When the Academic World and the Real World Meet

by David Svetlik

My father was born in 1911. Like many from that era, he left formal education before completing grade school and went to work helping support his family. He never learned to read well. When I was a child, it was my father’s Sunday morning ritual to gather his kids around him on the sofa and read us the comics from the just delivered Milwaukee Journal. It was an act of love for his children, but by the time I was in third grade, I could read the “funnies” more quickly than my father. I am certain he would have failed any exam I have ever given to my students.

But my father was an excellent automotive mechanic who owned and operated a Ford-Mercury dealership for over 40 years, and owned and operated the school buses in my small central Wisconsin hometown for nearly 30 years. Between both businesses he typically had 30 to 40 full- and part-time employees. He was one of a handful of individuals instrumental in building the first hospital in our community, was president of the hospital board for many years, served locally as president of the Chamber of Commerce, and statewide as chairman of the Wisconsin School Bus Owners Association. He made considerably more money than I do as a teacher, but he worked far more hours, and year-round.

An accomplished and intelligent human being, my father lacked the sophistication that comes with higher education. His abilities would have appeared marginal by most of the measurements used in academic assessment. Those who

David Svetlik teaches industrial automation at Northcentral Technical College (NTC) in Wausau, WI. His experience includes 14 years as a technical college instructor, four years as a high school teacher, and 20 years working in business and industry. He received the 2002 Robert C. Altman Award for Teaching Excellence at Northcentral Technical College, and the 2003 Award for Outstanding Teacher from the Georgetown University-sponsored CASS (Cooperative Association of States for Scholarship) international scholars program at NTC.
worked with him knew better of course, but the point is that our concepts of what it means to be educated or intelligent are often inadequate. Just as important, my father’s abilities would have meant nothing had they not been supported by his attitudes—his deep humility, simple approach to life, and unwavering commitment to those around him.

I tell this story because it relates to the students I now teach and to issues I believe need to be addressed. To better understand this, it might be helpful to tell the story of my own journey through the educational system. It would probably not be noteworthy, except that I hear variations of it from many of my students.

*I was genetically engineered to be a technologist—a mechanic—a person designed to work with his hands, who learned by doing—by being in motion.*

Prior to my 14 years as a Wisconsin technical college instructor, I worked for over 20 years in business and industry. I often feel as though I live in two different worlds. But if I have anything of value to offer the academic community, it is speaking from this perspective. If this writing at times seems critical of our educational system, it is only in the hope of providing an outside point of view. I am a teacher. I support formal education. But it is beneficial to look at ourselves through more than one lens.

My mother and father believed strongly in education and were determined to see their six children receive college degrees. Accordingly, when I entered high school it was assumed I would follow a college-bound curriculum. But I was genetically engineered to be a technologist—a mechanic—a person designed to work with his hands, who learned by doing—by being in motion. High school as a result, was a terrible fit. Like many of my current students, I hated it. Lectures were painful beyond description—math equations with no readily apparent practical application were useless—chemical formulas with no connection to combustion in an engine were a waste. It was an endless trauma. To make matters worse, the tacit message given by most high schools in the ‘60s—and I am certain this often still occurs today—was that the truly intelligent students prepared for college, while those of lesser ability enrolled in “shop” classes. It was a subtle, painful and often damaging message, only understood at a gut level by those who have endured it.

None of this was done deliberately of course. It is simply that the overwhelming majority of educators have never really been out of education. It is the world we know. We teach teachers to teach teachers and in many ways it is a sheltered system. This is not meant to question the ability or dedication of a good teacher nor to diminish the critical work done in the academic community. It is an acknowledge-
ment that because of a lack of outside experience, we may not always provide as well as we might for our students. It limits our ability to advise them, to envision the many possibilities that may exist for them, and to relate formal education to the world in which most of them will work. This same lack of outside experience also contributes to misunderstandings between the educational system and the outside world and to the disconnect that often exists between how we in the academic community see ourselves and how we are seen by the paying public.

But to continue the story, I did somehow graduate from high school and was accepted at a college. In college I was determined to be one of the smart students—not a “shop guy.” Consequently, I majored in psychology and sociology. It was a ridiculous mismatch, but I managed to survive until the end of my junior year when I received straight Fs and was mercifully tossed out of college. Now, looking back almost four decades, those Fs are the grades of which I am most proud. They signaled my beginning victory over the stigma of the “shop guy” and forever changed my perception of what it means to be educated.

For the next four or five years I worked at a variety of jobs—drove a city bus in Minneapolis/St. Paul, spent time as a switchman for a railroad, worked as a technician for a refrigeration service company. Along the way, I probably grew up a bit too, although at age 60, the possibility of ever becoming a completely mature, sensible adult appears beyond my mental capacities.

Eventually I returned to college, earning my B.S. degree in technology education. It was a wonderful fit. I taught high school for four years and was proud of my work. But it wasn't something I wanted to do permanently, and I took a three-year position with a Wisconsin utility as part of the construction management team for a new coal-fired power plant. This was a complete education by itself—not only from a technological perspective—a power plant represents some of the most complex construction on earth—but also from a sociological point of view. Large industrial construction sites have a culture all their own. It is rough and rugged. Sentences are short and full of expletives. An outsider couldn't imagine a seemingly less educated or articulate lot. But you turn around and a power plant goes up. And the more you learn the more you realize what an extraordinary event you have witnessed. It is a humbling experience and if you understand what has occurred, you tip your hat to that inarticulate lot. They are educated.

When the power plant was completed and on line, I once again needed a
change. Having learned refrigeration after my first attempt at college, and not wanting to work for others, I started a refrigeration contracting business. This kept me occupied and my family fed for over a decade. Becoming an averagely successful contractor, like working on a power plant, genuinely required more learning than anything I encountered while earning my B.S. degree or doing graduate work.

This is not to compare a college degree with outside work experience—the two are complementary. But in education we seldom reward anything other than more formal education. Almost all financial and career advancement for teachers is based on graduate credits and advanced degrees. In many ways, this is intellectually limiting and contributes to the disabling lack of understanding between the academic community and outside world. It is also somewhat self-protectionist, allowing us to maintain often outdated methods and traditions, guaranteeing a steady supply of teachers attending graduate schools, and preventing us from having to directly deal with societal forces affecting those who support us.

We can no longer ignore the voices of people like Bill Gates who, in his February 26, 2005 address to state governors attending the National Education Summit on High Schools, declared that “America's high schools are obsolete.” And we cannot ignore the statistics showing the U.S. falling behind other industrialized nations in core academic subjects. I am aware of the need for autonomy in academia if we are to maintain free thought in a free and democratic society. I realize we cannot allow education to become the pawn of corporate or political self-interest. But in the larger context the mission of all educators is to help prepare our students for rich, fulfilling, and socially responsible lives. In fact,
it is our duty. It is what we are paid to do. Unless the education we provide at all levels includes a realistic assessment of the outside world most of our students will work in, we are not fulfilling our obligations.

It is easy to say that the true purpose of a college education is to expand minds and that the system isn’t intended to specifically prepare students for employment. But, in fact, many of the concerns being voiced by the academic community—and a main focus of teacher unions—is the need for economic security. No one is free from Maslow’s hierarchy of needs. If education hopes to enrich the lives of our students, it must also realistically improve their potential to earn adequate incomes.

Our students are commonly disenfranchised from formal education and, with some exceptions, were not considered outstanding students in high school.

I teach at a technical college. But I do not believe our issues and concerns are far removed from those encountered by either four-year colleges or high schools. Indeed, the students I typically work with are often people like my father—far more intelligent than academic measures would indicate. Many of them have had traumatic educational experiences like my own. They range in age from recent high school graduates to people in their 40s. There will invariably be a few individuals with bachelor’s degrees. Our students are commonly disenfranchised from formal education and, with some exceptions, were not considered outstanding students in high school. Many have just adequate reading, writing, and math skills, and most of them were relegated to that large group of students that leave high school with little sense of direction and eventually drift into some form of employment or higher education. What occurs seems often a matter of chance, and it is at best a poor and inefficient way for our students to proceed. This is roughly what took place in my own early career and it is disheartening to see that it is still common today.

The end result of all this is that my students are often labeled as less capable than those who perform better by traditional academic standards. But one could just as easily argue that the educational system has failed them miserably. It has failed to understand how they learn and what stimulates them, their tactile needs, their pragmatic, practical minds, their need to be in motion. Incapable of learning in the typical academic environment, they invariably do poorly in school. The cards are stacked against them. It affects not only their academic performance, but just as importantly, their self-image and self-confidence.

When our technical college finally receives these students, they often find themselves in an educational environment unlike anything they have previously encountered. Most do well, as they were capable of doing all along. It is just that it is the first time many of these students have been in an atmosphere that caters
to their learning styles, recognizes and rewards their types of intelligence, and makes education relevant to their daily lives. Our college is a very active place and one could argue that many four-year college students would likewise gain enormous intellectual benefit from a more dynamic approach. Recent research on brain-based learning would certainly support this concept. 

There is more of a connection between the various levels of education than we as educators sometimes realize. What happens in grade schools and high schools determines the caliber of student that four-year and technical colleges will receive, and what happens in four-year colleges determines the caliber of teachers in elementary and secondary schools. But there are other, perhaps even stronger forces impacting American education. To explain, I will use my own students in the field of industrial automation as an example, although one could as easily use any area of study.

Industrial automation is not a simple discipline. Because of continually advancing technology, the field requires intense concentration and high skill levels in electronics, computer and process control networks, power transmission physics, and fluid power mechanics. Because the mission of the college’s program is to serve the surrounding industrial community, our curriculum is designed to meet real world needs. At least once each semester, we meet with an advisory committee comprised of leaders from all levels of area manufacturing to assess and alter program content to mirror rapidly changing industrial processes. What transpires in these committee meetings is a microcosm of our contemporary society, and the ramifications for higher education are real.

Our committee members are manufacturing and production engineers, department heads, heads of maintenance, and the like. Some are graduates of our program who have moved up in their organizations. Several have advanced degrees. They are socially concerned individuals and all of them have great respect for formal education. But as a group they are responsible for hundreds of jobs, and their companies operate at local, national, and international levels. Of necessity, they are pragmatists who understand what it means to survive in a competitive world, and this is reflected in their approach to academics.

Often at our advisory meetings, committee members will suggest new technologies that need to be added to our curriculum. At our most recent meeting, one person who had recently returned from a Mercedes plant in Germany had

**Because the mission of the college’s program is to serve the surrounding industrial community, our curriculum is designed to meet real world needs.**
observed there a new form of laser welding he felt would soon be an absolute “must.” At our college, we are working within the confines of 68 credits in a two-year associate degree, and the proliferation of new information is overwhelming. It is also true that it is almost impossible for students to understand advanced technologies without having an in-depth grasp of the fundamentals. Given these factors, we find it difficult to drop any of the existing coursework from the curriculum. In addition, we are wisely required by the state of Wisconsin to include specific general education requirements in the degree.

Occasionally, members of the committee will suggest that perhaps we could drop the sociology course or psychology requirements or some other general education course. In making these suggestions, our advisory committee members are not being subversive or attempting to profit at the expense of education. They have responsibility for many people, and they know what it takes to care for them on a highly interconnected planet. They operate in a real world, and their decisions have a definite impact not only on society, but, by extension, on the changing demands being made on academia.

Education in its broadest sense studies the evolution of human society. Through the disciplines of history, literature, philosophy and economics, and the social sciences of sociology, psychology and politics, we attempt to understand and guide society in the hope of improving the general human condition. It is a deliberate study of trends and changes. But it is the world of business and industry that often causes these changes. Students and practitioners of industrial automation are an integral part of this process. It is not their intent, nor are they necessarily aware of it, but they cause the world to change. They eliminate low-skill jobs, work with international corporations, and understand the common global language of technology. They would immediately be at home in a manufacturing plant in China, Europe or Brazil. They seldom speak about societal trends, but they cause them. They change how we live—what we buy—how we travel. They are sociology, psychology, politics, and history in action. Their collective impact on world economics is untold. And yet, as a group, they are virtually nonexistent to “the Academy.” Indeed, these technicians represent only one of many disciplines that are almost totally unknown to both four-year colleges and typical high schools.

Please do not misunderstand—I am not suggesting that any area of academics
is more important than another. I am simply trying to emphasize how far we are from understanding one another in different levels of education and from understanding the outside world. Our traditional approaches to education are no longer adequate. To complicate matters further, the competition America faces from other countries is unparalleled in our history. If we as teachers are to empower our people for life in a global economy, and if our nation is to continue to be an enlightened, democratic, hope for the world, our educational system needs to respond.

The fabled “Renaissance man,” so prized as the ideal of a well-rounded human being, has in ways been the victim of our own specialized approach to education.

The fabled ‘Renaissance man,’ so prized as the ideal of a well-rounded human being, has been the victim of our own specialized approach to education.

If the world needs anything at all, it is for academia to branch out of itself and embrace a larger picture. The following are a few of many possibilities the academic community might consider in addressing global changes.

Two great news anchors, Walter Cronkite and the late Peter Jennings, were adamant that for a reporter to truly understand the issues they were reporting, they had to spend time in the field. Both men spent years closely involved, and often in harms way, with the subjects they were covering. They felt that nothing else could give them the real and requisite understanding. I believe that the same holds true for educators. As a system, we need to require that anyone aspiring to be a teacher be required to spend a minimum of three consecutive years working completely outside the field of education. Nothing less will suffice if we are to truly begin to understand the society and the people we serve. If we haven’t been there, we really don’t know. This requirement would most desirably be completed after earning a bachelor’s degree and could be done in virtually any area of business or industry, but preferably outside of one’s specific field of study.

All bachelor’s, master’s, and Ph.D. degrees in all disciplines from sociology and art, to history and economics, to secondary and primary education, must require a certain number of credits earned by working in business and industry. Tuition paid for these credits would be shared between the supporting college or university and the cooperating corporation. The hours worked earning these credits would be similar to those required in traditional classes, including written and oral presentations. No pay would be granted for the work done in industry—we are not paid to attend any other class. If well orchestrated, it is almost certain industry would be happy to be involved in such cooperative efforts. It is a win-win situation where all parties profit from a greater understanding.
Every five years all teachers would be required to spend a semester working outside of education. This time would be paid at the instructor’s normal rate and funded jointly between the educational institution and the supporting industry. Opportunities in this area should also include the possibility of working for foreign companies. It has become painfully apparent that success for any society is dependent upon success for every society. Educators could be in a unique position to bring people together.

Advancement on the pay scale for all teachers must require criteria in addition to more formal education. This could include a variety of options. One very useful possibility might be to spend a specific number of hours in other educational institutions. Technical college instructors could participate in presentations at four-year colleges or high schools. High school and four-year college instructors could participate in lab classes at technical colleges. Technical college instructors would welcome math and science teachers from other institutions. Everything we do is based on these subjects and we have much to offer one another. It would also benefit all parties to have psychologists, historians, mathematicians, and physicists involved in industrial classes and tours.

There are, of course, many other avenues that can widen perspectives for all of us in academics. If we as educators once begin traveling these roads, I suspect we will find the results to be exhilarating and fulfilling. I believe such paths would also allow us to be of much greater benefit to both our students and our society.

If we were to somehow capture the essence of all education into a single central goal, it might simply be to nurture and empower our students. We are by far most effective at this when the knowledge we try to impart relates to all other aspects of life. When students begin to sense the remarkable interconnectedness of all they are learning, doors begin to open, lights begin to turn on, and we as educators become truly successful.

It is the hope of this writing to build bridges, to unite the varied members of our society—a refrigeration service contractor forming alliances with sociologists and chemists. Perhaps it is time we revisit the Renaissance man. Perhaps it is time we actively seek to live in “two worlds”—to create an educational system that integrates the multiple facets of life, and educators who couple academic with real-life skills. Perhaps we can provide our students with the comprehensive tools they need to flourish in a global community. And perhaps it is time, in the eloquent words of Gandhi, “to become the change we want to see in the world.”

*Advancement on the pay scale for all teachers must require criteria in addition to more formal education.*