Teach a Kid

Sometimes when a young person asks what I do and where I work, they get a curious yet somewhat puzzled look on their face. They often ask, “What’s maintenance all about anyway?” When I start telling them about repair, fixing problems, equipment upkeep, machinery lubrication, troubleshooting, and working with many different people and computerized systems, they become somewhat interested in the work. I then steer the conversation into the skills and knowledge required to work in maintenance. Eyes begin rolling. Then, you can imagine the next question: “So, what’s it pay?”

As these conversations progress, I quickly learn that many (too many) young people do not know about the basic tools of the trade or how to do some of the more basic tasks around home: fixing a leaking pipe or faucet, replacing a broken light switch, building a birdhouse, or checking power steering fluid and replacing a headlamp in their car. They’ve missed the value of hands-on skills classes in high school (if they are even offered any more). Their parents either don’t do those kinds of tasks around the house or, if they do, they don’t often involve their sons and daughters in these tasks. Or these youngsters are just not motivated to learn.

I’ve learned we have about two generations of young people (and not-so-young people) who apparently missed some of life’s basic skills. As maintenance professionals, we need to “teach a kid” the many practical skills they’ve not yet learned. For example, screwdrivers are not to be used for mixing paint or as a pry bar, Super Glue does not plug leaks well, all engine oils are not the same, and loud squeaks and rattles are not necessarily normal.

How did we learn?

Most of us probably grew up learning close to home: from our parents, neighbors, peers, and teachers. But did we learn to do the right things the right way? I’m quite sure we all (well, most of us) learned from our mistakes and the mistakes of others if we were paying attention. That’s how we’re wired. Just because we had a tool, or even a toolbox, did not qualify us to actually use those tools properly. Tools are a beginning, for sure. Looking at a situation and figuring out which is the right tool for the job is a huge part of learning to use tools.

I have memories from my more formative years of Tinkertoys, chemistry sets, erector sets, and crystal set radios, then graduating to electrical project kits. Tearing into old lawnmower and chainsaw engines to see what made them tick was another personal quest. But that only went so far. There needed to be some fun associated with this learning. Since my dad sold chainsaws, my brother Barry and I had an unending supply of small but powerful engines. It was only a matter of time before we figured out how to make our go-karts go real fast.

Two-cycle engines were simple enough for this young tinkerer to tear down, clean up, and get running again. Making these little engines go faster by enlarging the intake and exhaust ports, learning about fuel-air mixtures, increasing the compression ratio, and experimenting with volatile fuel mixtures were the logical next steps. (Don’t tell Mom!) Who needed mufflers on these engines anyway? These were our go-karts, and my brother and I wanted them to go fast! Eighty miles per hour, two inches off the ground is a real thrill for any 11 year old. But doing it
safely was what my dad insisted upon. We needed good (no, great) brakes and ground-gripping
tires. Dad provided more funding and expertise.

Industrial arts and shop classes in school from age 11 through 17 help accelerate my learning
curve and my working relationships with tools. To make something with your own two hands, to
use real tools and equipment, to design your own project from scratch were all invaluable parts
of growing up as a gearhead. But more importantly, these experiences under the watchful eyes of
respected mentors helped me explore career choices that went down a different path than what
the school counselors were pitching.

Family also plays a huge role in any learning process. I suppose it was a big boost to have
grandparents who owned and operated a small-scale manufacturing operation and a vehicle
repair shop. On second thought, I know it was a big help. This family relationship exposed my
young, pliable mind and inexperienced hands to real-world applications of working with one’s
hands and mind to earn a living.

But mastering the skills and knowledge to become a maintenance professional requires
considerably more than hands-on learning. And learning in almost any form takes motivation to
learn. What would motivate a 14-year-old more than a real car? The $50 we invested in our first
car, a 1948 Austin four-door rust-bucket sedan was more an investment in an education than it
was in transportation. But to us, it was all about transportation.

When we graduated from go-karts to our first car, Barry and I spent time not only fixing it up to
be road worthy but also finding a friend who had a driver’s license so we could put the car on the
streets. In the meantime, driving around a small backyard proved that everything worked, more
or less. My new best friend, Steve, who was two years older and possessed a newly minted
driver’s license, jumped at the chance to help us get our “road-worthy” car on the city streets.

Unfortunately, after driving about four blocks from home, the car fell apart—literally fell apart.
The right front suspension and wheel broke right off the frame only to be attached to the now-
three-wheel car by the brake hose. Limping down the streets with three of us standing on the left
rear bumper hanging on for dear life kept the right front frame of the car from dragging while
Steve drove this not-so-roadworthy vehicle slowly home.

What we learned about weight and balance that day proved to be invaluable for the remainder of
my journey to adulthood. But figuring things out by accident is not always the best way to learn.
Sure, we learned how to use tools, and we later learned how to weld. But at that moment, we
learned how to explain to the puzzled policeman exactly how we intended to get the car home
without the aid of a tow truck. And we did—laughing all the way home.

That’s when we got serious about learning about arc welding. We had an immediate need. My
grandfather had the welder, which we quickly pressed into action so we could hit the streets with
our newly repaired rust-bucket of a little car.

As luck would have it, the same gang of four took to the streets only to have the same right front
suspension fall off again. And the same gang of three perched on the left rear bumper helped
Steve limp the car back to its home roost. This time, we learned that our previous welds on the heavily rusted metal of the car’s frame was not advisable.

Back at the shop, we pondered the problem. Again, we had a pressing need (a broken car), a welder, and all of the electrodes we would possibly use. That’s when our uncle took us to school on the fine art of welding old rusty steel. His skill and knowledge of preparing steel for welding by grinding down to the base metal did the trick. We learned how to do repair welding, we took our car to the streets, and it worked for months. Well, long enough to sell it and upgrade to a newer old car that needed few repairs other than chasing numerous Lucas electric gremlins.

Along the way, Barry and I also learned new skills while helping Dad remodel, rebuild, rewire, and replumb our family’s early-1900s era home. While living in a construction zone may not be all that appealing to most, it provided teachable moments were everywhere we turned. Watching contractors ply their trade provided yet another exposure to what hands and minds could do with the proper tools and equipment.

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What Barry and I learned was not only how to do things but also the importance of learning how to learn. High-school classes, our teachers and adult mentors, and applied math and physics classes in college helped us learn why and how things work. Technical education programs provided the confidence and competence building we needed for our career-focused applications.

What do kids today know about working with their hands and minds to earn a living wage? Do they know how to figure things out: electrical, electronic, mechanical, or natural?

As experienced maintenance and reliability professionals, leaders, technicians, managers, and engineers, we have an opportunity—an obligation—to share what we know with younger generations as long as we’re able: what to learn, how to learn, and why learning is essential. Teach a kid—your kid, your neighbor’s kid, someone in Scouts or Big Brothers and Big Sisters—or teach at a community or church work day.

Make learning a skill real. Sometimes it starts by taking something of interest apart to see how it’s made, and then taking it apart and putting it back together with no leftover parts—and whatever it did before it was taken apart, it still does what it was supposed to do. Make learning interesting and relevant to the young person’s life while building a foundation for exploring rewarding and well-paying industrial maintenance and reliability careers along the way.

Step out and step up to the challenge of filling the skills gap in America with motivated and talented youth. Teach a kid.