

Written by Ken Bannister, Contributing Editor
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There are many high-school dropouts that have gone on to shape our brave new world through innovation, leadership and business savvy. The alumni list of famous dropouts and their accomplishments is long.

Among others, consider the likes of Benjamin Franklin (a Founding Father, scientist and inventor of the Franklin stove); Jim Clark (computerization for the masses and founder of Netscape); Henry Ford (automobiles for the masses and the first production management system); George Eastman (Kodak cameras and photography for the masses); Albert Einstein (the theory of relativity); Orville and Wilbur Wright (aviation's first flight); Henry Royce (engineering/manufacturing half of Rolls-Royce); Soichiro Honda (the world's most successful engine manufacturer); Ray Kroc (McDonalds); Richard Branson (Virgin Airlines, phones, music, trains and commercial space travel). These individuals didn't just overcome a lack of education, they helped overcome challenges of their times by understanding their strengths and marrying them to a passion that produced extraordinary results.

For every famous dropout, though, there are thousands of uncelebrated ones who also go on to lead remarkable lives—*my father included*. The realities of World War II England turned him into a 6th-grade dropout. After training and reinventing himself many times (based on his strengths and acumen for fixing and making things out of nothing), he eventually built and ran a successful engineering fabrication business employing over 35 people for 30+ years. Legs of his learning journey included the military (that taught him mechanics) and the Ford Motor Company (that taught him how to weld and provided enough overtime to fund the startup of his own business).

Lingering recession-like conditions are forcing countless educated people to be innovative in their job preparation and search methods—*causing them to take stock of their skills, reassess current job-market requirements and close gaps by completing additional training to gain new skill sets*.
(Today's college grads are expected to use this career-change model many times over the course of their working lives.)

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In a recent Uptime column, "Save Manufacturing And Save America" (*pgs. 10-12, Maintenance Technology*, May 2012),

my fellow Contributing Editor Bob Williamson reminded us that U.S. industry currently faces a shortfall of more than 600,000 workers (a deficit that's expected to rise to 2-3 million by 2015). The reasons are simple and result from a "triple whammy" of still-unfolding events that include increasing numbers of skilled baby-boomer retirements; re-shoring of more and more manufacturing operations to North America from Asia; and the dismal state of educational, vocational and apprenticeship opportunities. Successfully confronting this massive skilled-workforce challenge calls for both interim and long-term solutions.

An interim solution

Unlike industry, facility-management organizations like hospitals, schools and commercial building operators employ just one or two skilled trades staffers and an army of unskilled operators/maintainers under their direction to perform an array of tasks and services. In the past few years, I've used the following six-step process to help many municipalities and industrial clients overcome the inconsistency of that model and ensure minimum standards of operator/maintainer skills and knowledge.

1. Review job-description and roles-and-responsibilities documents and revise to a minimum standard requirement for non- or semi-skilled operations/maintenance positions.
2. Assess current individual skill sets and abilities and identify operators/maintainers that can be employed in their specialty or train others.
3. Build a skills matrix for each person and assess where individual training is required to build minimum skill-set requirements.
4. Review requirements with local college(s) and your corporate training department to build a company-specific program that graduates students with an "ABC Corp. Diploma in Operations Maintenance" upon completion of 60 -120 hours of company-paid training. Many colleges already offer basic courses in electricity, cabinet-making, plumbing, HVAC, etc., which can be included immediately.
5. Augment college courses with specialty courses by third-party providers to train specific individuals for specific jobs. In my case, I've offered a 16-hour Planning and Scheduling course, as well as a 24-hour ICML (International Council of Machinery Lubrication) course that helps participants prepare for the Certified Machine Lubrication (CML) credential process. Other providers have been used to train and certify individuals in laser-alignment techniques and Level I infrared thermography.
6. Rewrite/update PM tasks to reflect training and new knowledge.

This innovative type of program is adaptable to any organization, as it is client-specific in its design, tailored to be easy and quick to develop and relevant, regardless of current skill levels.

Longer-term strategies

Richard Branson (one of our more recent celebrity dropouts and innovators) has gone on record challenging the education system for taking too long to graduate students in science and engineering disciplines (4+ years). Approaching the education system from a business perspective, he argues that a student writing a paper no longer needs to walk to the library and dig through a mountain of text, taking copious longhand notes transcribed on to a typewritten essay, but instead can perform research, take verbal notes and have them transcribed and turned in for grading via a computer—*in a matter of minutes, not days*.

With so many programs now offered online, Branson contends that today's traditional collegiate business model, wherein students spend an average of 100 weeks over 3-4 years in pursuit of a post-secondary degree, can be cut down to an 80-week timeframe. Translation: A degree could be attained in a two-year time span. This frees up a school to take on more students and lower the cost of education for everybody.

The same thought process could be adapted to apprenticeships and trade schools. Anyone who has gone through an apprenticeship knows that most learning takes place in years one and four. The first year introduces trade concepts. Years two and three are usually spent on helper and "gofer" duties. Not until year four are the trade secrets finally revealed.

With ever-fewer skilled tradesmen and women available to pass on their knowledge, industry leaders must lobby government to develop and accept accelerated two-year internship/apprenticeship programs in which basic industrial concepts are taught in year one at the college level and corporations complete the second year by teaming up the apprentice with a tradesperson. This would clearly require the trade definition to be narrower, but it would allow students to quickly assimilate into the workforce fully trained in a specific skill. The intern/apprentice can return later for additional training that will let him/her fulfill specific industry needs in an accelerated manner and build a strong resume´ by adapting quickly to changing industry requirements.

So, discard your conventional ways of thinking. Now's the time to take bold, innovative steps toward building a sustainable skilled workforce that will be adaptable to rapid changes in our new industrial reality. We have neither minds nor hands to waste. **MT**

Don't Procrastinate...Innovate!: Adapting Innovative Training Programs To Overcome The Skills Shortage

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