sense the inevitability of on-the-job training, I also began to see that the approach had power waiting to be harnessed. So I began to experiment with structures for on-the-job training that could provide inexpensive and reasonably effective training alternatives based on sound learning theory mixed with more than a little common sense. This book summarizes what I have learned. Starting with a research project at Bowling Green State University in Ohio[1] and continuing to this day, the elegant concept of introducing structure into on-the-job training consistently has yielded amazing results in terms of learning, training time, productivity, financial gain, and just about any other type of return available. Hands-On Training is truly low-cost, high-return training.

I wrote *Hands-On Training* primarily for on-the-job training instructors: supervisors and skilled workers who actually train others. I use the book to supplement instructor training seminars for clients where most participants are not professional trainers. They are not theorists. Most are part-time instructors. They include skilled office workers, lab technicians, software engineers, machine operators, truck drivers, customer service representatives, miners, assemblers, nurses, and warehouse workers. They come from high-tech aerospace, computer, and biotech companies as well as old-line industries such as machine shops and food, steel, and automotive companies, to name just a few. While they come from all walks of life, my repeated observation has been that on-the-job training instructors are very serious about their responsibilities and are searching for ways to make their training better. These instructors persevere in the face of many obstacles. Most of them are open and ready to accept help when it is practical and straightforward. When they see Hands-On Training, they know it will work.

If you share this observation or if you're willing to experiment, I say leave the fads and fancy stuff in the training center. Teach workers

how to do on-the-job training—and teach them to do it well! Hands-On Training is on-the-job training that works. Use it to help new on-the-job training instructors get started, support your own instructor training, or provide experienced instructors with a fresh perspective. Many on-the-job training instructors will grasp it like a life preserver!

A Word about Semantics

A new book gets read several times before it is printed for publication. The publisher has editors and reviewers who make suggestions about style and content. And as the author, I had more than a dozen friends read the manuscript and give me their thoughts as well. I got a lot of good suggestions, but one troublesome pattern emerged during this process. Almost every single reader suggested that I change words used to identify some of the most important people and ideas in the book. The first couple of times I changed the words, only to have subsequent readers suggest I change back to those I used in the first place. It was a frustrating experience.

- Is the person who delivers Hands-On Training an instructor, a facilitator, or a teacher?
- Is the person on the receiving end a trainee, a student, or a learner?
- Is the training about skill, expertise, or a subject?

Perhaps you can see my dilemma. I couldn't find words that would satisfy everybody. While all of these words have shades of meaning that may appeal to different types of readers, they are also nearly identical in many ways. So I hope that you will bear with me when I refer to the instructor, the trainee, and the skill. I am doing this only in the interest of simplicity and consistency. Please feel free to substitute your own favorite alternatives. They won't change the message of this book.

Gary R. Sisson
Littleton, Colorado
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1 Traditional On-the-Job Training: Popular but Obsolete

If you are reading this you are probably already an on-the-job training (OJT) instructor or preparing to become one. This being the case, you are participating in one of the most powerful processes on earth—that of passing on your own knowledge and skill to others.

Your challenge may be to train new workers in "the basics," or it may be to train experienced employees in new skills. You may be facing the start-up of a new facility or the launch of a new product or service. You might be assigned to help your organization deal with a changing technology or the implementation of improvements to a job. Your challenge could even be "all of the above."

Regardless of the circumstances, training is an important responsibility that sometimes can be as painful as it is rewarding. But the reasons for reading this book are to minimize the pain, to gain insight into

the process of on-the-job training, and to learn from the experience of others who use training to unleash the power of people. On-the-job training is the single most used (and misused) of all approaches to training. It happens whenever an experienced person shows an inexperienced person how to do a job. Sound familiar? It should because just about everyone who has ever held a job has been exposed to on-the-job training in one form or another.

On-the-job training probably started when one caveman used grunts and gestures to train another caveman on fire starting, spear making, or some other basic skill. You can see it now in a flashback: Ogg sits on a rock, showing Ugoo how to chip away at the flint to make a projectile. Ugoo then tries to make his own spear point while Ogg attempts to help. And there you have it—the dawn of on-the-job training. Today John concentrates on Judy's screen as she demonstrates how to use a database. Then John tries to duplicate Judy's computer skill. A lot has changed. Or has it?

On-the-job training has a long tradition that dates from the Middle Ages, when mothers trained daughters in skills of the hearth, knights trained squires in military skills, and guilds began training apprentices in the various crafts of their day. Through the Industrial Age and into the age of information, jobs and skills have become increasingly complex, but the method of having an inexperienced person learn from an experienced person remains essentially unchanged, even today. The traditional on-the-job training method is characterized by four features:

1. Traditional on-the-job training is focused on the work.

The instructor's primary mission is to complete the work at hand. The training is secondary, and little, if any, allowance is made for the presence of a trainee on the job. Thus, if something goes wrong during the training process, the instructor's priority is to get the work back on track. The trainee is expected to stay out of the way, in the interest of productivity. As long as the work gets done, the instructor can do as much training as he or she wants. But make no mistake: the work comes first.

2. The work provides the structure for the training.

The training itself is unstructured and relies on the flow of work for its sequence. If tasks occur out of order, so does the training. If a random event happens in the middle of a step-by-step procedure, the instructor interrupts the sequence to deal with it. This being the case, a trainee may participate in some incidents that are highly unusual and altogether miss seeing other, more common events. In a very real sense, the traditional on-the-job training instructor is at the mercy of circumstances. The instructor has only limited control over the training because the work comes first.

3. The instructor relies on job experience to do the training.

An on-the-job training instructor usually is a highly skilled employee with years of job experience who is assigned to pass on this experience and skill to a trainee. While the instructor may be an expert at the job, he or she is usually not skilled as a trainer. Some highly skilled workers simply aren't interested in training. Others would like to be trainers but don't know how. Many of us know on-the-job training instructors who are rather poor teachers. That's because most of them have never been trained to instruct.

Compounding this problem is the fact that in most traditional on-the-job training, instructors usually aren't required to teach a standardized method of doing the job. Rather, instructors tend to be left to their own devices when it comes to the specifics of training. Thus, if two instructors have different ways of accomplishing a task, so will their respective trainees. At best, this contradicts the notions of standardization and repeatability, and at worst it could lead to safety or quality problems.

4. The training method is determined by the instructor.

In traditional on-the-job training, the instructor chooses his or her own training method. There is no prescribed "best way" to teach a skill. The two most common approaches are showing and telling. Some instructors commonly do a lot more showing than telling or vice versa. Some instructors may provide guidance as the trainees practice, while

other instructors may prefer to cover the subject and then put the trainees to work on the job without much supervision. Needless to say, this may result in spotty performance.

Normally, no formal evaluation is conducted as part of traditional on-the-job training. The criteria for success are determined by the instructor, and if he or she happens to be methodical, the trainee may become a highly competent performer. But if the instructor is impatient, erratic, or under pressure to put the trainee to work, the trainee's skill level may suffer. Either way, the end of training is strictly a judgment call on the part of the instructor: the trainee is ready when the instructor says so.

By now it is probably clear that this book does not advocate the traditional approach to on-the-job training. The reasons for this are many, but they all add up to one very fundamental problem: *Traditional on-the-job training is an uncontrolled training situation that cannot produce consistent results.*

In today's world, where concepts such as repeatability, reliability, standardization, and consistency are critical to success, we are mistaken if we use traditional on-the-job training as our training method of choice. Our world (and our customer) demands a better way. Here is why:

- ***Traditional on-the-job training is inconsistent.***

  On-the-job training is governed by the individuality of each instructor's approach to training. No standard training method exists and most often there is little, if any, standardization of the job method. This being the case, how can we reasonably expect traditional on-the-job training to yield consistent results in the form of workers who all do the job the same way with the same level of quality? The answer is, we can't. In many organizations dominated by on-the-job training, people with the same job have difficulties even communicating with each other because they use different terminology for tools, steps, processes, and materials.

- ***Traditional on-the-job training is inefficient.***

  In on-the-job training, you have an instructor and a trainee, both working on the same job. Therefore, by definition, on-the-job

training is an approach that features two people doing the work of one. If there were a standard level of productivity per worker for the job (such as a numeric quota) the level would be cut in half during the entire training period. It is unlikely that productivity would go up. In fact, productivity may well drop because the trainee might slow down the process. Yet you still have two people on the same job. This fact would suggest that the training should be completed as fast as possible. However, traditional on-the-job training is governed by the work, and the process of learning is disorderly because of continual interruptions in the interest of getting the job done. This tends to slow down the trainee's learning and stretch out the training. Thus, the inherent inefficiency of on-the-job training is multiplied and labor costs increase.

- ***Traditional on-the-job training is ineffective.***

  At best, the effectiveness of training accomplished by traditional on-the-job training is open to question because little, if any, attempt is made to evaluate performance during the training period. At the end of training, we seldom really know how much the trainee can do. Only after placement on the job can we tell how well the training worked, and at that point, all too frequently there is no turning back, even with a marginal performer on the job. The demand for productivity is just too great these days.

  An even greater effectiveness problem occurs over the long term. Maybe you experienced it as a child. People sit in a circle. One person whispers a message in the next person's ear. The message gets passed around the circle, and everyone has a good laugh when the heavily distorted message is compared to the original version. The distortion is called "chain loss," and it is exactly what happens to skills as they are passed down from one worker to the next in traditional on-the-job training. A skill may become so diluted and distorted over time that products actually change and we complain about the "lost art" of doing this or that job.

In fact, on-the-job training's fatal flaws became obvious in the United States during the 1940s, when many American workers left their jobs for World War II and were replaced by new and unskilled workers.

While the times demanded rapid and effective training for a massive new workforce to perform at high levels of productivity and quality, traditional forms of on-the-job training simply couldn't meet these requirements. To deal with the situation, the Training within Industry Service of the War Manpower Commission determined that a standardized training method would be superior to traditional on-the-job training.[2] The group devised a now-famous training system called "Job Instruction Training," which had four steps:

1. ***Prepare the learner***

2. ***Present instruction***

3. ***Try out performance***

4. ***Follow up***

Job Instruction Training was highly effective in preparing workers to accomplish wartime jobs. It was used for decades following World War II. However, as time went on, the use of Job Instruction Training diminished, and today, relatively few people even remember its existence. But the Job Instruction Training movement spearheaded a general migration away from traditional on-the-job training toward more systematic, formalized training programs. That movement continues to this day with many types of highly sophisticated training, up to and including interactive systems that are delivered by computers and CD-ROM. These programs are developed and managed by professionals. They are often very effective and efficient ways to train people. At the same time, however, these systems may be complex and very expensive to develop. This may amount to a limitation because the cost of developing training must be spread across those who participate, and in many organizations, the number of trainees is relatively small. So, while more systematic forms of training may work very well, their use is frequently limited to highly standardized work that must be performed by large numbers of workers. On-the-job training, on the other hand, is frequently used in rapidly changing situations, where maybe only a few people need to be trained.

Like it or not, on-the-job training still fills a major role in the overall scheme of workplace training. And for all its inconsistency, inefficiency, and ineffectiveness, traditional on-the-job training is still the dominant approach. Just as there are reasons for the problems with on-the-job training, there are at least four very compelling reasons for continuing to use on-the-job training as a major training resource.

1. On-the-job training is a hands-on approach.

No matter what method is used, from the most systematic program to the least, training always ends with the trainee doing the real job, whatever it may be. This gives on-the-job training a special appeal to many people—particularly those who learn best by doing. On-the-job training is essentially a hands-on training approach that is an ideal method of supplementing other approaches. Even when formal training programs are used in a training center, they usually end with the trainee undergoing on-the-job training as a follow-up. So in one sense, on-the-job training actually is an inescapable element within almost all job training, especially when a person must continue to learn and refine skills that go beyond "the basics." When on-the-job training follows the use of a formal training system, it tends to pick up where the basic training stops. This is a natural and effective application of the on-the-job training approach.

2. On-the-job training includes realistic practice.

On-the-job training provides the trainee with opportunities to practice skills under the most realistic conditions possible: actual job conditions. Anything less than that requires the trainee to transfer what is learned (in a classroom, for example) from training conditions to job conditions. Many workers have trouble transferring skills from one situation to another. For these people, the more specific the training, the better. Thus, if on-the-job training is able to capture the essence of performance in the real world, this is a desirable feature of the approach. In on-the-job training, training conditions and job conditions are the same. Frequently, this makes learning easier and enhances the transfer of training to the job.

3. On-the-job training is a simple training approach.

We live in a time of radical changes. The headlines are full of upheaval all around us every day. But while earthshaking changes rock the business world and radically alter some jobs, other jobs are in a continual state of evolution, with many smaller changes due to improvements in work methods, equipment modifications, and the addition or revision of systems. While revolutionary changes may call for the development and implementation of formal training systems to alter the way work is done on a grand scale, many of the smaller, evolutionary changes don't justify such a high level of effort and investment. At the same time, however, implementation of small, "everyday" changes may frequently require some degree of training. These small changes are prime targets for on-the-job training because on-the-job training is essentially a simple training approach that is easily adapted and applied without the costly developmental efforts usually associated with formal training. While major, earthshaking changes are the ones that get publicity, the vast majority of changes fall into the "everyday" category. Does that mean they are unimportant? Not at all. Incremental changes may not justify developing a special system, but success could well hinge on the application of a simple system (on-the-job training) to make sure workers understand new ways of doing their jobs.

4. On-the-job training is the ideal informal training system.

Training has long been thought of as a management or organizational function. But the reality is that most training is informal and carried out by the workers themselves. It happens like this: One worker walks up to another worker and asks, "Can you show me how to do this job?" As soon as the experienced person agrees to help (in other words, about 99.9 percent of the time), informal on-the-job training is under way. No manager asked them to do it. No company program is required. No diploma is offered. And nobody even thinks twice about doing it. But this very situation demonstrates one of the most compelling reasons for establishing on-the-job training as a key component in any organization's effort to train employees. It is the ideal informal training system, and it is just about inevitable that on-the-job training will

occur. When properly done, on-the-job training constitutes the integration of learning with the work itself. This is a highly desirable feature of the on-the-job training approach.

The Bowling Green Study

In 1975, Bowling Green State University in Ohio conducted what has become a landmark study on the effects of on-the-job training. This study is one of the only pieces of carefully controlled research ever done on the subject. In the study (officially named the "Industrial Training Research Project"), two groups of twenty workers were hired and trained to operate a small but realistic manufacturing process.[3]

The first group was trained using a traditional unstructured form of on-the-job training, which researchers called the "buddy system." The first worker was trained by the supervisor, and then each person trained the next one to do the job. The second group of twenty was also trained one at a time. However, in this group, each worker was trained by the supervisor using a very simple but structured program of on-the-job training.

The results were astounding. The second group reached a predetermined level of skill and productivity in about one-quarter the time it took to train workers by the buddy system. In addition, those trained by the structured on-the-job training approach produced 76 percent fewer rejects, and their troubleshooting ability was increased by 130 percent. While no one has ever tried to duplicate the Bowling Green study, a number of published research reports verify different aspects of the results. All in all, the Bowling Green study makes a very credible case for building structure into on-the-job training.

Chapter Summary

On-the-job training happens whenever an experienced worker shows an inexperienced worker how to do a job. It is probably the most used (and misused) of all training approaches. While several fallacies and "fatal flaws" are associated with the traditional approach to on-the-job training, there are some equally compelling reasons why on-the-job training is needed. Nearly all of the problems associated with traditional on-the-job training may be overcome by introducing structure into the system, and that brings us to the single most important conclusion of this chapter: *If we're going to use on-the-job training anyway, let's use it well.*

The remainder of this book explains how to do just that. It is not magic and it isn't even complex. For the most part, using on-the-job training well is a matter of mixing a little knowledge and a lot of common sense into a simple, practical system. That is exactly what makes it so very powerful.

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