

Making Sparks Fly

HOW OCCUPATIONAL EDUCATION CAN LEAD TO
A LOVE OF LEARNING FOR ITS OWN SAKE

MIKE ROSE

AS I EXIT THE FREEWAY into the center of the overcast city, it is close to seven in the morning. A homeless man with a handwritten sign—"Vietnam vet"—stands at the bottom of the off-ramp. Behind him is a three-story building, the top floor burned out; big, fat-lettered graffiti covers the blackened name of the company. I turn left toward the parking lot of my destination, a community college serving one of the poorest parts of this large, West Coast city. I pass a small used-car lot, another boarded-up building, and several machine shops still in operation. The streets are gray and nearly empty. Then, on the right, the college and heightened activity. Cars and buses are pulling over to the curb to drop people off; students, wearing backpacks, weave their bicycles in and out of traffic; the light turns green, and a crowd that just got off a commuter train streams onto the campus.

After years of neglect, students like these—and the colleges that serve them—are the focus of national attention. Though many states are slashing education budgets, federal and private philanthropic initiatives are helping people who are economically, and often educationally, disadvantaged pursue further education and job training. I play a tiny role in this effort as part of a research team that is trying to get a better handle on what enables or impedes educational success for this group.

Mike Rose, a faculty member of the UCLA Graduate School of Education and Information Studies, is the author of *The Mind at Work and Why School?*

What makes it possible for these students to walk onto this campus an hour after sunrise, heading toward a nursing, or electrical construction, or English class? What jobs—if they have them—are flexible enough to allow time for school? Or are these people going from here to work or coming in after the

night shift? What child-care arrangements do they have? How about transportation? Though many of the college's students are local, a number come from fairly far away by bus or train to attend its well-respected occupational programs. One young woman I interviewed gets up at 3:30 in the morning to begin the trek to her 7:00 A.M. class. Hardships of that order are obviously threats to achievement. But I'm just as interested—more so, really—in what it is that pulls these students forward, the desire that gets them through the door. I understand it just a little better every time I visit a place like this.

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COME ALONG WITH ME for the first day of one of the college's programs for people who have low academic skills (many of them didn't finish high school) but who want to prepare for a skilled trade. Because of confidentiality agreements I've signed in order to do my research, I'm deliberately keeping the college anonymous, and I've changed students' names. Otherwise, I'm giving you the day-to-day events as I saw them.

The director of the program is standing at a lectern at the front of a large classroom; before her are 25 or so students sitting quietly in plastic chairs at eight long tables. The director has a serious demeanor, but her voice is inviting. Behind her hang an expansive white board and a screen for PowerPoint or video. I lean back and look around the windowless room: the walls are bare, institutional cream, clean and spare. The students are black and Latino, a few more women than men. Most appear to be in their early 20s to early 30s, with one man, who looks like he's had a hard time of it, in his mid-40s. "Welcome to college," the director says. "I congratulate you." She then asks each of them to talk a little about what motivates them and why they're here.

The economic motive looms large. One guy laughs. "I don't want to work a crappy job all my life," he says. A woman in the back says she wants to get her high school diploma "to get some money to take care of myself." But people give a lot of other reasons for being here, too: to "learn more," to be a "role model for my kids," to get "a career to support my daughter," to "have a better life." The director turns to the older man. "I'm illiterate," he says in a halting voice, "and I want to learn to read and write."

The semester before, when students wrote out their reasons for attending the program, their range of responses was even wider. Again, the economic motive was central, but there were also these comments, some written in neat cursive, some in scratchy uneven print: "learning new things I never thought about before"; "I want my kids too know that I can write and read"; "Hope Fully with this program I could turn my life around"; "to develop better social skills and better speech"; "I want to be somebody in this world"; "I like to do test and essay like it is part of my life."

Combined, these testimonies offer a rich vision of the goals of education. What



is curious, though, is that nearly every speech and policy document and op-ed piece on educational initiatives aimed at poor people is focused wholly on schooling's economic benefits. Speaking in September 2009 at a community college in Troy, New York, President Obama said "the power of these institutions [is] to prepare students for 21st century jobs." Given the complex nature of the economy in our time—not only the recession but the changing nature and distribution of work—one hopes the president's statement is accurate. The people in this program would certainly want it to be true. But they are also here for so much more. They want to do something good for themselves and their families. They want to be better able to help their kids with school. They want to have another go at education and change what it means to them. They want to learn new things and to gain a sense—and the certification—of competence. They want to redefine who they are. A lot is riding on this attempt to reenter school; no wonder, as I sit in this classroom, the hope and desire are almost palpable.

Students learning a skill often want more out of college than the prospect of a job.

At the table right in front of me, a slight young woman with *Love* woven on the back of her black sweatshirt is leaning in toward the director as she talks. Whenever the director gives out a piece of information—about textbooks, about the tutoring center—she takes notes. I know from talking to so many other students over the years the sense of excitement they feel at a time like this, a sense of life opening up, but also the foreignness of it all, the uncertainty.

The director announces that it's time for a quick tour of the campus, and off we go to the bookstore, the administration building, the office for students with disabilities. The students walk in groups of two or three, talking, looking at this new campus landscape. A few walk alone. The young woman in the black sweatshirt stays

close to the director. Toward the end of the tour, we pause before the child-care center. The director asks, “Who has kids?” A number of people say they do, raising their hands. The young woman slips her pen into the pocket of her Love sweatshirt and brings her hand slowly to her shoulder.

What my team is finding so far about the possible barriers to success for students like her supports the research that’s already been done. Students tend to drop out of school for reasons other than academics. Poor basic skills, especially significant problems with reading, make college very difficult. And students do flunk out. But the main reasons people quit have to do with their circumstances beyond the campus: child care, finances, housing, and family disruption, ranging from injury or serious illness to divorce to immigration problems. As I was writing this, I got a phone call from a student I’ve come to know—a young man doing well in one of the occupational programs—asking me if I had any leads on where he might go for housing or shelter. He was suddenly homeless and on the verge of dropping out of college. He wasn’t alone. Three of his classmates were living in shelters near the campus. A fourth had been sleeping for several weeks behind the dumpster by the library.

No wonder that, along with the hope and sense of possibility they express, these students also voice, sometimes within the same sentence, the worry that this rug too will be pulled out from under them. I remember an older woman in an adult literacy program talking about failure in terms of falling: “Not falling down on my legs or knees, but falling down within me.” Most of these students do not have a history of success, especially in school, and they want this time to be different, but if one thing goes wrong—an accident, a job lost—there’s little reserve to draw on.

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MANY OF THE OCCUPATIONAL PROGRAMS at the college have been in operation since the mid-20th century, if not earlier. One such program, welding, which sits farther into the heart of the campus, has provided generations of students with a powerful trade, enabling them to make a decent living. It’s one of the programs where I have been spending a lot of my time.

The welding lab is a huge room, rows of work benches down the middle and sheltered stalls along the walls. Welding equipment—gas tanks, the consoles for different electric welding processes, cutting machines, vises and grips—is spread throughout the room; rows of pipes and conduits and vents are crisscrossed along the walls and overhead. Walk in the lab during class, and you’ll think you’ve entered Vulcan’s workshop. Thirty or more students are practicing their techniques. Sparks fly up from the work stations, and from inside the stalls fiercely bright light pulses and dies. You’ll need a mask to get close to the students. Everything is loud: the discordant symphony of welding’s pops and crackles; the continuous hammering as the novice welders knock slag off their welds or peen a weld to improve its ductility. Voices rise above

the din: the instructor tells one guy, and three others watching, to “look at your angle, man, look at your angle” and “don’t push the electrode, glide it.” Even with the vents, the strong acrid smell of electrical heat fills the air. This is where knowledge and skill are forged.

Over two years, students will develop physical adroitness with welding’s tools and attune their senses to welding’s demands. They will become proficient in the use of various gas and electric welding processes, each having advantages for different metals, structures, and conditions. They will learn about metallurgy and electricity. They will learn the vocabulary of welding and its many symbols and will develop a level of literacy and numeracy that enables them to read the welding code, pass certification exams, and function on the job. They will learn problem solving, troubleshooting, decision making—thinking in a careful and systematic way about what they’re doing and why.

Not all vocational programs provide such solid preparation for a career, but, before the recession, most of the welding program’s students were able to find jobs. What strikes me about good occupational programs, though, are the other things they make possible, the things that people rarely talk about. These programs provide a meaningful context for learning and a home base, a small community with a common goal. For many participants, school has not offered this kind of significance, and the results can extend beyond economic benefits, the kind typically associated with a more liberal course of study, the kind of education that first group of students I mentioned said they entered the college’s basic-skills program to achieve.

Elias, Cynthia, and Bobby are pursuing both a certificate in welding and an associate of science degree. I’ve observed them in class, read their writing, and had a number of conversations with them, some focused on their education, and some just casual chitchat walking from one part of the campus to another. Not everyone in the program is as engaged by school as these three, but what is happening to them happens frequently enough to catch your attention.

Elias is in his first semester. In his mid-20s, medium height and build, clean-cut, he readily talks trash with the other men, but just as easily becomes well-spoken and reflective. I first noticed him in the basic-math class the welding instructor conducts before taking his students into the shop. The students work on the mathematics of converting fractions and calculating area, but also on solving word problems that involve welding. Elias was an eager participant, watching intently as his instructor laid out a problem, volunteering answers—some right, some wrong—then taking the instructor’s feedback and looking down at the page, calculating again.

Elias’s mathematical knowledge upon entering the program was at about the level of adding and subtracting simple fractions. The stuff he’s doing now feels new to him, since he “checked out” of high school early on and eventually dropped out. During his late teens and early 20s he “ran the streets and was into drugs.” But, and here his

eyes widen as if waking up, one day he had this realization that he was going nowhere and wanted to turn his life around. He works as an entry-level car mechanic but, since he's single with no kids, wants to adjust his schedule to accommodate more schooling. "This is the first time," he says, "school means anything to me."

When she ran for an office in student government, Cynthia, one of the few women in the program, printed a flyer showing her in full welding garb—leather apron, gloves, mask flipped up to reveal her round face, almond eyes, and hint of a smile. *Vote 4 updating curriculum and equipment and for improving campus communication.* Her welding classmates distributed the flyers for her. She'd never done anything like this before, she told me. She'd never run for office in high school and had avoided any kind of public speaking. But as she was beginning her second year, her welding instructor—for reasons not entirely clear—pushed and prodded her to go on this political journey. His instincts were true. During the campaign, I was observing a class in another department when Cynthia visited to give her two-minute stump speech. She said she was running to fight for more resources and to get a student voice into a current conflict between the academic and trade departments. Standing still in front of the room, her hands folded in front of her, she lacked the polish of some of the other candidates, but she was articulate and quietly passionate, the fluency that comes from authentic belief. She wanted to make a difference.

Bobby is about five foot eight, barrel chested, buzz cut, looks to be in his mid-to-late 40s. He's completed the welding certification but is still in school pursuing his academic degree and assisting in the welding program. You'll meet more than a few people like Bobby on this campus, in trouble with the law since he was 13: pills, meth, multiple incarcerations. About seven years ago during one of his times in jail, it came to him: "What am I doing? What's my life going to be?" He found religion and began the journey to various halfway houses and occupational centers. Then he found the welding program. Bobby has a jittery energy about him—his arms flap out from the sides of his body when he walks—but when he shakes your hand, it's with a full grip, and he looks you straight in the eye and holds the gaze. I remember thinking of those corneal scans in futuristic movies; he's taking your full measure in a blink.

Bobby asked me to read one of his English compositions; it was on leadership, using his elected position in the campus chapter of the American Welding Society as the main example. He insisted I give him my opinion and any suggestions as to how to make it better. I've also talked to him about an art history course he's taking, a general education requirement. He liked it, found it interesting. We talked about a field trip he had taken to a museum. He was amazed that he could identify different styles and periods of art. Bobby's got what musicians call "big ears"; he's wide open, curious about everything. "Not a day goes by," he said to me when we were talking about the art course, "where you don't learn something—otherwise, something's wrong with you."

REGARDLESS OF WHETHER Elias has ever seen the kinds of math problems he's now doing—and given his chaotic school record, it's hard to know if he has—he is engaged with them as if for the first time. Mathematics now *means* something to him. It is not only central to what he wants to do for a living, it has also become part of his attempt to redefine who he is. Cynthia, by running for office, is hurling herself into a political and rhetorical world that is new to her, an act of courage and experimentation. She is finding her way into institutional life and the public sphere, and in so doing she is acquiring an on-the-ground civic education. Bobby is in full cognitive throttle. After so many years of kicking around, chasing dope, bouncing in and out of jail, he's found solidity at the college, a grounding that frees him up in a way that he never knew on the streets. Yes, he's eager to finish up here and transfer to a four-year school, but he's taking it all in along the way—essays, museums.

Fostering this kind of learning and growth is in a society's best interest. What is remarkable is how rarely we see it depicted in our media, how absent it is in both highbrow and popular culture. Even more remarkable is how rarely our thinking and talking about education makes room for this vocationally oriented explosion of mind. As I noted earlier, it certainly isn't reflected in current education policy and politics. My worry is that if we don't see this kind of development, and if it's not present in our political discourse, then we won't create the conditions to foster and advance it.

Why are the experiences of the participants in that basic-skills program at the community college or those of Elias, Cynthia, and Bobby not present in the public sphere?

One reason, as I've said, is an education policy that for several decades has been so directed toward the economic benefits of education. Of the other goals of education that have formed the American tradition from Jefferson to John Dewey—intellectual, civic, social, and moral development—only the civic gets an occasional nod these days. The economic rationale is a reasonable political pitch, commonsensical and pragmatic, but students' lives and aspirations get reduced in the process.

A further piece of the puzzle has to do with social class. Few policymakers have spent much time at colleges that serve a mostly working-class population. And the journalists who write the stories we do get about such students tend to focus on their hardships and determination (which are worthy of depiction) or on their failures. What we rarely get, and maybe some journalists do not see, are the many positive *educational* dimensions of these students' time in school.

Another element connected to social class and deeply rooted in American educational history is the sharp distinction made between academic and vocational study, a distinction institutionalized in the early-20th-century high school. The vocational curriculum prepared students for the world of work, usually blue-collar, service, or basic-technology work, while the academic curriculum emphasized the arts and sciences and the cultivation of mental life. From the beginning, Dewey predicted

the problems that this divide would create, and over the past three decades, school reformers have been trying to undo them: the artificial compartmentalizing of knowledge, the suppressing of the rich cognitive content of work, and the limiting of intellectual development of students in a vocational course of study. But Dewey's wisdom and reformers' efforts notwithstanding, the designation "academic" still calls up intelligence, smarts, big ideas, while the tag "vocational" conjures quite the opposite.

Related to the academic/vocational divide is the power of the liberal ideal, the study of the liberal arts for their own sake, separate from any connection to the world of work, crafts and trades, and commerce. The ideal has been with us since Plato and Aristotle: it has found full expression in Cardinal Newman's Victorian-era *The Idea of a University*; and it figures in discussions of higher education today as colleges and universities have grown and transformed, adding many majors outside of the liberal arts. One current example of this discussion is found in the widely reviewed book by Andrew Hacker and Claudia Dreifus, *Higher Education? How Colleges Are Wasting Our Money and Failing Our Kids—and What We Can Do About It*. Hacker and Dreifus rightly criticize higher education for a host of sins: cost, production of endless esoteric research, exploitation of adjunct teachers. What is telling is that the model they offer to get college back on track is pretty much Cardinal Newman's. Their assumption is that anything vocational cannot lead to, in their words, a liberation of imagination and the stretching of intellect. How interesting that in this bold evaluation of the state of higher education, their solution fits into the well-worn groove of the academic/vocational divide, denying the intellectual and imaginative possibilities of any course of study related to work.

Elias, Cynthia, and Bobby have the ability to pursue a liberal studies curriculum, and I suspect they'd find much there to engage them. But in their present circumstances, they couldn't follow such a course exclusively. It is precisely its grounding in work and its pathway to decent employment that makes their educational journey possible. Their vocational commitment doesn't negate the liberal impulse but gives rise to it.

When Cynthia was delivering her stump speech in that class I observed, she spoke about the political discord on campus between the academic and vocational faculty and pledged to try to do something about it. "I'm in welding," she said, "but I'm pursuing an associate's degree, too. These don't have to be in conflict. I want to unite that gap." Cynthia was talking about conflict over turf and resources, but that conflict arises from a troubling history of philosophical claims about knowledge and intellectual virtue. Speaking from her experience, she was onto something that eluded her elders. Her life and the lives of the other students we've met demonstrate that habits of mind, reflection and thoughtfulness, exploration and experimentation can be sparked both in classrooms and in the workshop, reading a book and learning a trade. We ourselves have to disrupt our biases and binaries and be more creative in fusing book and workshop for those who go to school to fashion a better life. ●