



Miles Free  
PMPA Interim Director

# Workforce Development: What We Can Do Better

The causes of our workforce issues may be out of our hands, but there are definitely steps we can take to improve our shop’s response to the issue.

The workforce development issue is truly one of global scale. Chinese workforce shrank from 941 million in 2011 to 916 million in 2017—a decrease of 25 million people, which is approximately 3% of the workforce, according to official Chinese government statistics.

Our international colleagues from Germany report that they too are facing a shortage of workers, particularly in the sign-up for apprenticeships. In Switzerland, our contacts report that while they can find people to train on the new modern CNC equipment, very few young people today are interested in training on the classic Swiss mechanical machines that have been producing the most intricate and precise components for generations.

Here in the U.S. we find that we have over 1 million more job openings posted than there are workers to fill them. This problem is especially severe in manufacturing, where skills, problem-solving and math are requirements for success.

As shop owners, there is little we can do to combat this trend, but what are some things we can do to solve the workforce problem for our shops?

Acknowledging that the available supply of potential talented performers is in short supply, we need to engage our local communities to make sure the opportunities available in our shops are widely known and understood in our communities. There are talented individuals who are looking for a career and not necessarily a lifetime burden of college debt to repay—we need to make sure they know our that great career opportunities on the latest technology are available in our shops. Outreach to schools, offering internships, open houses and factory tours are all tried and proven ways to help get the word out—precision machining shops have interesting, well-paying careers worth discovering.

The other aspect that we can control is to improve our process for integrating our new workers into their craft.

I have spoken with a number of new-to-the-industry performers and had a number of conversations with shop trainers and management, and it seems to me that in many cases we are using the wrong tool for the job. I have previously written on the topic of why your expert is your worst trainer ([bit.ly/PMPA-PM1119-T](http://bit.ly/PMPA-PM1119-T)). Let’s look at the different methods that we use to bring a new hire up to competence in our shops. In many cases, we confuse teaching for training, training for mentoring, and the coaching piece can be a real challenge.

## Taxonomy of Upskilling

Tool	Answers	Outcome
Teaching	What?	Give knowledge
Training	How?	Learn to perform
Coaching	How?+	Improve performance
Mentoring	Why?	Transform thinking/ understanding

Are we using the right tool when upskilling our performers?

The chart above shows us that we have four tools or approaches to upskilling employees. When we have a mismatch between the tool and the outcome, typically performance does not improve and frustrations arise.

### Teaching Answers “What”

Teaching is a tool that is used to give knowledge and information. Knowledge and information are useful, and necessary, but may not be what is needed. Teaching answers the question “What?” Teaching can be done using prepared materials and online courses; teaching the “What” does not require one to be in the actual workplace to have a successful outcome. I have found that active

listening through taking notes, and using multi-sensory input—pictures, videos and clearly written diagrams and handouts—facilitates teaching outcomes of students learning “What” we want them to learn.

### Training Answers “How”

Training is a tool that answers the question “how.” The goal of training is to demonstrate performance, and in our shops with high horsepower, high RPMs and workpiece materials that are far stronger than our human tissues, assuring worker safety is the proper basis for training. As training’s objective is to get the learner to perform, written instructions and job aids can be reviewed prior to training,

but the training needs to take place in the work environment. Being in the workplace

### Are we using the right tool when upskilling our performers?

provides context, allows multi-sensory associations (“When you hear that noise, do this!”) and allows the trainee to observe the trainer’s best practices so the trainee can adopt them as their own. Training is about doing, not writing notes. Repetition is key for successful training. On the other hand, repetition can be the best way to kill attention when trying to teach.

### Coaching Answers “How+”

Coaching is a tool that is applied after training in order to help the performer take his/her performance to a higher level. Coaching gives further depth and polish to the question of “how is the work done.” It is about performance improvement, not teaching. No need for lectures or handouts; a couple of shared minutes on task demonstrating the finer points—not just the correct sequence—is what helps coaching improve performance. Nuances of the work, keeping a particular tool in a particular place, or why to use a particular tool over another that might otherwise be suitable are examples of coachable techniques if your shop does not already have standardized work. Helping a new employee visually confirm the presence of a chamfer by looking for the bright flash when holding and examining the part compared with a part without a chamfer can help improve the worker’s ability when handling parts. Coaching almost always takes place on the shop floor and generally involves an interpersonal transfer of skills by demonstrating “how I do it” as opposed to demanding that

the performer “do it this way.” Coaching shows a better way. Coaching is a preliminary and necessary first step before mentoring.

### Mentoring Answers “Why?”

Mentoring is a tool that is used to transform thinking and understanding once a performer has grasped, if not mastered, the basics of the task. There is no point in confusing the new performer with theories about why something is done if they have not yet figured out how to do it repeatably. If the employee has not already learned the fundamentals, mentoring (explaining “why” too soon) often leads to superstitious behaviors and habits. Once he/she can perform the fundamentals consistently and repeatably, he/she will be able to devote some additional thinking to his/her work and performance. Mentoring almost always involves sharing one’s experiences to help the new performer learn the same lesson that the mentor did, but not at the cost of repeating the same mistakes.

Whenever I had supervisors complain that their new hires weren’t learning, or their somewhat more experienced employees weren’t improving, I generally asked them “How are you teaching?” Because in those cases, what they were trying to do called for either training or coaching—and trying to teach would inevitably end up in frustration for all involved.

Our shops have a lot invested in tools—6% to 7% of sales just for perishable tooling, according to PMPA figures. Our labor costs are a significant percentage of our operating expenses so why wouldn’t we want to make certain that we are using the right tool for the job when upskilling our performers? PMPA

*Miles Free is the PMPA Interim Director with over 40 years of experience in the areas of manufacturing, quality and steelmaking. He helps answer “How?” “With what?” and “Really?” Miles’ blog is at [pmpaspeakingofprecision.com](http://pmpaspeakingofprecision.com); email [mfree@pmpa.org](mailto:mfree@pmpa.org); website [pmpa.org](http://pmpa.org).*

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