



We began this chapter with the paradox of American vocational education: the role it has played in restricting the intellectual possibilities of work. Yet those VocEd pioneers were clearly right about some things. Though they would undercut it in practice, they voiced a legitimate call to honor the educational importance of the

hand as well as the brain. Also, they—like John Dewey, who would come to disagree with them on so much else—saw the limitations of a curriculum built on the memorization and recitation of texts, an approach to learning that easily became static and insular. And, finally, they were on target about the fact that many, many kids—kids like my uncle Joe Meraglio—found little in the traditional classroom to engage them, and they hoped that a vocational course of study would keep such young people in school. These issues are still with us.

They are captured in something I witnessed in a high school electronics class. In the middle of his workshop, the teacher had built the frame of a very small house. The frame was bare except for wires running across and through the beams, wires and receptacles, some wall switches, various light fixtures, and a power panel, door open. Students test their skills on this simulated residence, sections of the classroom's tiled floor taped off and marked *washer, garbage disposal, T.V.* On this day, Tyler and Mariana are hooking up the lights and running the wires to the power panel. They are just about done, Mariana giving the circuit breakers in the panel one last look.

There is a group of younger students present, new boys and girls just entering the program. I stand amid them. We are all back a little ways from the house. Tyler and Mariana say they're ready, so the teacher walks over to the classroom's central power source and flips a switch. It works! The whole house lights up, ceiling lights, wall lights, floods. "Wow," exclaims a boy by me, under his breath. "Man," he says, "that's crazy!"

Young people who find little of interest in the traditional curriculum can be intrigued by the world of work. I would find out that this fellow was such a student; he had already come to believe that school wasn't for him. Though the reasons for dropping out can involve much more than curriculum, this program might catch

him. This might help keep him in school and aid him in fashioning an occupation for himself, an opening through the intersection of technology and desire. The big question is, what would await him? A restricted pathway that defines him and the electrician's trade in the narrowest of intellectual, as well as economic, terms? Or a curriculum that assumes curiosity and the ability to learn, and that, while situated in the illuminated house frame, seeks connection to writing, to mathematics, to the economics of the trade, to the meaning of shelter and light across time?

Debates about vocational education, though politically weighty, tend to take place at the margins of school reform efforts. But as I've conducted the research for this book, I've come to believe that the vocational-academic divide could become the site of a broadly significant conversation, one that would not only affect VocEd but extend far beyond it. Some of those early VocEd topics were never adequately addressed, and they remain, I believe, among the key occupational and educational issues facing us today.

There is the issue of intelligence itself: its definition, the limits of our standard measures of it, and our lack of appreciation of its manifestation in the everyday. There is the set of cultural assumptions that attribute low intelligence to entire categories of work and to the people who do the work, often poor people, people of color, and immigrants. There is our impoverished sense of what work, any kind of work, requires and an arrogant denial of the intricate human dimension of technology. For all our talk about the new workplace and the need for smart workers, many believe, as does this manager of a Motorola plant overseas, that "we really need to get the human element out of the process." What else but human consciousness makes the process work?

There is the issue of differences in aptitude and interest, in the things we like to do with our minds. Though our schools have put

some effort into dealing with this kind of heterogeneity, they end up responding to difference in pretty simplistic ways. We develop limited categories for courses and for placement, which are administratively efficient but cognitively reductive—and we quickly rank-order them. Given, for example, the distinctions we make between the academic and the vocational, difference quickly devolves to deficiency. As one policy expert said to me in exasperation, ideas for vocational programs tend to “get implemented in the lowest, least imaginative form possible.” My sense is that, with a few exceptions, most policy and curricular deliberations about vocational education have embedded in them assumptions of cognitive limitation—and these assumptions shrink our curricular imagination.

To vitalize that imagination, we need to rethink our notions about mind and work, but also need to reassess long-standing and seemingly self-evident distinctions among levels and kinds of knowledge. Certainly, distinctions can be made; expressions of mind are wide and varied. But there is a tendency, in the school as in the culture at large, to view all knowledge and skill associated with physical work as rudimentary, even primitive, “neck down” activity. It is instructive, therefore, to look back at the work done by the young plumbers, carpenters, and electricians we visited and consider how often there was evidence of the kinds of cognitive operations—making fine discriminations, for example, or separating out variables, or weighing alternatives—that are central to higher-status academic and professional endeavors. A related issue, as we’ve been seeing, is that the traditional, and weighty, separations between “pure” and “applied” knowledge, between “skill” and “concept,” between “theoretical” and “practical” tend to neatly segment a more elaborate reality. The more time I spend amid different intellectual disciplines and amid different spheres of work, the less sure I find these distinctions to be. They harden in debates

over the purpose of education or in disciplinary and professional power plays, but they blur and morph in actual practice, both blue-collar and white.

And then there is the issue, much in public talk these days, of the purpose of work, which gives rise to a cluster of further issues: meaning and identity, tradition and ethics, values, human connection. The school has not done a very good job of addressing them: when they do appear in conventional vocational courses, the treatment is frequently abstract or trivial . . . and the students could care less. Yet there are so many moments in the practice of challenging work where values, ethical questions, connections of self to tradition emerge naturally, and with consequence, ripe for thoughtful consideration. Surrounding such issues, influencing them at every level of working life, are the profound effects of social location, economics, politics. The early architects of VocEd wiped these concerns from the curriculum, and vocational education has been pretty anemic on such topics since. (Historically, unions have served as the schoolhouse on these issues for many American workers.) The tragedy here is that young people are at the stage where they're realizing how important work will be in their lives, how it will frame who they are and what they can do in the world. They are desperate to be somebody, to possess agency and competence, to have a grasp on the forces that affect them. This is not easy to get to—kids are so self-protecting and adults often so inept—but the desire quivers within adolescent life.

All of the above, it seems to me, plays in and out of the basic question, the Jeffersonian question, about the purpose of schooling in a democracy. Throughout the early history of vocational education, both advocates and opponents relied on democratic rhetoric to make their cases: It is democratic to provide all students with a similar course of study—at that time, the academic curriculum. Or, no, it is democratic to respond to the individual needs of quite

different students. As I've considered it, I don't think this is the most fruitful way to frame the debate. The vocational-academic divide leads us to consider the Jeffersonian question in more nuanced ways.

For some critics, schooling should be freed of economic motive and vocational content. Though unrealistic, and, to a degree, elitist—if you're poor, how can you bleach school of the hope of advancement—there is merit in this position when one considers how crassly practical some have tried to make schooling. (One influential early-twentieth-century superintendent wanted to evaluate subjects in the curriculum based on each subject's "unit cost" per pupil recitation.) But economic motives have long driven mass education in the United States. In addition to his claims of the intellectual, civic, and moral benefits of the common school, Horace Mann devoted an entire report to its economic benefit. And one could certainly argue that the strictly academic curriculum has long served as a vocational course of study for the middle and upper classes. It seems that the key issue here is how narrowly or richly "vocation" is conceived and whether the child is defined solely as an economic being.

I know a telling, and awful, illustration of this issue, relayed to me by a teacher who was part of a VocEd reform team. The team was trying to incorporate more explicit literacy instruction into the curriculum, and was meeting strong resistance from a veteran auto mechanics teacher. He said that his students didn't need reading instruction from him, that he showed them what they needed to know, or they learned it from watching others or viewing instructional videos. To be sure, a good deal of trade skill is learned not from texts but from observation and practice, and it is also conceivable that what we have here is petulant resistance to incursion from the "academic" side of things—a reminder of the perennial suspicion and turf skirmishes along the academic-vocational divide.

But, Lord, what a terribly restricted notion of vocation this teacher expresses—that his students’ working lives will not need to extend toward reading and writing—and what a pinched definition of cognitive and civic development he seems to hold.

It is accounts like this, combined with the earlier-cited record of inequality, that have led in the last two decades not only to VocEd reform but also to impassioned calls to dramatically alter or even dismantle vocational education itself. There have been the many attempts to “detrack” schools, to move beyond the vocational-general-academic scheme and develop courses and teaching methods that can accommodate a wider mix of students—a common educational experience that could well include vocational options. There is, as well, a related effort to create in middle and high schools a “college culture,” that is, to foster change in a school’s organization—from curriculum to counseling to parental involvement—so that, to quote one research team, “college is a reasonable expectation for all students.” And, finally, in a few cases, there have been recommendations to structure curricular equality by having all students enter high school in a college preparatory curriculum, from which they could then choose to exit for a different course of study. This approach, one floated in my own state of California, would counter the shameful record of counseling so many poor and minority young people into noncollege curricula.

Though there is a legitimate debate in policy circles as to the wisdom—economic or developmental—of trying to send everyone to college, I am sympathetic to these college-for-all reforms and have written things consonant with them. While it is true that there are currently well-paying technologically oriented jobs that do not require a baccalaureate degree, on average a college degree still has a significant economic impact over the course of one’s working life. Furthermore, when you become familiar with the history of discrimination surrounding curricular tracking and with the

systematic restriction of educational opportunity for entire groups of Americans to the lowest-level training . . . well, there's little doubt about the democratic redress underlying these initiatives.

These attempts to broaden access to postsecondary education, however, require a carefully executed course of study, since many students need help with demanding academic material. As well, there needs to be a robust counseling program (not an easy task, given how overextended most high school counselors are) to assist students—especially first-generation college-goers—in making wise curricular choices. Furthermore, there are delicate social issues here. How do you encourage young people to consider college, take the right courses, perhaps leave their peers behind, look to work other than the work their parents do—how do you do that in a way that doesn't diminish who their parents are or how they make a living? Parents want economic mobility for their children, but enabling this mobility through schooling can be a tricky matter. As one policy analyst I spoke with aptly put it: "How do you honor a student's construction worker father while creating the conditions for his child to not be a construction worker?"

There is a related issue, one that can emerge in a school's institutional dynamics: a belittling of the work and the intellectual potential represented in vocational education programs. It is desirable to expand educational opportunity by enriching curriculum and providing more options for matriculation. But this must be done in a way that honors the diverse richness of cognition, that grounds itself in a capacious philosophy of mind. I'm not sure it is often the case. Some reform efforts leave unchanged the narrow definitions of disciplines and mental activity and, thereby, contribute to the sense many working-class kids have of scholastic alienation, of disconnection, of the sense that this intellectual—or aesthetic, or contemplative—business is not for them.

The core problem, it seems to me, is not that the school offers

multiple curricula; in theory, varied courses of study could be enriching. The problem is that even after tracking there are biases at play in who gets what curriculum. Furthermore, the curricular options are built on terribly diminished, and self-fulfilling, assumptions about the cognitive capacity of large numbers of students. After a while, young people figure this out. They develop a sense of whose mind is certified by the school—a pertinent phrase from Richard Sennett and Jonathan Cobb's *The Hidden Injuries of Class*—who is intellectually competent, invested with hope, marked with an aura of futurity.

Now, the kids who end up on the vocational side of things, as is the case with any social group, are a resourceful lot. They respond in a variety of ways to their situation, from making the most of it, to assuming a protective disengagement, to creating a storm of trouble. And some, like those young plumbers and carpenters, find spaces of achievement, frequently in the workshop, lab, or job site. But what is so disturbing on a societal level—taking the school as a miniature society—is that young people at a key developmental juncture have to form their sense of self and their conception of their intelligence within the tensions and restrictions of the academic-vocational divide. They have to define themselves, either in compliance or in rejection, within these institutional dynamics—unless they drop out . . . which creates its own stigmatized mess. One of the results of all this is that some kids—no matter how sharp they may be in other aspects of their lives—come to think of themselves as intellectually inferior, not too bright, dummies. This can even be the case—as I've witnessed innumerable times in my life—when people dismiss book smarts, mock it, develop identities in opposition to it. Even as they shun the academic domain, they identify intelligence with it, trapping themselves within the very terms they reject.

A number of vocationally oriented students have mediocre edu-

cations. Some are considerably unprepared, and their underpreparation is related to their social class background: poor schools, limited resources, hard times. They tend not to do well in their academic courses, and their performance supports the school's belief that they cannot handle intellectually challenging material. This belief is often reinforced by the students themselves, by their many indications that they just don't like school—and don't trust it, either. The teacher's challenge here—and this is where good teaching comes in—is to be clearheaded in separating out a student's poor performance or detachment and defensiveness from intellectual possibility. And when the conditions are right—the right teacher, or approach, or moment in a young person's life—when this clicks, wary students can be engaged, caught up, sometimes to their surprise. “Man, that's crazy!”

There is a further, related challenge. Not to assume—as many curriculum developers seem to—that poor academic preparation forgoes sustained and serious involvement with core disciplinary topics and with material of intellectual consequence. By and large, our schools have responded to underpreparation with reductive, trivial curricula, “skills-and-drills,” revealing once again assumptions about the cognitive capacity of those students on the VocEd side of the vocational-academic divide.

It is hard work to teach creatively in the intersection of the academic and the vocational. It involves the delicate negotiation of turf and subject-area status, which sparks teachers' suspicions and self-protection—the touchy personnel dimension of the academic-vocational split. Then there is the bureaucratic dimension: the finessing of work rules, curriculum frameworks, and district guidelines. And there is the crossing of disciplinary boundaries and culturally sanctioned domains of knowledge, something that the typical undergraduate curriculum and teacher education program does not prepare one to do. Thus even the most willing of teachers

is hampered by traditional vocabularies and definitions that make it so hard, for example, to articulate—and then to teach—the cognitive and aesthetic dimensions of manual skill.

It is hard work. It means developing classroom activities that authentically represent the intellectual demands of the workplace and, conversely, bringing academic content to life through occupational tasks and simulations. It means that the house or the automobile or the computer could be the core of a rich, integrated curriculum: one that includes social and technical history, science and economics, and hands-on assembly and repair. It means learning about new subject areas and making unfamiliar connections: the historian investigating the health care or travel industry, or the machinist engaging the humanities. It means fostering not only basic mathematical skill but also an appreciation of mathematics, a mathematical sensibility, through the particulars of the print shop, the restaurant, the hospital lab. It means seeking out the many literate possibilities running through young people's lives—on the street, in church, in romance—and connecting them to the language of the stage, the poem, but the contract, too, and the list of procedures, and the Bill of Rights. And, of course, such teaching might well mean providing instruction in “basic skills,” but in a manner that puts the skill in context, considers its purpose, pushes toward meaning beyond rote performance.

The teachers who do this work are trying to fashion a quality education for a larger number than usual of American youngsters. From what I've seen—and research supports this—they increase the number of students who graduate thoughtful and articulate, able to talk about what they're learning and of themselves as learners, able to act in and on the world. “It's the most powerful thing,” says one teacher, “that I've ever done in education.” While these educational experiments can involve all children, I am impressed by the special meaning they have for students who are not on the

educational fast track, the great mass of young humanity. This kind of teaching represents a significant change in established beliefs about the capacity of such students. The typical language in policy documents used to describe these young people is a language of practicality and preparation, inflected with a sense of their limitation. There is little sense of promise, of the excitement of cognitive and civic development. What I'm seeking is a deeper, richer, more involving orientation toward working people and their children, akin to a fundamental political commitment or article of educational faith.

It is the kind of belief in human potential that enables social movements, the extraordinary emergence of agency and strategy where little was thought possible. It is noteworthy, in this regard, that voter registration activist Bob Moses developed his program to teach algebra to children in poor communities from his political organizing experience. In the same way that the civil rights movement assumed that all people are capable of political deliberation and participation, the Algebra Project assumes that everyone—absent brain injury—is capable of understanding the conceptual fundamentals of algebra. “How can a culture be created,” writes Moses and his colleagues, “in . . . which every child is expected to be as good as possible in his or her mathematical development?”

It is important to note that in the early days of debate over vocational education, there were compelling voices articulating this kind of belief in the capacity of the common person and in the necessity of connecting education to an egalitarian vision of human and cultural development. There was John Dewey and Jane Addams, but others as well, academics and state-level committee members. But that view of mass education was erased from final policy. It needs to be reclaimed, for it is so pertinent now.

Without such bedrock beliefs and commitments, we will never transform vocational education or bridge the academic-vocational

divide. We will continue to take good ideas and squander them, dumb them down, trivialize them, for the beliefs about intelligence and the social order that underlie a curriculum are as important as the content of the curriculum itself. It is at this point that democratic principles and educational practice become one, an act of intellectual and civic realization. Thus it is that those teachers who do work diligently at the breach between the academic and the vocational are engaged in a kind of applied political philosophy. They challenge the culture's assumptions about hand and brain, and the rigid system of educational theory and method that emerged from them, making the schoolhouse more truly democratic by honoring the fundamental intelligence of a broad range of human activity.