

Capturing Tribal Knowledge

by Steve Williams

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Elizabeth II, Queen of Great Britain and Northern Ireland, made the following salient proclamation more than 50 years ago: "It's all to do with the training: You can do a lot if you're properly trained." What has held true through the ages is not a secret; people perform better when properly trained.

Walk the Walk

Training is often an afterthought in many organizations, and the longer a company has been in business, the more this seems to apply. While assessing more than 1,000 companies over the past couple of decades, it has been amazing to observe that the biggest offenders of this component are the companies that overuse the sound bite "our most important asset is our people." When you really dig into the process and peel back the onion, it is clear that their commitment to training is not commensurate with that statement. No matter what you call it: training, coaching, mentoring, etc., what we are really talking about is turning people into a competitive advantage.

A keystone of any world-class organization is the depth and breadth of the training program. Training can be defined as learning that is provided in order to improve performance on the present job. A well-managed program in a printed circuit board fabricator can mean the difference between average and outstanding performance. Of course, this applies to every industry, but with up to 60 different possible processes, combined with the degree of difficulty required to produce today's PCBs, it takes on exponential importance.

Typical Scenario

I've heard the following conversation repeated many times, so it may sound familiar:

Supplier: "This is Larry; he is our best plater and runs this department."

Customer: "Can I see his training file documenting that Larry is a certified operator for plating?"

Supplier: "Uh, we don't really have a certified operator program, but Larry IS the trainer for



plating and every operator is trained by Larry. He could make up every one of these baths from scratch."

Customer: "How do you know when an operator is ready to work on his or her own?"

Supplier: "Larry says so. He also personally reviews and approves every single job that is released from plating to assure quality."

Customer: "What happens if one of my jobs is scheduled to be plated when Larry is on vacation or sick?"

Supplier: (Silence)

Customer: "Exactly."

In this scenario, both the company and its employees tend to view training negatively, even as an insult, as if it were some form of remediation. This perception couldn't be further from the truth! One of the greatest advantages of training in this situation is that it allows you to capture the tribal knowledge of the highly-skilled workforce. What I mean by tribal knowledge is the entirety of the expertise of people like Larry, tricks of the trade, and the idiosyncrasies of the job that have been learned over the last 30 years and probably not documented anywhere. Preserving this tribal knowledge and

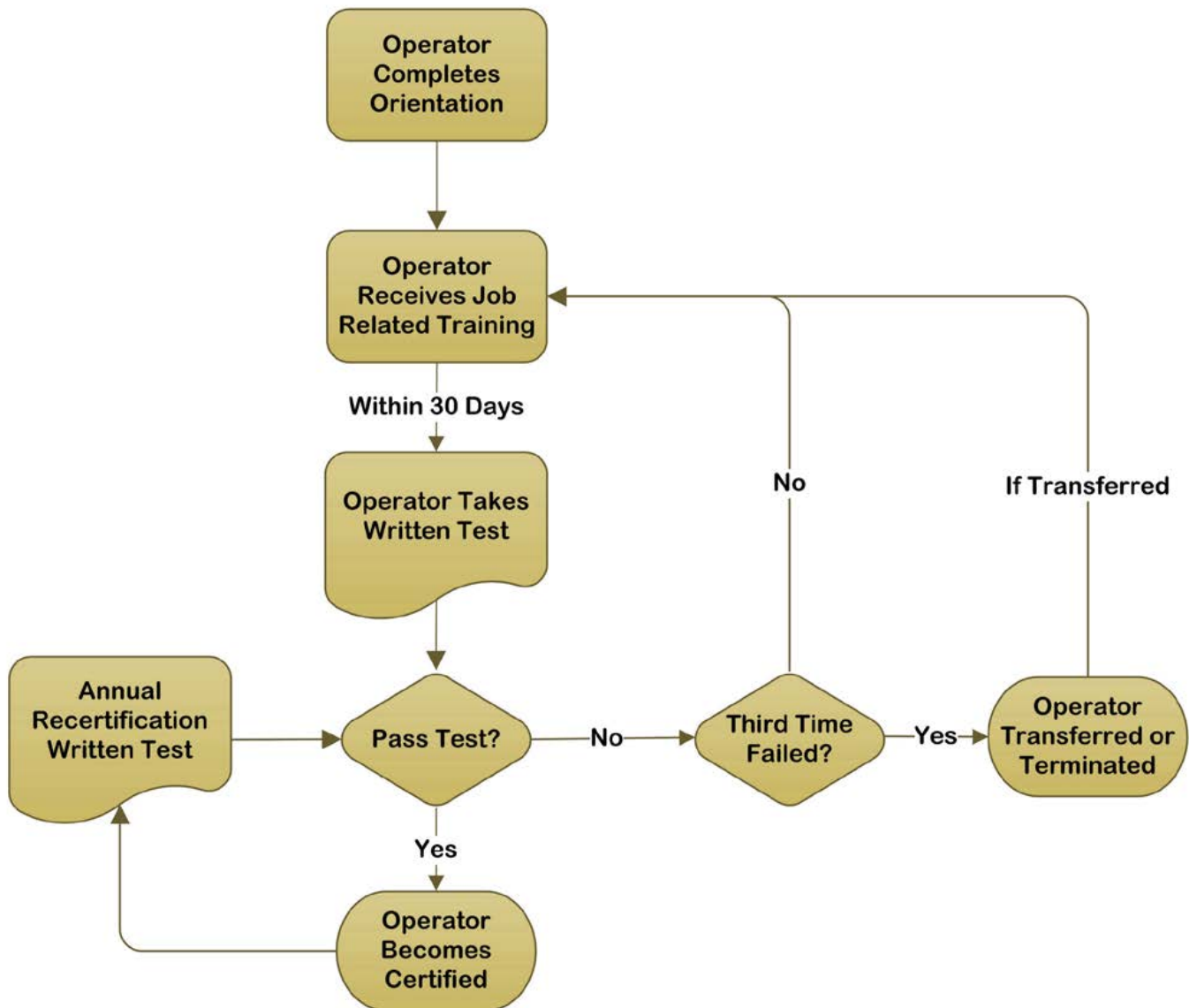


Figure 1: A certified operator process map.

turning it into a training competitive advantage is critical to a company's long-term survival.

This particular problem is compounded with high employee turnover during times of uncertain economic environments.

This logic becomes fatal when long-term employees begin retiring and that tribal knowledge is lost forever. It has become all too common to witness companies, in an effort to cut costs, offering earlier retirement (or worse) to long-term experienced employees so that they can replace them with younger, inexpensive new employees. What these companies fail to realize, until it is too late, is that this strategy severely backfires as decades of experience and tribal knowledge walk out the door with the employees.

Many of the businesses that have not survived the recent economic cycles were companies that had been successful for 30+ years, until several "Larrys" began to retire. Others that have survived have never fully captured all of the tribal knowledge that left with their best employees.

Training Records

Ironically, the companies that have the best-trained work force many times have the weakest system. Most PCB fabricators do a tremendous amount of training, but do not take credit for it. A common mantra I like to repeat in my columns is "If you can't prove it, it didn't happen!" If you take the time to flowchart your daily non-production processes, you will be surprised by the amount of informal training that takes place on a daily basis. Develop a simple method of documenting ALL training that takes place—a training record. Whether part of an elaborate electronic system, or a simple paper document, complete a training record at every opportunity. (Side note: as with any system in this business, the more complicated you make it, the higher the potential for failure.)

Every day is filled with training opportunities; be sure to take credit for these opportuni-

ties by documenting them. Every time that you sit down with an employee to discuss (written or verbal) a recent mistake, customer complaint, or simply work through a potential process improvement is a training opportunity.

Take five extra minutes and record it.

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Certified Operator Program

This is an integral part of the training program that is also often overlooked. It simply is not acceptable to a customer for a supplier to rely strictly on OTJ training. There needs to be some method of demonstrating your employees' understanding and competence as it relates to the job(s) they are performing. This is of particular importance when a company utilizes cross-training and moves people around between

departments to adjust to workload fluctuations. Annual recertification is also a must; it simply is not very effective if the procedure has changed revision numerous times since the initial certification. There has to be a high level of confidence in workforce competency, and a certified operator program is the appropriate method. Figure 1 shows how a sample certified operator process map might look.

I will end this column as I began it, with another timeless quote. Perhaps Confucius was speaking about the importance of participative employee training when, 2,500 years ago, he stated, "What I hear, I forget. What I see, I remember. What I do, I understand." **PCB**



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