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RECONSTRUCTING URBAN SCHOOLS WITH WORK-CENTERED EDUCATION

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David Dinkins, the former mayor of New York, liked to begin speeches by reminding audiences about the importance of cities. Historically, most advances in our civilization have been urban phenomena; the evolution of commerce and economic life, the development of culture, the founding of modern institutions like the state have all taken place in cities. Cities have been places of learning and sophistication, excitement and progressive ideas; in comparison, the small towns and rural places of this country, important as they have been to American norms, have always been placid, static, backward-looking, and often boring.

So too in education: public education in this country has largely been a saga of developments in cities. The common schools that Horace Mann championed in the early nineteenth century were devised to fashion a common culture from the heterogeneity of cities, and the earliest forms of public education emerged in cities like Boston, New York, and Philadelphia.

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New York was the place of the "great school wars", between public and parochial education (Ravitch, 1974); cities were the places where the high school developed, where the expansion of K-12 education took place, where the egalitarian ideals of American education (the "genius of American education", as Lawrence Cremin described it) were worked out, where innovations were first tried ranging from manual training to John Dewey's "progressive" education to vocational education, to tracking, testing, and ability grouping (Cremin, 1988). At the turn of the century a city like Chicago could accurately be described as a crucible where all the issues of the time — over immigrants, racial issues, vocational education, and progressive pedagogy — were being fought, with Ella Flagg Young the nationally-prominent superintendent who created a vibrant district that was progressive in every sense of the word (Lazerson, 1984). For more than a century, cities led the way in the development of education practice, and the most prominent schools were located in cities.

But this kind of urban leadership has ended. While suburbanization has been underway ever since the 1830s, the post-World War II developments in transportation made cities seem even less desirable. Cities have become concentrations of educational problems rather than innovations: poor children, minority children, non-English-speaking children, fiscal instability, unemployment, violence, drugs. The chief concerns of the populace about education — about violence, low standards, and dropouts — look like charges specifically against urban schools. The best schools since the 1950s have been suburban schools — in Evanston, Newton, and Palo Alto, for example. Even the idealized architecture of schools has a suburban cast, with the hulking three-story brick schools surrounded by asphalt playgrounds, built in such numbers in cities at the turn of the century, replaced by the

spread-out suburban model with athletic fields and parking lots. And if we take Chicago as a metaphor for urban schools, its infamy as the worst district in the country captures the downhill slide of urban education during this century.

School-bashing has become a national pastime, and urban schools are easier to criticize than most. However, in the efforts to reform schools rather than to ridicule them, cities also have tremendous advantages as locations for schooling, and the effort to reconstruct urban education ought to build on these advantages. In this essay I present a vision for a work-centered education that takes full advantage of the best characteristics of cities. The following section clarifies how this approach addresses some of the most serious problems which urban high schools now face, and the third section indicates how it can invigorate teaching for low-achieving students.

"EDUCATION THROUGH OCCUPATIONS: A NEW FORM OF WORK-CENTERED EDUCATION

At the turn of the century when urban schools were most powerful, schools were also viewed — as they are now — as vehicles for economic growth, particularly to enhance our international competitiveness and outdo our principle competitor, Germany. The response was a form of vocational education separated from academic education, in which vocational education with little academic content led to working class jobs while academic education for college-bound students destined for managerial and professional careers was divorced from any of its applications. The subsequent development of further tracking, ability grouping, and testing further segregated students, and the development of multiple purposes for students

pursuing radically different futures created the "shopping mall high school" without any coherence except that imposed by the high-status college track (Powell, Farrar, and Cohen, 1985).

Recently, however, there have been numerous efforts to undo the separation of academic and vocational education. The purposes of efforts are varied: they can increase the rigor of programs for students who might otherwise languish in general track courses or in vocational programs with little academic content; they help provide a link between school and future occupations, and thereby increase motivation; they provide a context for teaching academic subjects that may otherwise seem arid and pointless; and they force students to think about their occupational futures, helping to strengthen the guidance function of high school. Because their purposes are varied, efforts to integrate academic and vocational education have taken many forms, ranging from individual vocational instructors incorporating more academic content to restructuring high schools completely. For reconstructing urban education, however, the most thorough efforts to integrate academic and vocational education are the most valuable:¹

Academies: Academies operate as schools-within-schools. Typically, four teachers collaborate: one in math, one in English, one in science, and one in the vocational subject that is the core of the academy. There are Academies in many occupational areas, including health, computers, electronics, business, engineering, teaching, travel and tourism, and finance; indeed, virtually any broad group of occupations could serve as the basis for an Academy. (Of course, Academies could have non-occupational themes too, like the environment, the problems of cities, or math and science.) Each class of students takes all four subjects from these teachers, and they stay with the

¹ For a fuller statement of this vision, see the various essays in Grubb (1995).

same teachers for two or three years. Other subjects — social studies, history, foreign languages, and other electives — are taken in the "regular" high school, outside the Academy.

One essential element of the Academy model, then, is that a group of teachers works with one group of students and with each other consistently, over a period of years. The opportunities for coordinating their courses are substantial; and because each Academy is focused on a cluster of occupations it becomes relatively easy and natural to integrate vocationally-relevant material into academic courses. In addition, because students stay within an Academy for two or three years, creating coherent sequences over time is easier. Teachers can also develop special projects which cut across all four classes. The regular meetings of teachers also help identify particular problems that individuals students are having and allow for collective solutions.

Occupational magnet schools: In some cities, occupational high schools emphasizing preparation for clusters of related vocations exist. These include schools like Aviation High School, the High School of Fashion Industries, and the Murry Bergtraum High School for Business Careers in New York, the Chicago High School for Agricultural Sciences (all profiled in Mitchell, Russell, and Benson, 1989); and the High School for Health Professions in Houston. In addition, many districts have opened magnet schools as mechanisms of racial desegregation, and these often have an occupational focus — electronics, computers, or business, for example. Every student within a magnet is enrolled in a curriculum incorporating courses related to the magnet's focus, though the number of these courses ranges from the relatively trivial — two or three courses within a four-year sequence, creating a magnet school in name only — to the substantial.

In several ways, occupational high schools and magnet schools are similar to Academies, except that the scale of an occupational high school is larger — the "Academy" is school-wide. There are obvious advantages for curriculum integration: since all academic teachers are preparing students within a single broad occupational area, the incentives to bend academic instruction toward this particular occupation are strong, and the resources to do so — especially the vocational teachers with whom examples and exercises can be developed — are right at hand.

Occupational clusters or majors: Occupational clusters, or majors, or career paths are intermediate between Academies and magnet schools. In some schools, students choose a cluster (representing a cluster of related occupations), commonly at the beginning or end of tenth grade. The cluster then structures the curriculum for the remaining two or three years of high school. Clusters are therefore somewhat like Academies, except that every student elects a cluster or major; in a sense, a school is filled with a series of Academies. Clusters have all the potential of Academies and magnet schools to create a focus within which integration can take place.

To be sure, high schools that have adopted cluster or majors vary substantially in how much of the curriculum is shaped by the major (Grubb, 1995). In one well-known technical high school, each student elects one of about ten majors, which are taught during a double period during eleventh and twelfth grades, while other subjects are taught in conventional classes. At the other extreme, a few schools have replaced conventional discipline-based departments with departments organized along occupational lines. An intermediate approach has been adopted by several other high schools that have retained conventional departments while instituting clusters or majors. Teachers are assigned to career paths as well as to departments, and therefore

academic and vocational teachers can plan together the appropriate sequences of academic and vocational courses within each career path, creating more collaboration among teachers and greater opportunities for curriculum integration of various kinds.

Academies, schools with clusters or majors, and occupationally-oriented magnet schools vary in their scale, of course, and in the number of courses that are "inside" — taken by all students within a group — rather than "outside", in the regular courses of the comprehensive high school. But they share certain distinctive features:

- Most schools with these practices have used broad clusters of related occupations — not the occupation-specific focus of traditional vocational education (automotive repair or secretarial positions, for example) but groupings of related occupations (transportation, or business occupations). This provides opportunities for exploring a greater variety of academic topics, avoiding the problem of having moderately-skilled jobs dictate the teaching of relatively low-level academic content. It allows students to explore a variety of careers, and to understand how occupations are related.

- Academies, magnet schools, and clusters specify related academic and vocational courses for students to take, imposing some coherence on the "shopping mall high school".

- These approaches to integration all provide teachers from different disciplines a reason for meeting regularly around curriculum issues, increasing opportunities for cooperation among teachers.

- The use of occupational clusters provides a natural opportunity for linkages with appropriate postsecondary programs in tech-prep programs, and with employers in school-to-work programs with work-based components. These linkages need not seem contrived, as they often are in the

comprehensive high school, since Academies, clusters, and magnet programs have already focused the curriculum on occupations of interest to postsecondary institutions and to particular employers.

These forms of reshaping high schools are not simply a reinvention of vocational education. Instead, they reflect a Deweyan approach to education, one articulated about eighty years ago but never put into practice by John Dewey or any of his followers. Much of Dewey's writing criticized the dualisms which dominated education — the separation of individual and society, of body (or activity, or experience) and mind, of "learning" and "doing", of play and work, of academic education versus vocational education. He argued that academic and vocational education should not be separated, and in fact that vocations and broadly occupational themes are the most appropriate ways of focusing instruction: "Education through occupations consequently combines within itself more of the factors conducive to learning than any other method" (Dewey, 1916, p. 309).

Dewey himself gave several reasons, all of which sound quite modern. Most importantly, education through occupations would provide a context for instruction. Occupations would provide the richest possible context because "an occupation is the only thing which balances the distinctive capacity of an individual with his social service", and therefore an occupation-based education could combine individual interests — in developing capacities and finding important adult roles — and the community's interest in having productive workers. An occupational focus would help avoid passive, didactic teaching based on contrived materials — partly because "education through occupations" could use materials drawn from occupations. Finally, Dewey declared that "the only adequate training for occupations is training *through* occupations" (p. 310). He feared that

conventional schooling (and conventional vocational education) would narrow the education of those preparing for lower-skilled jobs and deny them the opportunities for developing their full range of capacities; but the broader conception of "education through occupations" would avoid such a restriction.

Nor is this kind of work-centered education a form of tracking — not if it is carefully structured. To be sure, conventional vocational education has often been considered a second-class education, a "dumping ground" for students unable to make it in the academic or college-bound curriculum — and by extension other work-oriented programs have been charged with being a form of tracking. But if urban districts develop Academies, clusters, or occupational magnet school around broad occupational groups, then the health cluster can include would-be doctors as well as students who believe they might be medical technicians or LVNs; if a school emphasizes a program in manufacturing technologies rather than metalwork or welding, then students can receive the kinds of academic and technical training appropriate to engineers as well as assembly-line workers. With this kind of approach, work-centered education need not be considered appropriate only for the "non-college-bound"; after all, the most sophisticated professional schools are occupational in their emphases too.

In adopting any of these forms of work-centered education, urban school districts have several distinct advantages. First, they are (obviously enough) quite large, and tend to have many high schools within them. This allows there to be specialization among high schools, making it easier to create occupational magnet high schools — as New York has done to some extent, for example. Alternatively it would be possible for each high school to develop two or three clusters, or for every high school to have several

Academies. There would be no need for every high school to develop a cluster in every occupational area; but a student wanting to choose manufacturing technologies, for example, or health occupations would always have several high schools with such clusters from which to choose, or several engineering and health Academies within the city.

The second advantage of cities is that they are still places where employment is concentrated. Despite complaints about the flight of employment to the suburbs, cities are the economic centers of most regions, and have better access to a range of employment than do suburbs and small towns. In the vision of school-to-work programs, and in many Academies, connections with employers and work-based learning — in work experience programs, co-op placements, summer internships, and the like — are crucial components, and the proximity of employment is crucial to these forms of learning. But even if the work-based component does not materialize — if, as so many fear, employers are unwilling to provide enough high-quality placements for substantial numbers of students, or if employers balk at providing work placements to low-income black and Hispanic youth — work-focused education can still use a city's employment as the context for study, to understand the kinds of jobs offered, the nature of production, their skill requirements, and the public and social issues surrounding local employment.

The third advantage of cities is that they include a vibrant cultural and political life, which again can be used by schools that have begun to rethink their connections with their surrounding community. That is, the most general formulation of work-centered education is that it breaks down the barriers that have existed between schools as places of instruction and institutions outside the schools — workplaces, of course, but community

institutions as well — that are different but potentially complementary sources of instruction. The resources for community-based learning are also exceedingly rich in most cities, adding to the resources available.

THE ADVANTAGES OF WORK-CENTERED EDUCATION FOR URBAN SCHOOLS

Just as cities have certain advantages as locations for work-centered education, this approach to education provides some solutions for some prominent problems of urban schools:

Creating smaller educational environments: One problem with urban schools is that they are often quite large — since many of them date from earlier periods when large schools were built in the name of efficiency. Recently Deborah Meier (1991) and other advocates for school reform have called to creating smaller educational units, with the potential of being true communities within which teachers and students can know one another better (see also Noddings, 1992). Several of the most prominent approaches to work-oriented education — particularly schools-within-schools, like Academies, and clusters that break a large high school into smaller units — can achieve precisely this kind of reduced scale. Furthermore, unlike some schemes to do this — for example, the "house" or "family" plans used to break some high schools into smaller units, which often have no particular purpose — Academies and occupational clusters involve their students in educational activities and occupy a great deal (if not all) of the school day.

Exposure to work for urban students: One advantage of work-focused education — in comparison to the conventional curriculum — is that it provides information about work, its relation to schooling, and the kinds of

skills that various occupations require. Adolescents in general have limited exposure to work, aside from the kinds of "youth jobs" that employ some of them — but poor urban youth, including many black and Hispanic adolescents, are especially like to grow up without direct experience of occupations. In communities and families that experience high rates of unemployment and low-wage jobs, knowledge about various forms of work and their prerequisites is likely to be weak. The reports that urban students often lack a realistic sense of what work requires, or that they aspire to occupations that their academic records cannot support, or that they fail to see the connection between schooling and later opportunities (e.g., Traub, 1994), reflects in part the lack of information in their families and communities about employment opportunities. But well-constructed programs of work-oriented education provide a great deal of information about occupational alternatives, as part of getting students ready to choose the Academy, or cluster, or magnet school they enter (see, for example, the different clusters described in Grubb, 1995); and through links to work-based components, they provide other sources of information about the requirements of work. While this may not be a perfect substitute for growing up in families and communities with direct exposure to rich work opportunities, it is also likely to be as effective as anything schools can do.

Reducing dropouts: A serious problem in most urban districts is simply that many students fail to complete high school — and, given current wage patterns, they are much more likely to face a life of continued unemployment and poverty without a high school diploma. However, some evidence from Academies (Stern, Raby, and Dayton, 1992) suggests that integrated curricula decrease drop-outs rates; and anecdotal evidence from schools implementing work-centered education suggests that the smaller scale and the greater sense

of connection between school and later life provides increased motivation to stay in school (see especially Heebner, 1995, based on students in magnet schools). Indeed, the adoption of Academies, first in Philadelphia and then in California, as models for "at-risk" students was based precisely on the *prima facie* case that this approach would provide additional motivation for students who otherwise might drop out because of the apparent irrelevance of schooling. While claims about reducing dropout rates require additional research, the case in its favor is strong enough to merit further adoption.

INVIGORATING PEDAGOGY FOR LOW-INCOME STUDENTS

Perhaps the most powerful promise of work-centered approaches to schooling is that they can help promote very different methods of teaching. The conventional, didactic approach to teaching has been especially dominant in high schools, and quite impervious to reform (Cuban, 1993). This approach to teaching — one that I call "skills and drills", and that others call teacher-centered instruction, the "top-down" approach, "skills development", the "conventional wisdom", or "passive learning" (Grubb and Kalman, 1994; Knapp and Turnbull, 1990; Goodman, 1986) — is composed of several distinct but consistent assumptions and practices. Complex competencies—the ability to read, for example, or to use mathematics in various forms—are broken into smaller discrete skills such as the ability to decode words, or to recognize the point of a three-sentence paragraph, or to add two-digit numbers with carrying. Students drill on each of these subskills until they have mastered them. The teacher's main responsibility is to implement the curriculum, which is embodied in textbooks, workbooks, or computer programs. By and large these curriculum materials are generated specifically for teaching

purposes, rather than coming from life outside the schools. They are therefore decontextualized, rather than being part of a culture of practice within which students live; they are "school activities", contrived and lifeless, unconnected to the flow of normal activities outside the schools.

Within skills and drills, "individualization" means that a teacher determines a student's achievement level within the hierarchy of skills; then the student begins working at the level which he or she has not mastered, progressing to the next skill only when he or she has mastered the previous skill. Students are therefore defined in terms of what they are unable to do—their deficiencies within a rigid hierarchy of skills. School is therefore a long process of discovering a student's deficiencies and overcoming them — a process which is inevitably fraught with the sense of failure. Furthermore, skills and drills approaches *assume* motivation on the part of the student, since the drills themselves are not meaningful or particularly interesting.

The approach of skills and drills is fraught with problems for many students, perhaps for the vast majority of students. However, teaching based on skills and drills has some special pitfalls for the low-income students who dominate many urban schools. The motivational problems are much more serious: by construction such children do not have well-educated parents who can demonstrate by their examples the value of formal education, and who can help interpret what are otherwise meaningless rituals. The major motivation of conventional schooling — the threat of low grades, or disapproval of teachers — means literally nothing if the promise of further schooling means nothing to a student. The dominate motivation in a vocationalized schooling system — the promise of access to good jobs later on — may be too distant and too uncertain for students who cannot see much connection between schooling and success in the lives of their parents and

other adults. Some students — minority and immigrant children in particular — may believe that there is no connection (Ogbu, 1978); they may be misinformed, but there is nothing in their direct experience to correct their misinformation.

Similarly, in a decontextualized system of instruction, middle-class parents can provide the context — their own occupations and lives, for example, their knowledge of current events and the wider world — to make sense of skills and drills instruction, but lower-class parents are less likely to be able to. In an economic system where their parents and other adults around them are unrewarded for hard work, extrinsic motives like grades and discipline on uninteresting tasks may seem pointless. The culture of the school may be strange to a child raised in a poor household, or to a child raised in a distinctly non-American culture, but there are fewer ways for their parents to mitigate its strangeness — its reliance on symbolic representation in language and math, for example, or its emphasis on print culture in a society which has largely moved away from text. Managers and professionals almost by definition move in a culture of text, of abstraction, of abstracted or depersonalized relations with other people in other places, and their lives are filled with school-like activities; they overwhelmingly report that formal schooling is a formal prerequisite for their work (Eck, 1993). But these aspects of school culture are more likely to be missing from the families and communities of working- and lower-class students. Their parents tend not to learn the work skills they use in schools; abstraction and text are less common parts of their work lives, and reading materials are less common in the home. The school culture is more likely to be foreign, then — a difference rooted in the kinds of tasks found in school as contrasted with those of working- or lower-class adult life.

Yet another problem comes from the treatment of error and failure in conventional instruction. In skills and drills, the goal is error-free performance on routine drills. Errors result in lower grades, and begin a process of sorting where "able" students (more error-free) are distinguished from less able students. Unlike the opposing tradition that I call meaning-making², there is little effort to understand and profit from errors. Conventional schooling is therefore a passage through a thicket of opportunities for making mistakes, and the sense of failure and shame — or low "self-esteem" — often associated with school comes in part because of the conventional treatment of errors. Unfortunately, the experience of deficiency comes earlier and more frequently to lower-class children — either because they have not learned from their parents the "school skills" (letters, numbers, simple reading) which are prerequisites to doing well in the early grades, or the school-appropriate behavior of their middle-class peers, or because teachers treat them as if they are unlikely to do well. Within a system built on a hierarchy of skills, weak performance (errors, low grades, placement in lower tracks) at early levels virtually guarantees weaker performance later on, and so early failures are magnified rather than redressed over time.

The personal relations of the classroom may also contribute to the problems of "new students". In conventional instruction, the teacher is an authority figure and purveyor of knowledge, and motivation in conventional classrooms depends on students accepting this authority relation. But Penny Eckart and others have argued that this kind of hierarchical relationship contradicts those in work-class communities, where learning from peers is

² For a more detailed description of meaning-making, see Grubb and Kalman (1994). I refer to this tradition as "meaning-making" because of its similarities to interpretation and the creation of meaning in other spheres, as outlined in Bruner (1990). This approach is referred to by others as learner-centered instruction, active learning, constructivist learning, the "holistic" approach, or simply as the alternative to conventional wisdom.

more common and figures of authority are more likely to be distrusted. These observations are consistent with "resistance" theories, which note that lower-class students, boys (more than girls), and students with experiences of failure may decide to resist educational authorities, allowing them to maintain their sense of self but at the cost of intractably poor school performance (Eckart, 1988; Willis 1977). This analysis suggests another reason why the extrinsic motivation of the conventional classroom, depending on the authority of the teacher, may work less well for many poor students.

Finally, conventional instruction incorporates a peculiar vision of student "needs" and "interests". On the one hand, at least since G. Stanley Hall and John Dewey, there has been a convention that schools should respond to a child's needs and interests. But schools conventionally *assume* what children need, and conventional instruction makes no provision for a child's interests or background; the material is set by the standard curriculum, the teacher, and often by the textbook, providing no way for student preferences and experiences to modify the content. Now, there has been a greater consistency between the experiences of middle-class students and the overt content of the curriculum, so the failure to incorporate student interests in any way is less of a problem for them. But for other students, references to student "needs" and "interests" despite teacher-centered instruction has masked the fact that their preferences are rarely consulted.

My argument, then, is that a complex interaction between family background and the dominant kind of school instruction is responsible for the persistently poor performance of many low-income, minority, and immigrant students — the students who dominate urban schools. It's foolish to argue that there are no differences in the preparation of children for school; there are real differences, rooted in the nature of parent and child experiences,

values, expectations, and the like. But it is important to understand that deficiencies and inadequacies are defined by the nature of conventional instruction. The differences among students of different income (or class) and racial backgrounds have such profound effects only in the context of instruction based on "skills and drills", which assumes the kinds of motivation, background knowledge, values, and personal relations that lower-class children are likely to lack. Some children can and do learn from skills and drills methods — after all, some students emerge from even the most conventional schools having learned a great deal, even with their "self-esteem" intact. But they are likely to be from middle-class families and communities that can compensate in many ways, and compensate consistently over the long years of elementary and secondary schools, for the limitations of skills and drills instruction.

The obvious implication is that alternatives to skills and drills — the approach to instruction I describe as "meaning-making", which reverses many of the assumptions of skills and drills — would be especially beneficial for low-income students in urban schools. Indeed, this is precisely the conclusion of a recent review of remedial programs for low-income students: the "conventional wisdom" stressing the deficits of disadvantaged students and emphasizing sequential mastery of discrete sub-skills often works poorly, and needs to be replaced with an alternative vision (Knapp and Turnbull, 1990; Means and Knapp, 1991).

The efforts to develop work-oriented education have certain advantages in changing instruction from "skills and drills" to the more active forms of instruction associated with "meaning making". By its nature, "education through occupations" provides a context for instruction — work, broadly defined — rather than presenting decontextualized information. It is

also inherently interdisciplinary, since the issues arising in work and the skills that occupations required are not bounded by conventional disciplines. Work-oriented programs are much more likely to develop projects as the basis for conventional classroom exercises; the presence of labs and workshops, and occupational instructors, facilitates such projects. The best of these programs concentrate not on simple information transfer, but on the higher-order capacities or generic skills now required in a good deal of employment, including problem identification and solving, working in teams and other interpersonal skills (Stasz, McArthur, Lewis, and Ramsey, 1990). The best teaching in vocational education has always been more student-centered and respectful of students, and working-class students have generally reported greater support from their vocational teachers than from academic teachers (Eckert, 1988; Claus, 1990). While it is certainly possible to institute an integrated *curriculum* without changing *teaching methods*, work-centered approaches are more conducive to active and meaning-centered forms of teaching than are most other current school reforms. The results would be especially beneficial to many students in urban schools, who have suffered more under conventional "skills and drills" instruction than their middle-income peers.

URBAN SCHOOLS AS LEADERS AGAIN

It is foolish, of course, to think that work-centered education can resolve all the problems urban schools face. Certain issues cannot be redressed simply by modifying the curriculum, and the problems of inadequate resources, antiquated buildings, an overwhelming number of language

groups, and the underlying poverty of many students will persist no matter what urban districts do to change.

But urban high schools still have the power to control much of what goes on within their walls. To a large extent, their programs remain what they were soon after the turn of the century, dominated by the academic courses of the conventional college track alongside low-status vocational and general courses. But this kind of curriculum and the conventional pedagogy which accompanies it, both developed for another time, have been ineffective for the majority of urban students — indeed for the majority of students, as the school-bashing of the past twelve years suggests. A shift to a new form of education is necessary if a larger number of students are to be better prepared. The conception of work-centered education presented here — a vision much broader than either the standard vocational program or than the conventional academic curriculum — is a way of doing so that addresses the need for occupational preparation, that rests on well-known Deweyan ideals of education, and resolves some special problems of urban districts face.

In this kind of change, urban schools have some advantages. Their size facilitates the development of specialized schools, Academies, and clusters, and their employment and community resources allow the variety of out-of-school learning experiences that are the heart of school-to-work programs. The related changes in teaching methods, simultaneously related to Deweyan conceptions and to current notions of good teaching as contextualized, student-centered, and constructivist, would benefit the low-income students concentrated in urban districts even more than it would other students. In promoting such reforms, urban schools can be leaders of education reform again, much as they were in the early years of public schooling.

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PRINCIPLES FOR PERKINS' PROGENY

The notion of a "principled politics" may be an oxymoron, but it's always worth a try. In this document I present 12 principles, based largely on research and experience over the past decade rather than on partisan concerns, that could guide the reauthorization of the Carl Perkins Act over the coming year. The purpose of these principles is to create a consistent vision from which detailed recommendations can be derived — and by implication to clarify what proposals now being considered should be dropped. For convenience I call the resulting legislation "Perkins III", since it would be the offspring of the 1990 Amendments (Perkins II) to the Carl Perkins Act of 1984 (Perkins I).

The first three principles cover general concerns; the next two describe secondary education, and the following two address postsecondary education. Principle 8 covers assessment and performance standards. The following 3 recommendations then present a vision of the entire education and training "system", to suggest what the relationships among various federal programs — including Perkins III, the Adult Education Act, JTPA, JOBS, and other education and training programs — should be. The twelfth and last principle is intended to cover state governance mechanisms. These principles are intended to be mutually consistent, and there most principles refer to others.

1. Legislation should start with a vision of what local education and training programs could be.

If the purpose of federal legislation is school improvement (see principle #2), a clear view of how schools and postsecondary institutions could be improved is necessary. Otherwise state and local administrators, left to their own devices and unclear about federal intent, either spend federal funds in old and familiar ways or spend it on bits and pieces of incoherent programs.

This apparently-innocuous recommendation also eliminates the currently-popular proposal of consolidation, or combining various federal job-related education and training programs in a kind of block grant for education and training (as proposed currently by Senators Kennedy and Kassenbaum, among others). Consolidation, and other proposals that give states great authority to determine what their education and training systems should look like, abdicate any vision of education and training programs, or education improvement (see also principle #12).

* It's useless to tell people not to circulate this, so here are the ground rules: (a) give me credit for the good points; (b) don't blame me for the bad stuff — this is only a draft; (c) don't complain if I forgot to include your precious article or point of view — this is only a draft — but do let me know about my grievous omission; (d) it'll be better next time; (e) I have tenure anyway. Direct comments to me at the School of Education, University of California, Berkeley 94720; or FAX them to (510) 642-4803; or e-mail me at norton_grubb@mailink.berkeley.edu. Much of the research in this statement of principles has been supported by the National Center for Research in Vocational Education, the University of California, Berkeley; I am circulating this draft to members of the Board of the National Center for Research in Vocational Education (NCRVE), to see if this can be the basis for an NCRVE policy brief, as well as to other interested individuals. However, at this point this statement is mine alone, and none of my employers, colleagues, or funding agencies is responsible for its content.

A vision for secondary program improvement is given in principle #4, for postsecondary education in principle #7, and for the entire education and training "system" in principle #11.

2. The Carl Perkins Act should be reauthorized as a vehicle for school and college improvement.

The improvement of work-oriented education in schools and community colleges is an important goal of federal policy, and needs to be continued even though the School-to-Work Opportunities Act (STWOA) provides a more encompassing vision of both school-based and work-based education. Changing schools and colleges is difficult and time-consuming (see principle #3), and requires *sustained* effort rather than federal (or state) initiatives that are then abandoned. The changes that Perkins II set in motion are considerable, but they are barely underway (NAVE, Vol. I) and require further support. To incorporate funding for vocational programs into the STWOA, as some are considering, runs several risks:

- The goal of school improvement might be weakened in favor of developing work-based education poorly connected to school-based education (Grubb, 1994).
- While some states have appointed STW councils that appear to be oriented toward education, other councils are dominated by individuals from the job training system or those concerned with work-based learning. There is considerable uncertainty about the direction that state school-to-work programs will take, and until this uncertainty is clarified it is inappropriate to add other federal funds to the STW effort.
- The STWOA is intended as seed money, and will disappear in five years. It is therefore an inappropriate vehicle for sustained efforts at school improvement.
- There is considerable uncertainty about whether it will ever be possible to "move to scale" with STW programs — that is, to induce sufficient numbers of employers to provide work placements so that substantial numbers of secondary and postsecondary students can participate. But even if STW programs do not work out, the goal of reforming work-oriented education remains a valid purpose that would improve the prospects for large numbers of students.

At the same time, the vision of the STWOA is a powerful one, and the reauthorization of the Perkins Act should support this vision. If there remain two pieces of legislation, then there is a logical division of labor between Perkins III and the STWOA, in which Perkins III funds improvements in high schools and community colleges, while STWOA funds the work-based components of STW programs and the connecting activities that involve work-based components. For example:

- Perkins III would fund the development of career majors and Academies, including planning time for teachers, but STWOA would fund the individuals who recruit work-based placements, monitor their quality, and link the school and the workplace.
- Connecting activities like career-oriented guidance and counseling could be supported by Perkins III, since they are crucial to improving work-oriented education no matter what the linkages to work-based components may be, but connecting activities like seminars to prepare students for the work-based component, "integrative seminars" in which students analyze their work placements and the relation to school-based learning, and similar activities that would not take place in the absence of work-based components would be funded from STW funds.
- The training of "hybrid teachers" — those who can teach in interdisciplinary ways that span both academic and occupational material, who can teach in more active ways, and who are familiar with the employment as well as schooling — would be funded partly from Perkins III (for the first two of these capacities) and by the STWOA (for the internships in employment and other activities that help them learn about the world of work).

To be sure, the continuation of two separate pieces of legislation means that there is a problem about how to link the two.¹ Because coordination between federal programs operates best when there are fiscal inducements to do so (Grubb and McDonnell, 1992; Lurie and Hagen, 1994; Ballis and Grubb, 1993), one mechanism of coordination is to require that state STW funds be allocated only to those districts that have undertaken the development of programs that integrate academic and vocational education with career-oriented majors or clusters, as envisioned by the STWOA. Then schools and colleges have an incentive to make these changes because they are eligible for further STW funds; and state STW agencies have an incentive to piggyback on Perkins III funds because by doing so they need not support any part of the school-based component from their own funds.

3. School improvement takes time and persistent efforts, and federal legislation should provide consistent direction over the longer run.

Educational institutions are conservative institutions, and changes — particularly changes in approaches to teaching — are difficult to accomplish (Cuban, 1993). They have also been subjected to swings in reforms, from the academic reforms of the post-Sputnik period to the experimentation of the late 1960s and early 1970s, to the academic emphasis of *A Nation at Risk* to the more work-oriented reforms of the 1990 Amendments to the Carl Perkins Act and of the STWOA (Cuban, 1992). These swings make teachers and administrators distrustful of new initiatives, compounding the difficulty of change.

In contrast, Congress is impatient to see results, and is sometimes tempted to alter course if it doesn't see results right away. The National Assessment of Vocational Education found, for example, that the most thorough changes envisioned by the Amendments — the integration of academic and vocational education, the creation of tech prep, and the development of performance measures and standards — often took the most modest forms (NAVE, Vol. I, p. 33 ff).

But it would be unwise (as the NAVE recommendations themselves indicate) to conclude that "nothing has changed". On the contrary, particularly given the initial uncertainties in the implementation of the Amendments and the fact the 1990 Amendments could have first been implemented only in the 1991-92 school years, a great deal of discussion, planning, and change has taken place in only three years. This is particularly true when we consider that the divisions between academic and vocational education have been in place for perhaps 150 years, that the lack of connections between postsecondary institutions and high schools have been persistent problems for at least a century, and that outcome-based approaches in education are quite novel. It is unreasonable to think that these problems of such long standing could be resolved overnight.

The most important course, therefore, is for Congress to continue pursuing the initiatives it began in the Perkins Amendments, to push them to another logical step (as principle #4 intends to do), and to make sure that its efforts are both consistent and persistent. This in turn implies two other principles:

¹ There must be a division of one kind or another. If the current Perkins funds are simply incorporated into the STWOA, then — unless there is a radical change in the governing mechanism of this act — there would be a separation of all STW/Perkins funds from the "normal" funding of schools and colleges, which flows from state departments of education and local school boards; and this division would exacerbate the split between work-oriented education and conventional academic education. Such a division would be the death knell of work-oriented education (see principles #4 and #5); instead a closer integration of work-oriented education and academic education is desirable (see principle #4). Thus the division between the school-based components of STW programs, in Perkins III, and the work-based components, in the STWOA, is the lesser of two evils.

a. Congress should be sure that other and subsequent legislation is consistent with the goals of Perkins III. For example, the implementation of the National Goals Act should not undermine the work-oriented education envisioned in Perkins II and III.

b. Congress should consider lengthening the period of time over which it authorized legislation. The current five-year cycle is too short, because changes must be evaluated in their first and second years in order for Congressional deliberations to begin in year five. Congress might consider a cycle of 7 to 10 years instead.

4. At the secondary level, "school improvement" requires bringing changes in work-oriented education into the mainstream of educational reform.

Historically vocational education and academic education have been badly divided, with vocational education suffering from second-class status and often serving as a "dumping ground" for students considered unfit for the academic track. Academic education has suffered as well, since the low status of anything connected with occupational preparation has deprived it of one important context for instruction. The 1990 Amendments took a first step toward ending this division with the requirement to integrate academic and vocational education. However, Perkins III can take this conception of school improvement further, by articulating a vision of work-oriented education that encompasses even more of education.

This vision of secondary education would incorporate a number of different elements, though the specific elements are less important than the overall goal of using occupations, broadly defined, to provide a context for teaching a variety of generic competencies:

- The integration of academic and vocational education would continue. However, the goal of Perkins III should be to move high schools from less thorough forms of integration (e.g., applied academics courses, or collaboration between two teachers) toward those forms of integration in which a number of teachers collaborate to create an occupationally-focused program, in career Academies or schools-within-schools; in career-oriented clusters or majors that every students in a particular high school would elect; or in occupationally-oriented magnet schools.
- Academies, clusters, and magnet schools would focus on a broad range of occupations — defined variously as related occupations (e.g., health occupations) or as occupations within a given industry (e.g., those related to agriculture, which encompasses scientists and managers as well as farmers) — rather than specific entry-level occupations as has been true in traditional vocational education. The purpose is to provide students with a broad range of competencies for a rapidly changing occupational world; to enable such integrated programs to incorporate the most sophisticated levels of academic competencies associated with the highest-status occupations; and to attract students of varying ambitions and economic backgrounds, so as to prevent the recreation of tracking.
- The goals of work-oriented education would be broader than those of either traditional academic education or traditional vocational education: They would prepare students either for employment after high school, or for postsecondary education, or for that combination of employment and further education that has become so common. In this conception, job-specific preparation for entry-level work right after high school would be eliminated — partly because such jobs do not require any particular vocational preparation, and partly because this approach leaves students without the competencies necessary for the longer run.
- This approach to work-oriented education would require changes in academic instruction as well as vocational instruction. Quite rightly, vocational teachers have complained that the burden of integrating academic and vocational education has fallen

- on them. In this further development, however, academic subjects would change as well, incorporating more occupationally-relevant applications, examples, and projects as well as themes that are important to
- The pedagogy in high schools would change as well, in favor of teaching based on the tradition of "meaning making" incorporating constructivist conceptions of learning, more student-centered instruction, small-group and cooperative instruction, project- and experienced-based learning, and other practices that have been more common in the best vocational education (and also in the most elite academic education).
 - These integrated high school programs would explicitly create links to postsecondary institutions of all kinds, extending the practices associated with tech prep programs — to dispel a notion that these are programs for the "non-college bound".
 - The principles of learning in context would extend to contexts outside the schools — to businesses, particularly in the school-based component of school-to-work programs, and to the community as a whole, in the service activities supported by the Community Services Act of ???
 - Because the changes envisioned in this conception of secondary education, a new definition of vocational education might be considered. The current definition — "a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree" — is out of date both in requiring that education be *directly* related to occupations, and in its restrictions to occupations requiring less than a baccalaureate degree because some occupations incorporated into clusters would require baccalaureate or advanced degrees (e.g., doctors in a health cluster, or engineers in a manufacturing technologies cluster). In place of vocational education I have used the phrase "work-oriented education", though other more felicitous phrases might be appropriate

This vision of secondary education is a logical extension of the changes started by Perkins II. It is also consistent with numerous other strands of reform in schools (Andrews and Grubb, 1993), including the proposals to create "focus schools" and charter schools (Hill, Gendler, and Foster, 1992), the increased interest in magnet schools, the "restructuring movement" that allows individual schools greater control in order to create schools with a particular emphasis, the shift toward more active teaching methods, the calls for small schools or school-within schools (Meier, 1991), and the general interest in integrated curricula (e.g., Jacobs, 1989). The ideas behind these changes have a long history behind them: this conception of education illustrates John Dewey's declaration that "education *through* occupations consequently combines within itself more of the factors conducive to learning than any other method" (Dewey, 1916, Ch. 23, p. 309). This kind of work-focused education is therefore not especially radical or unprecedented, though it represents a departure from standard practices in both academic and vocational education.

Given this vision of secondary schools, funds provided by Perkins III could be used to support various activities related to implementing this vision, including teacher planning time, staff development, curriculum development, and the like.

5. In secondary education, work-focused education should be designed for all students, rather than a subset of "vocational" students or "non-college-bound" students or "special-need" students.

The focus on all students would continue the intention of the STWOA, which stresses serving all students "from a broad range of backgrounds and circumstances".

This principle comes from the common observation that programs earmarked for certain groups of students inevitably turn into low-status programs. Vocational education, emphasizing those considered less able to success in academic programs, special education focusing on handicapped students, schools for black students under *de jure* segregation,

pull-out programs for compensatory education students are all examples of this tendency: it has been almost impossible to create programs that are "separate but equal" when the students in such programs are not viewed as equal. The creation of Academies for "at-risk" students (Raby, forthcoming, 1995) and the view that school-to-work programs are for the "non-college-bound" are the most recent versions of this problem in the area of work-related programs: such plans have led to charges that they recreate tracking and prevent the students in them from attending the postsecondary institutions that lead to the best-paying, highest-status jobs.

In the interests of equity, advocates for students with special educational needs have often been tempted to argue that funds should be earmarked for them. Indeed, this was the practice prior to the 1990 Amendments to the Carl Perkins Act, when a series of set-asides created separate funds for various special populations. However, Congress should resist the temptation to recreate such set-asides or otherwise target such students because this is likely to start such programs down a slippery slope: they will come to be seen as programs for marginal students, "regular" students will shun them, the academic content in such programs will erode, they will come to focus on lower-level jobs, and the end result will be a recreation of the "dumping ground" that traditional vocational education has sometimes become.

This principle implies that federal legislation should continue to direct funds to districts with the greatest levels of need as measured by income, but should resist targeting funds on specific groups of students. Of course, this does not prevent such programs from spending resources specifically for high-need students — for example, for enriched instruction if certain students lack the writing or math competencies necessary for advanced occupational clusters. However, such compensatory efforts do not mean that the basic purpose and image of a program changes — but rather that federal funds are used to assure that programs are simultaneously of high quality and allow access by all students.

6. Because "school improvement" means quite different things at the postsecondary level, Congress should consider a separate title or section for postsecondary institutions.

Ever since the Smith-Hughes Act of 1917, federal legislation for vocational education has been written with secondary schools in mind. Postsecondary institutions — community colleges, technical institutes, and area vocational schools serving postsecondary students — have been included almost as an afterthought, with no attention to their very different conditions. Recent legislation, including the Carl Perkins Act of 1984 and the 1990 Amendments, is no exception: the conception of special populations, the notion of integrating academic and vocational education, and the introduction of performance measures to a level of education where even standardized tests are rare have all caused special problems for postsecondary institutions. Not surprisingly, implementation of the Perkins Amendments has been slower in postsecondary institutions than in secondary schools (NAVE, Vol. I).

If the purpose of federal legislation is the improvement of educational institutions (see principle #2), and if in addition federal legislation emphasizes the improvement of systems (as the STWOA and principle #11 encourages), then it follows that programs improvement in community colleges and technical institutes is just as important as improvement in secondary schools. Because the problems in postsecondary institutions are different from those in high schools (see principle #7), a separate section or title of Perkins III is necessary in order to direct funds to somewhat different purposes at the postsecondary level.

The creation of a separate postsecondary section or title inevitably raises the question of how to divide funds between the secondary and postsecondary levels. Currently this division is decided by states, which vary from xxx(which allocates xx

percent to the postsecondary institutions) to xxx, which allocates only yy percent; on the average states allocate about 38% to the postsecondary level (NAVE, Vol. x, Ch. y). This division is of course contentious, but *it would be unfortunate if partisan argument over this division precluded any consideration of the differences between program improvement at the secondary and the postsecondary levels.* Therefore the discussions of whether there should be a separate title or section ought to be kept independent of discussions over the appropriate division of funds.

However, if program improvement is the goal of Perkins III, and if program improvement is as important at both secondary and postsecondary levels, then it follows that neither level should be neglected. This argues for establishing a range within which states can choose — for example, allowing the postsecondary fraction of state funds to range between 40% and 60% — except in states with small numbers of community colleges and technical institutes.

7. At the postsecondary level, federal legislation should continue some improvements begun in the 1990 Amendments to broaden postsecondary occupational education, but should incorporate others designed to improve the connections between postsecondary institutions and labor markets.

The 1990 Amendments promoted two practices particularly relevant to community colleges and technical institutes: the integration of academic and vocational education, and tech prep. While interest in curriculum integration in community colleges initially lagged behind interest in high schools (NAVE, Volume x, Ch. x), recently there has been an upsurge of attention that should continue, in the interests of making sure that postsecondary occupation programs provide a broad range of competencies. Similarly, while tech prep programs generated considerable interest in community colleges, most of the changes that have taken place have affected the high school component rather than postsecondary practices (NAVE, Vol. x, Ch. x; Bragg, 1993). Continued support for tech prep should stress the need for curricula and teaching methods in community colleges to change, in order to assure a well-integrated and demanding curriculum for students entering from high school tech prep programs:

a. Federal legislation should continue support for the integration of academic and vocational education and for tech prep programs, stressing the need for community colleges and technical institutes to continue broadening and deepening their occupational programs.

Staff development is a particular problem in the development of new approaches to occupational education. Unlike secondary schools, where teacher training is routine (if controversial), the preparation of postsecondary instructors for their teaching responsibilities is much less common. The majority of states do not have credentialing requirements for community colleges instructors aside from degree requirements (McDonnell and Zellman, 1993), and staff development and in-service education are erratic. In order to prepare postsecondary instructors for teaching that is both more interdisciplinary and more active, a coherent approach to the preparation and in-service education of community college instructors is necessary. While support for staff development (already part of the 1990 Amendments) is appropriate, other forms of support including summer institutions, professional development schools (modeled after those in K-12 education), and different forms of pre-service education may be more effective. Therefore:

b. Federal legislation should explore various ways to strengthen the preparation of postsecondary instructors for participation in integrated curricula and tech prep programs.

In general, the economic benefits of postsecondary occupational education are positive, particularly for those completing Associate degrees and certificates, and the National Assessment has portrayed the occupational outcomes of postsecondary programs in positive ways (NAVE, Volume x, Chapter x). However, the overall positive effects mask a great deal of variation: the economic benefits vary widely among different occupational areas; the benefits are more substantial for individuals who complete programs compared to individuals who complete coursework but not programs; some individuals (especially women) who enroll in community colleges without completing programs do not benefit at all; and those who find employment related to their area of study benefit more than those in unrelated employment (NAVE, Vol. x, Ch. x; Grubb, 1993a, 1993b, 1994; Kane and Rouse, 1993).

There remains considerable uncertainty at the national level about the benefits of community colleges and technical institutes, but of course national information is almost irrelevant to local programs and to individuals deciding what kind of postsecondary education to pursue locally. At the local level, information about the effects of different programs is generally weak. Therefore:

c. Federal legislation should support the development of better information for prospective students about the benefits of alternative occupational programs.

One explanation for the variation in the economic benefits of community colleges is that the extent of their connections to local employers vary substantially (Grubb, Dickinson, Giordano, and Kaplan, 1992). The sub-baccalaureate labor market in which community colleges and technical institutes are generally quite local — firms search locally for employees, and individuals tend to search locally for employment — and so the connections between institutions and local employers are crucial. To be sure, community colleges generally have a large number of ways of establishing connections with local employers, including advisory committees; placement offices; the placement efforts of individual instructors; student follow-up and tracking mechanisms; contract education, which provides instruction to particular firms; work experience and co-op programs; the patterns of student enrollment, which sometimes falls when labor market demand falls; and, in a few areas like health occupations, licensing requirements. However, while some institutions have developed these connections in ways that link their programs closely with employers, in other institutions these mechanisms work poorly. When this happens, then it is unclear how well students can find employment related to their area of study in the local area. Therefore:

d. Federal legislation should support, as forms of institutional improvement, the development of various mechanism to connect community colleges and technical institutes more closely with local employers. These might include improved placement efforts, student follow-up systems to provide information where students are employed, and the continued development of skill standards (which can serve as licensing requirements do to bring employers and education providers together). In addition, work experience and co-op programs can be excellent ways to link employers and educational institutions (Grubb, 1994), and could be supported by the STWOA.

8. Federal legislation should continue to foster an emphasis on outcomes through requirements for performance measures and standards.

The 1990 Amendments began the process of shifting educational institutions from a concern with inputs and process-related standards to outcome, by requiring the development of performance measures and standards. In this first round, states appear to have done a good job of developing performance measures, but their implantation locally has lagged. Subsequent legislation should stress the continued development and implementation of outcome measures, to provide feedback to both students and educational institutions about their performance.

However, at this point the development of various accountability measures has proceeded to the point that teachers and administrators are often bewildered by the different and conflicting assessments and standards they face (Little, 1994). This is a particular problem in the high school, for example, where educators now confront restrictions from state graduation requirements; state tests of basic skills; university eligibility requirements that establish the program for college-bound students; the pressures of the SAT (or ACT) for college entrance; state curriculum frameworks; national curriculum standards in specific subjects like math and social studies; Perkins performance measures; the requirements of Certificates of Initial Mastery in states that have developed school-to-work or apprenticeship programs; and skill standards and licensing requirements, at least in some occupations). Still other assessments are under development, reflecting the acceptance of accountability in every movement with a different idea of what education should accomplish. While federal legislation in the area of work-oriented education should continue to develop performance standards, their continued development should carefully consider the ways that they reinforce or conflict with other standards. In addition, the federal government could serve to convene the various groups participating in the development of assessments, to explore ways in which these could be made consistent rather than conflicting.

9. Federal legislation should encourage collaboration across different federal efforts related to work-centered education.

Collaboration across different federal programs is notoriously difficult to achieve, and Congress should avoid simple efforts at consolidation and coordination (see principles 1, 10, and 11). However, these are some obvious kinds of collaboration that have not yet been well-developed related to work-centered education, and they could be encouraged by Perkins III:

a. Federal agencies that support curriculum development, like the National Science Foundation (NSF) and the Fund for the Improvement of Postsecondary Education (FIPSE) could support the development of applied curriculum materials as part of their portfolios of new curricula. This would facilitate a comparison of the effectiveness of applied approaches versus conventional approaches.

b. The Department of Energy has supported technician training programs, particularly in the area of environmental restoration and hazardous materials, through community colleges. These efforts could be coordinated with tech prep programs and the mechanisms to improve occupational education in community colleges.

10. In the efforts to coordinate or consolidate federal programs, it is crucial to distinguish the purposes such programs have in common from those which are distinctly different.

The federal efforts to coordinate programs that appear similar have been relatively constant, and "consolidation" is a current favorite in Congress. However, federal programs in the area of work-related education and job training that seem similar are often quite different in their intentions, and there is as a result remarkably little "waste and duplication" despite rhetoric to the contrary (Grubb et al., 1990, 1991; Grubb and McDonnell, 1992; Trutko, Bailis, and Barnow, 1989; Bailis and Grubb, 1993; NAVE, Volume x, Ch. x).

In considering the ways that any two programs might be coordinated, an important first step is to distinguish the ways in which the two serve common purposes and populations from the ways they differ. For example, funding from the Carl Perkins Act and from the Job Training Partnership Act (JTPA) overlap because they both support vocational education in community colleges. This happens when local JTPA programs send their clients to community colleges as a way of creating longer programs or of saving JTPA resources by using the state and federal resources in community college vocational training. However, Perkins also supports program improvement in education institutions, and JTPA supports services (like job search assistance and work experience) and some groups of individuals that vocational funds do not support; simply consolidating the two programs might eliminate one or another of these different and presumably legitimate activities.

In general, the exercise of identifying purposes in common might clarify either better forms of collaboration, or situations where consolidation might be appropriate. The exercise of identifying different purposes might raise the question of whether these purposes are still worthy of federal support, or whether other purposes have become more important.

11. The School-to-Work Opportunities Act presents a vision of effective programs that could be used to guide the efforts to coordinate federal education and training programs.

The STWOA can be interpreted as specifying five elements for successful programs:

a. The inclusion of academic instruction. In many federal programs like the Adult Education Act, the Adult Literacy Act, JTPA, and JOBS, these academic components are either remedial education or ESL.

b. The inclusion of vocational skills training, integrated with academic (or remedial) instruction.

c. The inclusion of work-based education, coordinated with school-based instruction through "connecting activities".

d. The connection of every program to the next program in a hierarchy of education and training opportunities. In the STWOA, high school programs are explicitly linked to postsecondary opportunities through tech prep; the analogy in job training programs is that every program would be connected to a further program at a higher level of skill, with enhanced employment opportunities.

e. The use of applied teaching methods and team-teaching strategies. By implication, all school-based and work-based instruction should develop pedagogies that are more contextualized, student-centered, active (or constructivist), and project- or activity-based.

Currently, however, most federal job training programs violate this vision. For example, the Adult Education Act usually funds adult remedial programs that are free-standing, unconnected to either vocational skills training, work-based instruction, or to higher level programs; they usually use the worst kinds of didactic instruction, often because they are driven by the GED (Grubb, Kalman, Castellano, Brown, and Bradby, 1992; Grubb and Kalman, 1994). JTPA programs often fund on-the-job training, which is

intended to be a form of work-based learning, but the learning on the job is often insubstantial (Kogan et al., 1989), unconnected to remediation or vocational skills training, and unconnected to any further training opportunities; JTPA programs also tend to use rote and didactic teaching. JOBS programs sometimes support client-initiated programs, and at their best can provide a variety of support services (like child care), remediation, and instruction through community colleges, but in other cases clients receive job search assistance without either remediation, vocational skills training, or work-based learning — a particularly inappropriate program for individuals who lack both education and labor market experience.

A different vision of job training programs would combine the resources currently available in different federal programs to create more integrated efforts. These would combine, for example, remediation currently funded by the Adult Education Act, the Adult Literacy Act, JTPA and JOBS; vocational skills training supported by Perkins, JTPA, and (sometimes) JOBS; work-based experience now funded by JOBS and potentially the STWOA; support services funded by JTPA and JOBS; and income maintenance available to welfare recipients in JOBS and to students through Pell Grants. Such programs would also try to establish links among programs so that the path and the referral mechanisms from shorter and lower-level programs to more sophisticated programs is clear to all individuals in the "system".

The detailed recommendations necessary to incorporate this vision into legislation, including Perkins III, require much more thought and attention. Following this vision will also require some politically contentious decisions. For example, the principle of requiring links among remedial and vocational skills training, and links between lower-level and more sophisticated programs, suggests that free-standing adult schools that provide short-term remediation only and many community-based organizations that provide a single service (short term remediation or vocational skills training or job search assistance) should no longer be funded. Instead there should be a strong preference for funding institutions like community colleges, or stable consortia of local institutions, that can provide a variety of well-connected services. But however difficult this vision will be to put in place, it provides a vision of what local programs should look like (see principle #1) that could create a coherent system out of the current confusion.

12. Federal legislation should strive for consistency among the different ways in which the federal government influences state and local programs — including specification of state (and local) governance mechanisms.

The federal government shapes state and local programs in various ways. Principally, this is accomplished through fiscal incentives — by providing funding (and accompanying regulations) that specify the purposes of federal funding. Second, federal policy can provide a vision of what programs should look like (see principle #1) that is compelling on its own terms, together with the technical assistance necessary to enable state and local administrators to understand and implement that vision. Third, federal policy can establish required assessment and performance measures to hold state and local programs to federal standards. Fourth, federal legislation typically incorporates provisions for the state and local governance of programs that are intended to federal policy — for example, when JTPA requires that at least 50% of local PICs come from the employer community, or when the STWOA requires the creation of state planning with representation from specific state officials.

While the various mechanisms of federal policy should be consistent with one another, they sometimes conflict. This can happen, for example, when federal legislation intends to reform a program (e.g., school improvement), but regulations allow "business as usual" — which has been one of the frustrations of vocational education legislation since

1963. It can also happen through performance measures; for example, while JTPA was intended to help individuals who had been excluded from productive employment, certain performance measures have induced local programs to "cream", or enroll the most job-ready individuals.

For maximum effect, the different elements of federal policy should be consistent with one another, of course. In reauthorizing the Perkins Act, a particular concern is the nature of state and local governance provisions. It has become popular to devolve decision-making power to state governments; for example, the governance model in the STWOA is that states will make important decisions about STW programs, coordinating various federal and state programs and obtaining waivers from federal regulation as necessary. Attractive as this approach to creating a coherent "system" may be, it can also work to the detriment of federal policy in several situations:

- if state intentions or emphases diverge from federal purposes. Currently, for example, the directions of state councils established under the STWOA are unclear, but some may not be especially sympathetic to the goal of high school improvement embedded in the act.

- if state governments are chaotic, unstable, or internally divided, and therefore unable to create a coherent policy. In some cases this may be due to a state's political culture; in other cases a governor unwilling to make coordination a high priority may be responsible.

- if state agencies work poorly with one another, and the efforts to coordinate across agencies require too many economic or political resources.

In these cases, federal policy might be better served not by allowing states to make important decisions, but by making the most important decisions at the federal level and allowing states simply to carry out federal intentions.

The implications of this principle are not entirely clear, in advance of more specific proposals for new legislation. However, this principle rules out any simple proposal to consolidate federal programs and allow states to decide about purposes, because that substitutes state decisions for federal intentions. It rules out state governing mechanisms that might develop plans inconsistent with federal policy — for example, state governing boards responsible for school improvement but with insufficient representation from education. And it suggests that federal policy-makers ought to consider the costs of coordination at the state and local levels before they include the usual coordination mandates in subsequent education and training legislation.

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EDUCATION FOR WORK: NEW DIRECTIONS FOR THE CARL PERKINS ACT

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Since passage of the Smith-Hughes Act in 1917, Congress has supported a long succession of vocational education legislation aimed at better preparing Americans for work. Over the years, federal policy has encouraged developing specific occupational programs in such areas as trade and industry, business, and home economics; targeting particular students with special needs; constructing new facilities and updating equipment; promoting particular curriculum and teaching strategies such as integration or secondary/postsecondary articulation; improving planning, evaluation, and accountability; and stimulating research, demonstration, and leadership development. In 1995, Congress will once again examine national policy on vocational education, as it considers reauthorization of the Carl Perkins Act. What new directions might this reauthorization pursue?

The Carl Perkins Education for Work Act: Toward A Broader Statement of Purpose

Reauthorization of the Carl Perkins Act has the opportunity to synthesize legislatively a number of important themes that have been emerging around education and work during the last ten to fifteen years. First, as typified by Goals 2000 and a number of important federal and state policy initiatives that preceded it, the nation is reasserting the importance of high academic achievement, throughout the education enterprise and for all students. Raising academic standards and carefully specifying what students need to know has moved to front of the policy agenda. Second, for many students (indeed, perhaps almost all), better understanding and mastering academics may be best achieved by creating the opportunity to learn in context and to apply knowledge and skills to concrete situations.¹ The world of work offers a promising contextual framework for realizing that opportunity. Third, the nature of work is changing rapidly, requiring new knowledge and skills, while also making it increasingly difficult to prepare for a specific occupation or career that will

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¹C. Stasz et al. (1993), *Classrooms That Work: Teaching Generic Skills in Academic and Vocational Settings*, Santa Monica, CA: The RAND Corporation.

last a lifetime. Work in the future will place a premium on knowledge and skills that can be generalized and transferred across a wide range of work situations. Fourth, the pace and breadth of change, not only in the workplace but also in the world at large, demand a lifetime of learning and relearning. Education cannot stop with high school or even with the first few years of postsecondary education. Most Americans will find themselves forever engaged in a series of formal and informal education activities.

In response to these trends, the reauthorization of the Carl Perkins Act is an opportunity to begin crafting national policy that will lead and support comprehensive, lasting education for work. The primary purpose of this act should be to promote a well integrated program of academic and vocational study preparing all students for work, broadly conceived and for the long term. To this end, the legislation should not focus solely on vocational education. Rather it must address the entire education enterprise and its cumulative influence on readying individuals for sustained, productive employment.

To be sure, vocational education deserves significant attention. However, national policy must recognize that instruction in vocational subjects is a relatively small part of students' overall preparation for work. For example, at the secondary level, students take less than one-fifth of their courses in the vocational curriculum, and participation has been declining during the past decade.² Regardless of the quality of vocational instruction, policy that focuses only on this limited aspect of preparation for work seriously misunderstands the cumulative influence of students' complete secondary and postsecondary experiences on work-readiness.

In a similar vein, reauthorization of the new Carl Perkins Act should consider eliminating the pre-baccalaureate boundaries that have traditionally defined vocational education and the kinds of work addressed by the vocational curriculum. Instead, the new Carl Perkins Education for Work Act should recognize that virtually all students are preparing for work and that dividing jobs into two categories, one set requiring a baccalaureate degree or higher and another less, serves no useful purpose. On the contrary, the distinction artificially erects educational and institutional barriers in what otherwise might be more continuous career paths. It also needlessly creates two classes of education, sustaining an invidious tracking system that sorts students.

²E.G. Hoachlander, Kaufman, P., Levesque, K., and Houser, J. (April 1992), *Vocational Education in the United States: 1969-1990*, Washington, D.C.: National Center for Education Statistics; National Assessment of Vocational Education (1994), *Final Report*, Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement.

In short, the new Carl Perkins Act could become the vehicle for more systematically considering how education—in all of its aspects and at all levels—helps prepare Americans for work. How would it differ from the School-to-Work Opportunities Act? First, the new Perkins Act would focus mainly on the education component of the larger school-to-work system that the School-to-Work Opportunities Act seeks to better define and support. Second, unlike the School-to-Work Opportunities Act—which is intended to be a relatively short-term, one-time policy initiative—the Perkins legislation would provide ongoing policy direction for the national interest in education for work. Similarly, the Perkins Act would support but be easily distinguishable from GOALS 2000. Effective preparation for work is but one of several important aims of education. Whereas GOALS 2000 seeks to provide an overarching framework and agenda for all of education, Perkins would concentrate on articulating and supporting major work-related features.

Education for Work: A Conceptual Framework

What do we mean by “education for work, broadly conceived and for the long term?” Consider the following illustrations—one typical of traditional vocational education and another more responsive to contemporary education reform and changes in the workplace.³

In the typical American high school or community college, the traditional vocational education curriculum includes a variety of programs designed to prepare students for certain automotive occupations, primarily mechanics and auto body repairers. These students, mostly young men, spend two to four hours per day for up to three years learning the specifics of diagnosing and repairing engines, transmissions, electrical and cooling systems, brakes, and other aspects of cars, trucks, buses, tractors, and related vehicles. For the most part, they learn in isolation from other students pursuing different vocational or academic interests. If in high school, it is generally presumed that automotive students have neither the interest nor the ability to pursue four-year college, and they take a minimum number of courses in general math, general science, and general English. If enrolled in a community college, they may take some related academic courses, especially if they are among the minority who seek an associate degree, but it is more likely that they limit their enrollment only to participating in vocational classes. As long as these students can secure related automotive employment and as long as they are content to remain in these occupations, this system works reasonably well. However, should employment

³These ideas are also described in G. Hoachlander, (1994), “Industry-Based Education: A New Approach for School-to-Work Transition,” in Office of Research, *School-to-Work: What Does Research Say About It?*, Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement.

opportunities disappear in their particular fields or should students' career aspirations change, graduates of traditional vocational education in the United States confront some formidable obstacles.

Consider now a different approach to education for work, a strategy that organizes a comprehensive, multi-year program of academic and vocational study around the transportation industry. The program is intended for any student interested in some aspect of transportation—including auto mechanics but also embracing design, transportation engineering, aeronautics, public transit, rail and sea technology, public transportation policy, and international transportation economics. Students electing this program may or may not choose to pursue four-year college, but that choice remains a viable option. Indeed, students participating in this program may discover they are better able to master college material than they first thought.

If enrolled in a high school transportation program, all students would take the same core of academic courses—four years of English, four years of history or social studies, three years math, and three years of science.⁴ There would be no general curriculum, although advanced placement courses could still be taken by some desiring to get a head start on college course requirements. Within the transportation program, all of the core courses (and where possible, even the advanced academic courses) would use transportation as an organizing theme, a context for understanding and applying academic knowledge and skills. In American history, for example, students might study the role played by transportation in opening the new world and shaping the economic, political, and social development of the United States. Physics would emphasize—not to the exclusion of other subjects but rather as a way of focusing students' inquiry—such topics as the evolution of engine technology (steam, internal combustion, jet propulsion, and so on), the importance of friction and strategies for overcoming it, or the laws of motion, inertia, and related issues.

During each year of high school, the students would participate in a weekly transportation “studio.” The studio would function like a laboratory, giving students the opportunity to apply academic knowledge and skills to concrete problems. The studio might consist of a semester- or year-long project such as building an alternative fuel-

⁴We illustrate this approach for high schools. However, with some modifications, it would work equally well at the postsecondary level. In fact, one could argue that this broader-based, integrated approach to education for work is already much more prevalent at the postsecondary level. For example, undergraduate programs in engineering and computer science—as well as a large number of graduate programs in law, medicine, public policy, education, and other fields—adopt a model that resembles this one in many ways.

powered vehicle, developing some aspect of a metropolitan transit plan, or studying access and use of different modes of transportation by people with disabilities. In addition to providing the opportunity for integrating academic coursework with industry-specific issues, the studios would also teach more industry and occupationally specific skills. Thus, some students in a transportation program might still learn engine building and repair skills, but they would now do so in a much broader context.

Academic and vocational teachers would team teach the core courses and the studios, working together to develop a well integrated curriculum and program of study. Academic teachers would be encouraged to learn more about the specifics of the transportation industry as a means for better imparting knowledge and understanding in their particular academic discipline. Vocational teachers would be encouraged to develop an academic specialty to supplement their in-depth familiarity with work and the challenges it presents in the transportation industry.

In short, this alternative approach would adopt an industry-based framework for organizing education for work. In doing so, it would not necessarily eliminate the more narrow occupational focus of traditional vocational education. Rather, occupationally specific instruction could still occur, but in a larger context with an emphasis on using occupationally specific situations to advance students' understanding of more generic knowledge and skills. Occupationally specific learning would become more of a means for mastering academic concepts and less of an end in itself.

Thus, in this broader conception of education for work, education would pay more attention to systematically integrating three types of knowledge and skills: 1) generic, 2) industry-relevant, and 3) occupationally-specific (see Figure 1). Instruction would always seek to promote all three. However, one type of knowledge and skill might be given greater emphasis at different points in time, depending on where students are in the sequence of a program and on what they have mastered to date. For example, instruction in the ninth or tenth grade might place more emphasis on generic skills, eleventh and twelfth on industry-relevant material, and postsecondary on occupationally specific (as well as more sophisticated understanding of the generic and industry domains).

Figure 1
Domains of Knowledge and Skill in Education for Work

GENERIC	INDUSTRY-RELEVANT	OCCUPATIONALLY-SPECIFIC
Academic knowledge & skill Problem solving Teamwork Systems Employability skills	Structure/organization History Technology Economics Human Resources Economics Public policy Health & Safety Environmental Impact	Technical knowledge/skill Specific production processes Equipment familiarity

To advance such a conception, federal policy needs to attend explicitly to what an appropriate industry framework might look like. One of the critical issues is what constitutes sufficient breadth to facilitate comprehensive curriculum integration and broad appeal to students. For example, defining a program in construction technology as consisting only of carpentry, electricity, masonry, plumbing, and other related trades simply regroups traditional vocational programs. The cluster fails to expand the boundaries in ways that are likely to promote more intensive involvement by the academic disciplines or by a wider range of students. In contrast, a program in construction technology could encompass all of the industry that surrounds development of the built environment—including architecture, interior design, engineering, urban planning, building policy, and environmental impact.

Table 1 presents an example of the kinds of broad industry classifications that could be adopted to organize education for work. Together, these sixteen industries include the full range of activities in the modern American economy. A somewhat different taxonomy may be desirable, and educators could be allowed considerable flexibility in defining the industry boundaries best suited to their particular educational objectives and local personnel. However, whatever form final definition of industry assumes, national policy should stress the desirability of education that emphasizes generic and broad industry knowledge and skills, in addition to more narrow, occupationally specific instruction.

Table 1: An Industry-based Framework for Education for Work

Agriculture	Health Care
Arts, Culture, and Religion	Hospitality
Built Environment	Insurance
Communication	Manufacturing
Education	Natural Resources
Energy	Personal and Business Services
Finance	Retailing and Wholesaling
Government	Transportation

Source: John Gnaedinger, STS Consultants Ltd.

Schools could use a variety of systems to deliver industry-based education. Some high schools might organize a school-within-school around a particular industry. Alternatively, an entire school might choose an industry as an organizing framework, much like Aviation High School or the Murray Bergtraum School of Business in Commerce in New York City.⁵ While no single high school is likely to be large enough to develop a program in all sixteen industries, in urban districts different high schools could offer different programs and give students (as well as teachers) the option as to which school to attend. The general model is also quite congruent with "academies" and other strategies for focusing the high school curriculum on the world of work.⁶

At the postsecondary level, an industry-based curriculum is, in some respects, already similar to the broader professional focus of programs in such areas as medicine, law, engineering, architecture, or computer science. A few institutions, such as the Fashion Institute of Technology, have enjoyed outstanding success in framing an entire four-year, liberal arts baccalaureate degree program around an industry. Consequently, more

⁵V. Mitchell, Russell, E.S., and Benson, C.S., (1989), *Exemplary Urban Career-Oriented Secondary School Programs*, Berkeley, CA: National Center for Research in Vocational Education, University of California.

⁶See D. Stern, Raby, M., and Dayton, C., (1992), *Career Academies: Partnerships for Reconstructing American High Schools*, San Francisco: Jossey-Bass.

widespread adoption of industry-based programs at the secondary level could help promote better articulation with postsecondary education, especially at the baccalaureate level and higher.

Policies for Advancing Education for Work

Policies that would advance a broader national agenda in education for work are not very different from those that have been the focus of the 1990 Carl Perkins Act and the recently adopted School-to-Work Opportunities Act. These include six major policy initiatives:

1. Integrating vocational and academic curriculum;
2. Promoting instruction in "all aspects" of the industry;
3. Linking classroom-based instruction with work-based learning;
4. Articulating secondary and postsecondary education;
5. Developing performance-based accountability and program improvement strategies;
6. Targeting federal resources on localities with high concentrations of students with special needs.

While the basic outline of these policies would support the reauthorization of Perkins as suggested above, a number of more specific implementation issues in each of these areas need attention.

Curriculum Integration

While there has been a great deal of activity at the state and local level, most efforts at curriculum integration have been modest and idiosyncratic. If one considers integration along a continuum of increasing complexity and breadth,⁷ integration has not progressed very far beyond changes at the level of individual courses; programmatic or schoolwide integration is rare indeed.⁸ There are at least three important reasons for this slow pace:

⁷For a taxonomy of increasingly sophisticated approaches to curriculum integration, see W.N. Grubb, Davis, G., Lum, J., Plihal, J., and Morgaine, C. (1991, August). *"The Cunning Hand, The Cultured Mind" Models for Integrating Academic and Vocational Education*. Berkeley: National Center for Research in Vocational Education, The University of California, Berkeley.

⁸National Assessment of Vocational Education (1994), *Final Report*, Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement

1. A thematic focus for integration is either missing or too narrowly conceived along the lines of traditional, entry-level occupations; academic teachers find it very difficult to adapt their disciplinary interests in any comprehensive, ongoing way; vocational teachers find it difficult to broaden the appeal of work-oriented problems.

2. There is little existing curriculum, beyond a relatively small number of applied academics courses, for implementing broad-based integration; also absent are strategies for developing and sharing integrated curriculum on a large scale.

3. To date, there has been relatively little attention to pedagogy and assisting teachers with learning new ways of teaching in integrated programs; as with curriculum, strategies are lacking for large-scale staff development or change in teacher education.

All Aspects of the Industry

Although the emphasis on all aspects was intended to expand the focus of vocational education far beyond relatively narrow, occupationally specific instruction, little progress has been made in clarifying precisely what the aspects are or in developing specific strategies for adopting them in the classroom. Some possible reasons are:

1. There is no clarity on what constitutes an "industry;" conceptions of industry range from the very narrow (photonics, for example) to the very broad (health); hence, giving content to key aspects of industry understanding is rather chaotic and ad hoc, to the extent it has occurred at all.

2. Precisely what aspects deserve attention and how they can better promote knowledge acquisition needs considerable work; the legislative list of "all aspects" might benefit from broader definition (economics instead of finance, for example) to encourage easier integration with already established academic disciplines.

3. Improving students' understanding of "all aspects" probably requires developing a domain of industry-relevant knowledge that is not yet well defined; this developmental task is probably as difficult and time consuming as the effort to create industry skill standards, but no resources have been devoted to the task; it is also not clear who will have responsibility for determining what this domain of knowledge should be.

Linking Classroom-based and Work-based Learning

A strong emphasis on work-based learning, carefully coordinated with related classroom instruction, is one of the hallmarks of the School-to-Work Opportunities Act.⁹ Achieving sustained linkages for large numbers of students faces a number of challenges. Some key considerations for large-scale implementation include:

1. There may be too much emphasis on trying to restructure work opportunities rather than concentrating on how to make better use of the work experiences that the vast majority of high school and postsecondary students already have; we may be too quick to dismiss the jobs that most youth obtain as "dead-end" and, therefore, overlook the opportunities they afford for expanding and reinforcing student's classroom-based instruction.

2. Insufficient attention has been paid to the changes needed in classroom instruction to make more effective use of work experience.

3. Current policy may reflect inflated expectations about the ability and willingness of employers to structure effective work-based learning situations; most American employers lack in-depth knowledge and expertise for making work a long-term, rigorous learning experience, especially for youth.

Secondary/Postsecondary Articulation

As with curriculum integration, the 1990 Perkins Act appears to have stimulated lots of activity around tech-prep and other forms of articulation, but there is not yet much focus, coherence, or evidence of sustained participation by significant numbers of students.¹⁰ Issues include:

1. Tech-prep may be too narrowly conceived to promote effective articulation and sustained participation (similar to problem with integration);

2. Working within the pre-baccalaureate constraints of traditional vocational education may limit student participation, as well as complicate articulation with four-year college and graduate education;

⁹R. Kazis, (1993), *Improving the Transition from School to Work in the United States*, Washington: American Youth Policy Forum, Competitiveness Council, and Jobs for the Future.

¹⁰National Assessment of Vocational Education, op. cit.; also see D.D. Bragg, Layton, J.D., Hammons, F.D., (1994), *Tech Prep Implementation in the United States: Promising Trends and Lingering Challenges*, Berkeley, CA: National Center for Research in Vocational Education, University of California.

3. The problems posed by higher education admissions requirements and other postsecondary policies and practices are not yet well understood, nor are there any well known, widely accepted strategies for addressing these problems.

Performance-based Accountability and Program Improvement Strategies

Although states conducted a serious, productive effort to develop measures and standards for vocational education, implementation and use of these accountability systems at the local level appears to be stalled.¹¹ Some reasons include:

1. Local secondary and postsecondary institutions are not accustomed to using data to manage and improve programs; historically, locals view data as something to report to somebody else; much technical assistance is needed if measures and standards are to have real utility at program level.

2. Measures and standards have not been well integrated with other accountability efforts in large secondary and postsecondary systems. Moreover, to the extent the policy aim is greater integration with academic instruction, a separate system of vocational accountability lacks good justification;

3. Instruments for evaluating students' abilities to apply academic knowledge and skills in work situations, or otherwise assess occupational competencies, are largely non-existent; there are no instruments for assessing "all aspects" or any other form of industry-relevant knowledge and skill.

4. There is as yet no clear relationship with development of national industry skill standards, which suffers from its own set of problems—lack of an organizing framework (definition of industry ranges from industrial laundering to health); little consensus on degree of occupational specificity; no clear understanding about how standards are to be used.¹²

Targeting Federal Funds

With Perkins II, federal policy has had considerable success in targeting federal funds. Allowing local recipients to form consortiums may dilute somewhat the targeting objectives, but overall Perkins seems to have found a reasonably effective strategy for

¹¹B. Stecher et al., forthcoming, Santa Monica, CA: The RAND Corporation.

¹²G. Hoachlander and Rahn, M. (1994), "Industry Skill Standards," *Vocational Education Journal*.

controlling how states distribute federal dollars.¹³ Three issues that may need major attention are:

1. For the most part, federal funds bypass the state. There is no systematic strategy in the existing Perkins legislation for developing state-level capacity to support the major policy initiatives of the Act. Issues that are probably best addressed at the state level include: curriculum development, teacher education, staff development, assessment and program improvement, and secondary/postsecondary articulation (including attention to college admission requirements and other postsecondary policies; traditionally, federal vocational education legislation has placed priority on delivering federal dollars to the local level, where the funds represent a relatively small percentage of total spending and may, therefore, have the least impact.*

2. It may be desirable to encourage more concentration of federal funds *within* recipients. For example, recipients could be encouraged to use federal funds to support or create a few well-developed "high performance" schools, or schools-within-schools organized to deliver education for work.

3. The targeting/concentration objectives of Perkins have been offset somewhat by the provision that allows smaller secondary recipients to form consortia to secure federal funds. If, in fact, it were desirable to concentrate some portion of federal dollars at the state level to support some of the capacity-building functions listed above, one source of funding could be the savings realized from the elimination of consortia.

Relationship to Other Federal Legislation

Formulated along the lines outlined here, a new Perkins Education for Work Act would contribute to other key legislation in the following ways:

1. Provide more focused support for the academic achievement, work readiness, and lifelong learning aims of Goals 2000, promoting these in the context of work.

¹³S. Kline, forthcoming, Berkeley, CA: MPR Associates; National Assessment of Vocational Education, op. cit.

* However, the substantial improvement in targeting resources by Perkins II means that for recipients with high concentrations of special needs students, Perkins funding now represents a substantial portion of total spending. Consequently, one possibility to consider is consolidating at the state level some or all of the funds now distributed to consortia, where the total impact may still be rather minimal, rather than redistributing these funds to "high needs" recipients.

2. Provide targeted support for the school-based component of School-to-Work Opportunities Act, as well as the locus of sustained federal attention to issues surrounding preparation for work.

3. Provide a broad underpinning for workforce preparation, which if successful would either reduce the need for the more occupationally specific, shorter term programs supported under JTPA or make these programs more successful.

4. Offer a work-centered model as one of several possible strategies for pursuing general school improvement and reform as envisioned by ESEA.

Summary of Recommendations for Reauthorization of Perkins

To make Perkins a more comprehensive, lasting vehicle for articulating national policy on education for work, the reauthorized Perkins Act should:

1. Lead the development of education for work throughout the secondary and postsecondary enterprise; the legislation should no longer focus exclusively on vocational education.

2. Adopt a broad industry-based focus as a framework for encouraging curriculum integration, secondary/postsecondary articulation, and the development of standards and assessment; should encourage the "system" of educators, employers, unions, and other interested parties to attend in more organized ways to the appropriate mix of three domains of knowledge and skill: generic, industry-relevant, and occupationally specific; curriculum development, classroom-based instruction, work-based learning, the development of industry and disciplinary standards, and assessment should proceed in a more integrated fashion around a broad industry framework.

3. Should eliminate the pre-baccalaureate restriction on the kinds of work for which formal "vocational" education is appropriate; should promote education for work that permits pursuit of the full range of postsecondary opportunities.

4. Should support development of capacity at the state or regional level for curriculum development; staff development; standard setting and assessment; evaluation, and system building among K-12, postsecondary, associated public agencies, and the business community.

5. Should encourage educators and employers to make better educational use of the extensive work opportunities already afforded to most students, while encouraging more sophisticated approaches to work-based learning and developing work experience alternatives in areas of high youth unemployment.

6. Should clarify role to be played by industry in developing more effective education for work—experience in application of knowledge and skills, problem definition, teaming students with adults, collaborating in specifying relevant knowledge and skills, and evaluation of performance on the job.

7. Should eliminate consortia provisions and concentrate funds now going to consortia on development of state/regional activities that can support the development of education for work—curriculum, in-service, teacher education, assessment, and so forth.

8. Should maintain the targeting provisions intra-state allocation of Perkins funds and encourage recipients of federal funds to target resources on support for developing small number of “high performance” schools or schools-within-schools that are prepared to undertake comprehensive, sustained development of broad-based education for work that spans secondary (and possibly elementary) and postsecondary education.

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Chapter 9

PATHS NOT TAKEN: CURRICULUM INTEGRATION AND THE POLITICAL AND MORAL PURPOSES OF SCHOOLING

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The movements to reinforce the occupational content of high schools, from the turn of the century to the present, have all tended to reinforce a particularly utilitarian conception of education. The school reform movements since the publication of A Nation at Risk (1983) have similarly been driven by economic concerns, with employers clamoring for a better-trained workforce while policy-makers worry about reforming schools to improve the nation's competitiveness. Occasionally commission reports over the past decade have reminded us of the importance of political education. For example, A Nation at Risk repeated Thomas Jefferson's dictum:

I know of no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion.

However, such comments have been largely afterthoughts, and the political and moral aspects of education -- the central purpose of the public schools when they were established in the nineteenth century -- have been ignored by most reformers and policy-makers.

The current efforts to integrate academic and vocational education have generally followed the same path. The academic subjects included in integration have been those that

are the most necessary to occupations: math; reading and writing for comprehension ("communication skills"); biology and chemistry for health fields; and electronics and physics for technical occupations. The curricula associated most closely with political and moral education -- literature, government or civics, history, social studies or the social sciences -- have almost never been included. This tends to justify one potential objection to these efforts: that they intend, like career education twenty years ago, to turn high schools into wholly vocational institutions with no commitment to the political development of students, no place for the capacity to be socially critical (including the ability to evaluate the limits of existing occupations and of American capitalism generally), and no place for the exploration of values and sensibilities that comes in the humanities.

Yet this need not be true. Occupations, understood in their broadest sense, provide ways to approach virtually any subject, as John Dewey argued when he advocated education through occupations (discussed in Chapter 1). Occupations can provide contexts for understanding the importance of history or civics; they offer ways to make relevant to present life and to adolescent dilemmas those disciplines that students often find irrelevant and arcane. An occupational focus also provides a way of balancing the emphasis within history and civics on political issues and political socialization -- an understandable legacy of the nineteenth century concern with preparing individuals for life in a democracy, but one that has left the role of economic issues relatively marginal. In this chapter we provide some ways of incorporating literature, history, and social studies into programs that integrate academic and occupational education.¹

The Literature Of Work

In efforts to incorporate material from the English curriculum into vocational programs, the emphasis so far has been on "communication skills". For example, the Applied Communication sequence produced by the Agency for Instructional Technology (1988) emphasizes reading for comprehension (as one might read a technical or instructional manual), writing in such "practical" forms as resumes and business letters, aural comprehension (following directions), and speaking abilities (speaking with supervisors, co-workers, or clients). The literary side of conventional English curricula has been largely neglected, though there have been a few attempts to identify literary works suitable for a "literature component" in applied communication courses.² However, the potential for incorporating literature describing work, its special complexities and relationships, the tensions between life at work and life in other spheres, and changing attitudes toward work has been little explored.³

Why Study Literature About Work?

Reading literature is an excellent way to develop critical thinking. It is also a powerful means for learning about character and values, showing, for instance, the difference between ambition and greed, loyalty and servitude, liberty and license. Literature has the power to capture the intensity of experience—as with romance or pain or work—and can thus conjure powerful scenes and feelings. And perhaps more than any other mode of expression, it pulls the reader in, confronts basic assumptions, and then leaves the reader to work out his or her solutions. Accordingly, reading literature permits the student to enter into the lives and work of other individuals, to observe representative and relevant experiences that are otherwise inaccessible.

Most people will spend much of their lives as workers. Over thirty percent of the average person's normal waking experience is related to work outside the home. Events at work encompass the full range of human emotion—courage, honor, loyalty, ambition, fear, love, pain, and greed. People thereby derive differing degrees of satisfaction from work. Some have to drag themselves daily to a dull, meaningless job, while others receive from work the most exhilarating experiences life offers. Because of unemployment, work is often unequally distributed, and meaningful work may be even more unequal. However, whether one likes work or not, an individual's identity is often defined by the work one does.

The literature of work is also concerned about acting within the human community. Through this literature, one can examine work life and the emotions it stirs from another person's point of view and learn to take responsibility for one's own work: "Literature plays an important part in developing awareness of the commonness of the human drama. What an impact a work has when the reader finds in it a fellow sufferer, one who obviously knows 'what it is like!'" (Burton, 1970, p. 10). Success at work is usually built through effort, and often the greatest success comes with effectively working with others. Studying the literature of work can provide new insights into what is significant about human life, the ability to empathize with others through the development of an understanding of human needs and problems (Coles, 1989, p. 120).

The literature of work holds other important advantages. Because of the major role of work in daily life, it is important to understand its function in society and the individual's relationship to it. By reading about work one can also learn about historical events in way different from the "great men/great events" focus usually found in social studies textbooks—whether the events are the rise of the factory system in New England,

the struggles of the "Okies" during the Great Depression, or the development of corporate business culture in post-World War II America. Through literature, for example, one can gain new insights into labor conditions, the rise of unions and other social and political movements as well as the background of work-related legislative acts for which work literature itself has sometimes served as catalyst (Holt, 1989). For the large and increasing fraction of the labor force who are also women and mothers, usually with special familial responsibilities, literature can serve as a way of exploring the relation between work and family life, the sense of meaning in work that women have come to find but also the special conflicts they experience. Literature also affords the opportunity to gain a greater appreciation of the contributions, struggles, and feelings of individual working people who have built this world, from homemakers to space-age technologists, from blue-collar workers to middle managers, from street messengers and peasants to corporate executives. Few of us will end up being one of the great "movers and shakers" profiled in conventional histories, but we will nearly all be workers.

Work-related literature in this way reflects historical material as a mirror and examines it like a microscope. Thus, it not only presents an author's point of view at a moment in history (as exemplified in Upton Sinclair's criticism of slaughterhouse conditions in The Jungle and Sinclair Lewis's insight into American business in Babbitt), but it also analyzes as a case study the events around the moment as well as the actions of individuals whom the author describes as representative of the time. This literature, furthermore, "contributes to the social vision and moral development . . . in the growth of sensibility and exercise of imaginative alternatives" (Nelms, 1988, p. 214). Readers of Steinbeck's Grapes of Wrath, for instance, discover a number of economic and social obstacles to the formation of worker unions as they read about the struggle of the Joad family to find a place to live and work in California during the Dust Bowl era. As Rosenblatt (1938/1983) states, what is

particularly important is [the] discovery that various groups within our society hold up diverse images of success, and that there are kinds of work despised or ignored by [one's] own group that others considered socially valuable . . . the craftsmen, the technologists, the artists, the scientists, the scholars offer personal goals and systems of value often strongly in contrast to those represented by the dominant image of the successful businessman. (p. 194)

The literature of work articulates the lives of men and women who run the machines, plow the fields, sign the contracts, sew the clothes, work the assembly lines,

and sit in offices. It can be enjoyable and informative, thought-provoking and perhaps even unsettling. Some novels and stories focus on the laudable side of work, while others criticize or satirize the more unpleasant or burdensome aspects — Upton Sinclair's The Jungle, Joseph Heller's Good as Gold, and a larger literature exploring the oppressiveness of the modern corporation — thereby capturing the full range of experience surrounding work. Certain pieces of work literature represent efforts to defy what they see as a conspiracy on the part of business and government to dehumanize or to characterize business people as Babbitts or unlettered Philistines. Others attempt to right a perceived prejudice against labor and labor leaders. Some contemporary critics hold that "literature . . . serves a social purpose. It can integrate the reader into culture, inviting him to define himself against a background of cultural expectations and to modify that background" (Probst, 1988, p. 249). When seen in this light, the literature of work can aid in the transition from academic to work life for a more total human development by raising the stakes of the individual's interest in the material presented.

Lastly, through reading the literature of work, it is possible to capture the romance and human drama of business—the good and bad, the excitement and boredom, and the nobility and rascality. In these creations dry economic theories are given flesh and blood explorations and interpretations.

There are, to be sure, utilitarian reasons for reading work-related literature. Businesses often complain that their workers are not able to read and communicate at appropriate levels and lack the requisite higher-order capacities. By studying literature, students can gain new insights into work habits, language and communication skills, interpersonal skills, and problem solving—skills that many business leaders consider just as important as technical abilities. It can, furthermore, help develop a stronger corporate citizenship by promoting a sensitivity to the needs and desires of others in a work setting, and a sensitivity to the problems within a work setting. A business instructor teaching a course called "Wisdom for the Workplace" — using literature together with case studies from business to "teach students that the wisdom of great writers from the past is still pertinent to the solving of contemporary job-related problems" — described the process as follows:

I have also discovered why my business-career students generally falter when faced with complex problems in their business or technical core courses, especially those that deal with human issues. The juxtaposition between the humanities — which always ask questions about life, happiness, and freedom — and the courses that fill their career programs (always focusing on the absorption of accepted processes or pragmatic

applications) is so strong. [My course] is a wild mix that asks students to question first, and then to justify their opinions convincingly, rather than to simply accept.⁴

The use of literature as an approach to problem-solving may strike some — particularly some traditional English teachers — as overly utilitarian, then, but this use of literature is also a way of allowing students to view the world from radically different perspectives.

The Adolescent and Work Literature

Critics have pointed out that the typical secondary school English literature curriculum lacks appeal to many students (Probst, 1988, p. 114). Most such curricula utilize a majority of works from the classic canon. Junior and senior high school literature programs are still often organized historically and not thematically. In contrast, high school years are a time of orienting oneself to the central goals and purposes of one's life. An adolescent "is concerned about relations with peers . . . the gradual assumption of responsibilities. He wants to understand work, love, hate, war, death, vengeance" (Probst, 1988, p. 4). Hence, a literature curriculum that does not include a substantial number of works that relate directly to work may be less interesting and relevant to students.

Particularly with the increases over the past two decades in high school students working, it is rare that a student has not had a summer job or done baby-sitting or chores for pay: "Students are simultaneously observers, beneficiaries, victims of their parent's work lives, continually assessing the merits and drawbacks of their work choices, their moods after a work day" (Hoffman, 1990, p. 56). Most are eager to recount their own experiences with bosses or customers. Jobs to them are boring, exciting, oppressive, heroic, difficult, and satisfying. They can already begin to realize that work can transform lives by imbuing them with significance and meaning—or conversely, work can be a drag.

Moreover, high school students are often already preoccupied with their own work futures. Youths are pressured by adults and peers to declare future professions based on woefully inadequate information—few have a sense of the day-to-day experiences that lie behind even the most familiar jobs (Hoffman, 1990, p. 55): "Most secondary students will not become professional literary scholars . . . they will more likely drive cabs, wait on tables, sell real estate, [or] work in an office" (Probst, 1988, p. 3). Adolescents are developing independence from parents and other authority figures. They are struggling with the almost universal concerns of growing up and accepting adult roles. Reading

literature can provide an opportunity for adolescents to exercise independent response and critical judgment. Work literature often deals seriously with these recurring themes.

Suggestions for the Classroom

Students in general and vocational tracks are often assigned less literature in school than are students in the academic track (Ravitch & Finn, 1987, p. 171). Perhaps it is time not only to reverse that trend, but also change what students in all classes read—from works that concentrate on personal life to those that relate the experience of the individual at work and in other social contexts. In some states students are "expected to read provocative works" (California State Department of Education, 1987, p. 8). These could include works giving a more balanced view of labor and labor leaders and business people—perhaps striking a responsive chord in students by offering substance that relates to what they have experienced and will experience—to keep interest alive (Probst, 1988, p. 5).

As already mentioned, there are few examples of curriculum material designed to teach the literature of work. One purpose of such material would be to provide another perspective about work and its consequences—since the conventional approach in high school has been to stress the skills and knowledge necessary for work but not otherwise to explore what working means in an individual's life. Through such material students would explore and analyze attitudes toward work and learn to appreciate what is significant about this important part of human life. Another purpose would be to lead students back into literature; for the large number of students who view literature as a chore, or who think of reading in purely utilitarian terms, it might be possible to use literature about work to move from purely informational uses of reading to more literary concerns. In this way, students could become more competent in the interpretation of literature and other symbolic expressions and, thereby, develop their abilities to communicate about basic human experiences such as work. Finally, another purpose of such material would be to allow students to analyze a significant component of human life—work—and show that no single interpretation (as insignificant, all important, capitalist, union, and so on) of that component is sufficient.

How does one approach the literature of work in classroom? One of the first steps is to identify the literary works suitable for the classroom. Because there are few resources, teachers may have to develop their own plans using books and bibliographies and other materials at hand. For the realm of fiction, Koziol (1992) has compiled an annotated bibliography of nearly two hundred fiction works written in English or available

in translation that teachers can use to help students at the secondary and college levels think critically about the world of work. The bibliography also includes references for teaching resources about work that can provide a background for discussion of an author's insights on the work setting. The fiction in this bibliography is primarily about work and the major characters' reactions to it. There are, however, several works in the list, some considered part of the canon, where the main story does not directly concern work, but work does act prominently in a chapter or section of a work. The paint factory chapters of Ralph Ellison's The Invisible Man and the introductory chapter, "The Custom House," of Nathaniel Hawthorne's The Scarlet Letter are two prominent examples.

As for the actual incorporation of this material in the classroom, one possibility is simply to include examples of this literature in among types of literature or themes already in the curriculum. Some brief illustrations of how this could be done follow.

Example I: The short poem "Relief Locations Managers" by Herbert Scott (1976, p. 38) could be used along with other more traditional pieces in a class on free verse or one exploring human relationships.

Relief is everywhere
at once. He's on his way
up. When he works the front,
the register jumps
under his fingers,
groceries flashing past
like landscape,
his arms almost
screaming with motion.
If he comes to help you
in your section, you know
you're moving too slow.
You go home ashamed
of your thick clumsy hands.
Relief's bucking for manager
in a new store. You hope
he'll make it.

After the class reads the poem, the teacher then could then stimulate discussion about the type of poem, its structure, and its general meaning. Next, the teacher could assign

activities based on the piece where students could discuss their reactions to the poem as a piece of literature about work:

1. In small groups, exchange anecdotes about times you or someone else has not followed directions or made mistakes on a job. How did you feel about your errors? How did you boss or co-workers react? How would you react if you were them?

2. With the members of your group compose a set of directions or guidelines to help fellow workers avoid making the same mistake.

Unlike the usual questions about literature, which focus on facts of plot and character, these questions are designed to move students toward a consideration of both personal experiences and their implications for others.

Example II: Students could be assigned a reading of John Updike's "A & P", a short story about a checkout person who quits his job to make a point. Then they can be asked the following questions, which again move beyond questions of plot to those of interpretation and meaning within work contexts:

1. Skim the story to identify the four male A & P employees characters and scan to locate details about these characters and the reaction of each to the young female customers.

2. Why did Sammy quit his job at A & P.

3. Discuss the meaning of one character's statement to Sammy, "You don't want to do this to your Mom and Dad."

4. Speculate on Sammy's final comment, "... my stomach kind of fell as I felt how hard the world was going to be to me hereafter." Have you experienced something similar?

Another possibility for incorporating this material in the classroom would structure a class directly around the theme of work and its many facets—personal, social, and economic. For example, when studying a great work like Herman Melville's Moby Dick, students could explore the whole of the work instead of merely concentrating on the major theme--the obsession for revenge against a perceived evil. They could examine the historic and economic background of the whaling industry, the methods used in recruiting a crew, and the details of the search for whales, and then discuss how all this fits into the plot and major theme. Another focus could be on worker relations: what would it have been like to work on a whaling ship, the cramped living conditions, living, working, and eating with all different types of people, relations with co-workers and supervisors. Melville, after all, conceived of his work as a whole, not merely as story of a man revenging himself against a whale.

In dealing with Melville's novel and the works of other authors, instructors should require students to look critically at the world of work that is presented—to examine and pose questions about the nature and politics of work, its necessity, its rewards, and its

pitfalls. The biographical interviews of working people in Studs Terkel's Working, for instance, could be read to bring out these motifs: money versus meaning in the choice of work, the impulse to leave a lasting mark on the world, the unjust stereotypes with which most jobs are weighted. Students could then be asked to write about their own visions of their personal work futures. In Animal Farm, the author at first presents a rather sympathetic view of an uprising of the animals against a farmer who exploits them so he can gain the maximum profit. However, students learn further on in the work that applications of the socialist-like society the animals devise are difficult.

An entire curriculum could also center on the general theme of work. For example, a one-semester course focusing on literature and labor could include works of fiction such as the following: The Factory Girl by Sarah Savage, the earliest American novel with a working person as a main character; Charlotte Bronte's Shirley, a story in which workers react to the introduction of machinery; Upton Sinclair's The Jungle, which exposes the abuses of workers in the meat-packing industry in Chicago and the struggle of organized labor therein; Anthony Bimba's Molly Macguires, about a coal miner's strike for better conditions; and John Steinbeck's Grapes of Wrath, among others. There are also biographies available for classroom use that deal with the lives of labor leaders, such as John L. Lewis, Samuel Gompers, "Mother" Jones, and Cesar Chavez. These all provide excellent opportunities for creative writing.

In the category of most comprehensive approach to integration, it is possible to develop courses that incorporate literature, vocational studies, and other elements of the school curriculum in an all-encompassing fashion. One such course was created at Mastbaum Vocational-Technical School in Kensington, Maryland. There a class in Shakespeare was transformed into an investigation of the aspects of Elizabethan life and culture that were relevant to the students' vocational studies. Students came up with projects in carpentry, food science, home economics, cosmetology, and drafting adopted from what they had learned from the literature and history of the age.

In all of these alternatives, attention can be given to open discussion about the merits and demerits of each author's interpretation of the work reality, about that of the author's contemporaries, and about what historical insight has contributed. Students should learn to be critical of a Babbitt but also be able to see what positive lessons can be drawn from the piece of literature (for example, the importance of integrity in business dealings) for work and life. By reading Death of a Salesman, students can focus on the many ways that Arthur Miller demonstrates Willy's alienation from his family, his job, and society as a whole. They will come to know why Willy cannot comprehend Biff's

rebellion against rigidly prescribed modes of behavior and the hierarchy of the business world. To Willy there is no other way of living.

Writing about work and the lives of real people usually requires a realistic style. Work literature often contains language of the work experience, which may at times be quite raw and explicit (Hoffman, 1990, p. 55). Two prime examples of this frank expression and approach are Stud's Terkel's candid interviews of ordinary workers in Working and in the graphic descriptive of a coal miner's life and family in D.H. Lawrence's Sons and Lovers. Discussion of this type of literature could focus on the living and working conditions of the characters and traits that enable them to endure adversity and relish personal triumphs.

Finally, the literature about work provides opportunities — as does literature in general — for examining the particulars of women at work, the special experiences of African Americans and Hispanics, the conflicts between historical and "modern" patterns of work among Native Americans, and other themes connected to multicultural perspectives in the curriculum. (For a partial listing of some appropriate literature, see again Koziol, 1992.) Within this large area, there is room for stressing both similarities and differences — differences that such groups have experienced because of discrimination in employment, relegation to menial work or "woman's work", or conflict between different cultures and their approaches to work, as well as the similarities among all workers in facing both the joys and pains of work, the ambitions of twentieth-century Americans for progress through work as well as the disappointments of ambitions limited by conditions beyond their control.

Of course, it is unnecessary, and probably inappropriate, to choose one type of literature over another. Our recommendation is not that instructors use the literature of work to the exclusion of all other kinds of literature. Instead, we suggest a better balance, correcting the pervasive neglect of work-related themes in the high school that restricts the range of issues which students can explore through literature. Given the richness of the literature about work, a greater variety of reading provides one way of allowing all students to explore the work-related issues they confront, at the same time that it can prevent the potential excesses of applied and overly-utilitarian approaches to reading and writing in Academies, clusters, and magnet schools with an occupational focus.

History

Americans have been caught between Henry Ford, who declared that "History is bunk", and allegiance to George Santayana's maxim: "Those who cannot remember the

past are condemned to repeat it." In the main Ford has won out, with historical thinking rare in the population and historical knowledge of high school students weak (Ravitch and Finn, 1987). Still, history continues to be considered important in anyone's list of official school subjects: A Nation at Risk (1983) included historically-oriented social studies among the five "New Basics", and U.S. history is included among high school graduation requirements virtually everywhere.

But while history is officially recommended and widely required, its teaching generally confirms Henry Ford's view of the matter. High school history continues to be dominated by fact-oriented lectures, in which history — dominated by names and dates, the political history of wars, Presidents and other leaders, and other punctuating events — is presented as straight chronology, without possibilities for interpretation or application to present issues (Wineburg and Wilson, 1991). Because of the emphasis of nineteenth century educators on socializing students for their roles as citizens in a democracy, history teaching has been consistently dominated by political history, relegating to marginal status economic history — a set of topics more consistent with occupational concerns — as well as social history and other emphases that might be closer to students' current interests.

The conventional approaches to history have, unfortunately enough, failed all groups of students. For college-bound students, high school teaching has left them without the ability to make their own interpretations, to understand contrasting points of view, to perceive the biases and arguments in the historical record — the stuff that college-level historians prize most, and that they find missing in high school graduates. For the non-college bound, conventional history teaching has left them unconvinced that history is a subject worth studying or remembering. History in the high school is in the worst of all positions: it is not "real history", the discipline in which practitioners debate endlessly, but has become instead a "school subject", a set of facts to memorize, a stripped-down version of what the discipline is about. If history is so boring and irrelevant, it's small wonder that most high school students cannot date the Civil War or identify many twentieth-century presidents.

Partly in response, interest in the methods of teaching history has revived during the last five years, after nearly two decades of relative neglect. The reports of the Bradley Commission on History in Schools (1989), the continuing work of the National Council for History Education, the widely-cited curriculum framework for history and social science developed by the California State Board of Education (1987), and the curriculum standards being developed by the History Standards Project (1993) have all restated the case for history teaching, and have provide opportunities for generating some consensus about what ought to be taught. At the same time, an interest has developed in more active

forms of teaching history, in an attempt to move away from the fact-intensive, lecture-dominated mode of teaching so prevalent (McAndrews, 1991). The greater use of oral history and creation of local community histories, as ways of involving students in the doing of history, provide one such method; debates, role playing, the creation of historical dramas, and cooperative projects represent other efforts to make the teaching of history more involving. Many more history teachers are using primary source materials, partly to get their students to do "real history" and partly to move away from the tyranny of textbooks, dominated by facts and regarded by professional historians as the least reliable of historical materials (Wineburg, 1991). Finally, there have been greater efforts to integrate other subjects — including literature, art, and music — and non-text materials like movies, music, and art into the teaching of history.

While a reconsideration of the importance of history and more active teaching have great promise, there remain several problems with the recent commission reports — quite apart from the fact that they have as yet made little headway against conventional practice. One is that the motivation for learning history continues to be weak. The various reports tend to develop long lists of reasons for the importance of history, but restated from the viewpoint of historians and educators rather than students. For example, the National Center for the Study of History has developed a manifesto, "Value History!" that offers myriad reasons for history grouped under headings of personal reasons, civic reasons, and professional (or occupational) reasons, and ranging from the utilitarian ("to enable managers to identify germinal factors affecting an organization's performance") to the moral ("good character is much nourished by a grounding in past examples") to the amusing ("history entertains by animating protagonists, dramatizing events in sequence, revealing motives and background actions"). But it is unclear that piling on more and more reasons is convincing; as in the case of social studies, more reasons may simply confuse teachers and students alike without getting at the central issue that history seems irrelevant. And in particular instances — for example, the presentation of an interdisciplinary approach to teaching about the Great Depression, or a unit allowing students to act out the roles of various states in the Constitutional Convention — the issues of why students might want to know about the Great Depression or the Constitution are ignored: historians see these subjects as self-evidently Good Things, but it's not clear students do.

A second problem is that most recent reports continue to stress the importance of chronological history. The Bradley Commission and the California frameworks stress the chronological approach, for example; the National History Standards Project has stated that historical standards should be "founded in chronology" (1993, p. 34), and has developed a periodization suggesting the importance of a standard chronology in teaching. The Bradley

Commission further recommended that courses urge students to "perceive past events and issues as they were experienced by people at the time, to develop historical empathy as opposed to present-mindedness" (Bradley Commission, 1989, p. 25). The danger of these recommendations is that they may lead back to chronological names-and-dates history teaching, with history continuing to be a subject about the far-off past without implication for the present.

Finally, the recommendations about revising history continue to stress subjects from political history and great civilizations of the past. Of particular importance to schools considering an occupational focus and the integration of academic and vocational content, the issues of history most closely related to occupational concerns — economic history, the history of technology, occupations, sectors, and their influence on the rest of society — have been given scant attention. To be sure, the National History Standards Project has adopted economics and technology as one of five themes to be used in teaching history, and the history of technology is conventionally mentioned among the important topics to be covered.⁵ But in general, subjects related to the occupational missions of the high school, and to the occupational decisions high school students are making, are lacking.

Overall, then, the recent reports on the teaching of history promise not to change the teaching of history very much. The alternative, of course, is to take a different approach, one that stresses a thematic approach to history and one that emphasizes the value — indeed, the necessity — of historical perspectives in understanding the present.⁶ This would allow the incorporation of themes related to occupational concerns and the occupational focus of an Academy, cluster, or magnet school, and it could allow teachers to begin with current issues being raised in other classes, or being debated on the front pages of newspapers or in a local community. The integration with other subjects — with literature being taught in English courses, for example, or lab demonstrations in science — can then be shared with other teachers, rather than falling only on the shoulders of a history teacher. This approach thereby provides motivational advantages over other approaches to history, particularly in school settings where students have chosen an occupational focus and are thereby more captivated — one hopes — with all subjects related to that broad occupational cluster.

There are many different ways to think about history being integrated with occupational content:

- The most obvious alternative is simply to teach a course in the history of an occupation or industry. For example, the health sector has a fascinating history, one that intersects with issues such as the rise of science, emerging conceptions of professionalism at the turn of the century, the subordinate treatment of women, the appropriate role of

government regulation, and pressures for differentiation and specialization into professions and semi-professions, that continue to operate. Business has a long history of organizational forms — from family-based capitalism of the eighteenth century to the early industrial firms of the nineteenth century, the development of the corporate form and now multinational corporations, with related issues of internal controls and government regulation. Agriculture has a history that reveals its change from the dominant sector to one that employs only a small minority of individuals, as technical change and consolidation forced individuals off the farms, but that has still formed the basis for many of our values and myths. Even in the case of some occupations that, many would argue, should not be included in high schools there are opportunities for developing an historical imagination: a cosmetology program could examine changing conceptions of beauty while a home economics program could analyze changing conceptions of cooking and nutrition and the "language of clothes" (Lurie, 1982).

- Other courses could be devised as electives that are more closely related to occupational issues than the conventional history electives. Good examples include the history of technology, historical approaches to the topic of science, technology, and society,⁷ courses on government regulation of business and technology, labor history, and the development of social and environmental policy. Such courses could be developed in several different ways. In most cases, perhaps, courses would be open to all students within a high school; in a high school with occupational clusters or Academies, these courses would include students from several different occupational areas, allowing them to share issues and problems from varied perspectives (though making the task of focusing on particular occupations or industries more difficult). Alternative courses could be developed that are specific to an occupational area or industry, for students in a specific Academy of cluster; the history of agriculture, the history of government regulation of business, and the history of children and families for those in the human services or education are examples of more specific courses. Such electives provide a way to include in the curriculum subjects that both develop historical thinking and knowledge and simultaneously explore occupational concerns from a different disciplinary perspective.

- A current controversy or development could become a theme for historical examination. For example, the current efforts to reshape the health system exemplify the trend in government regulation and increasing involvement because of transfer programs (like Medicaid and Medicare). The recession of 1990-92 and its effects on employment patterns provides a springboard for examining other recessions, including the Great Depression with its many effects on both social and economic policy. The current debate over the skills required at work — a debate which influences high school students directly,

through the current discussions about SCANS skills and "higher-order thinking" — invites an examination of changing skills requirements in earlier periods. Controversies over pesticides, restrictions on logging, the spotted owl and snail darter controversies, and other environmental issues — some national and some quite local — provide opportunities for historical discussions about the different economic interests of local communities; the views of business and labor, and the role of government regulation in a capitalist economy. Such present-oriented topics could occupy short periods of time, in a module lasting a week or two, or more substantial periods within an issues-oriented course. Whatever form they take, they provide yet other opportunities to present the value of historical perspectives in understanding current issues.

- A semester-long course in contemporary problems, an extension of the analysis of a current issue, also provides opportunities for historical analysis (Stearns, 1993, p. 178) as well as occupational issues. Sometimes these courses are treated as capstone courses in the senior year, allowing students to integrate the different perspectives of the humanities. They have the advantage of allowing students to become more sophisticated about subjects of current importance, hopefully motivating the kind of political participation that civics is intended to foster, while they can also allow exploration of historical perspectives.

- Occupational issues can be themes that cut across a series of courses including history. In the standards being developed by the National History Standards Project, the theme of technology and society is one that can be brought up through each of the periods covered by chronological history, making sure these occupationally-oriented subjects are not lost in the greater weight of political history. In the Pennsylvania Youth Apprenticeship curriculum, five themes cut across the subjects of English, social studies, math, science, and an occupational course: labor history, technology, and society, technical manuals, interpersonal skills, youth in society, and family (Nahemov, 1993). Each of these has some relevance to occupational preparation (except perhaps youth in society and family, both opportunities to be self-aware about adolescence). The Mendocino (California) program *Windows to the Future* examines the extent to which technology has shaped American culture, values, art, and history throughout the twentieth century. A final possibility is that such themes can be place-specific; for example, Philadelphia has adopted a course called "Exploring the City, Understanding the Nation", which uses material on Philadelphia itself to explore larger issues about the role of cities in society; within this course one strand examines the influence of technological change on the city of Philadelphia itself and by extension on cities in general.⁸

- A project can be devised that explicitly unites history and occupational or local concerns. For example, the practice of developing local histories, with the aid of oral

histories and interviews with elderly residents — a mainstay of the Foxfire approach developed by Eliot Wiggington (1991) — could be extended to develop histories of a locally-dominant industry like agriculture in rural areas, or textiles in the South, or mining in the West.

The techniques for integrating history with occupational content are no different, then, than those for integrating any other two subjects. They are also relatively consistent with the current efforts to place greater emphasis on history, to stimulate historical perspectives and analytic thinking rather than an exclusive attention to facts, and to develop more interdisciplinary and theme-based teaching. But such integration has a particular advantage in the case of history — one that teachers in the midst of curriculum integration mention also in conjunction with algebra, literature, and other subjects,⁹ it can help students "back into" history, to discover the power of historical perspectives not by declaring history to be important but by demonstrating how valuable it is for a particular issue. In this way integration can help students overcome the dread of history bred into them by the time they reach high school.

Finally, revising the teaching of history along these lines would benefit all students. For those bound for four-year colleges, it would restore the role of interpretive history, in which participants debate the varied interpretations of historical events rather than simply regurgitating uninteresting facts. For students who end their study of history in high school, it has promise in leading them into a kind of historical thinking not much in evidence. For students in occupationally-focused programs, like Academies and clusters, it provides new opportunities for examining the kinds of vocational issues that are not generally part of the curriculum. And even for those students (and teachers) who consider their interests more "academic" or intellectual, these ways of teaching history can restore the issues of economic history that have been neglected in the over-emphasis on political developments.

In the end, debates over chronological history versus thematic approaches, or historical empathy versus present-oriented teaching, or fact-based approaches versus analytic approaches are false dichotomies, as the Bradley Commission (1989, p. 43) points out; in each case both are necessary for a complete approach. But since current history teaching is dominated by fact-intensive, chronological approaches with almost no connection to current issues and with economic issues given short shift, some correction of this imbalance is necessary. Using occupations and current economic issues to frame historical questions is one way to do, at the same time that it allows occupationally-focused programs to expand their conception of the capacities important to students.

Social Studies and Civics

As in the case of history,¹⁰ educators have been caught between persistent pressure and widespread apathy in the area of political education. The necessity for teaching students the values of a democracy and the importance of political participation, a legacy of the nineteenth century common school, has persisted in virtually every commission report, even as the main emphasis of recent reports has been on the nation's economic decline rather than its political malaise. As political participation has nosed downward, it becomes harder and harder for the schools to convince students of the importance of democratic participation. And, like history, the teaching of social studies has compounded the problem. The didactic, fact-intensive presentation of concepts remote from the lives of adolescents (the three branches of government, checks and balances, the endless detail about the legislative process), the apparent irrelevance of social studies (Van Sickle, 1990), and the tendency to slip into sermonizing about such attributes as civility (in an uncivil society) and civic-mindedness (in a society of runaway individualism) has made social studies the least popular subject in the schools (Morrisett, Hawke, and Sperka, 1980).

Partly in response, several groups have recently proposed revisions of the social studies curriculum.¹¹ They have stressed its importance for citizenship training, and argued for an expansion of the time devoted to social studies. Recognizing that fact-intensive approaches are inconsistent with current efforts to change teaching, they espouse a greater role for inquiry and interpretation. For example, Charting a Course: Social Studies for the 21st Century (1989) recommends that "content knowledge from the social studies should not be treated merely as received knowledge to be accepted and memorized, but as the means through which open and vital questions may be explored and confronted" (p. 3). Indeed, social studies by its nature is interdisciplinary, and most advocates favor keeping it interdisciplinary and focused around social issues and their application rather than purely discipline-based.¹²

However, in other respects the recommendations for social studies and civics haven't changed much.¹³ Charting A Course recommends a conventional three-course sequence in world and American history and geography for grades 9 to 11, with the twelfth grade occupied with economics and government. The topics included — the differences among capitalism, communism, and mixed economies; the Constitution and the Bill of Rights; and world geography — are assumed to be important without any justification, any recognition of their importance in the eyes of students, or much effort to relate such subjects to current issues. The mammoth Civitas, 665 oversized pages thick, starts with Aristotle's words about the centrality of widespread civic participation to liberty

and equality, and then goes on to stress the importance of civic virtue as a personal disposition, of civic participation as a citizen's responsibility, and of civic knowledge as the foundation of civic virtue and participation. As an earnest statement of a particular tradition, *Civitas* is quite powerful; but as a response to the hostility of students toward social studies and the decline of civic participation, it is utterly lacking.

Again, there is an obvious alternative which others within social studies have begun to explore: a theme (or issue) orientation,¹⁴ which allows students to examine the same political topics but within a specific context, of concern to students rather than to the grand tradition of civics. A theme-based approach can then incorporate, among many possible themes, those related to occupations and preparation for the workforce, all of which are particularly appropriate in schools integrating academic and vocational education. It can also examine current events of local issue, and use these as ways of opening up the forms they take in other cultures and societies and other time — the emphasis on the "far away and long ago" so dear to the hearts of educators but so incomprehensible to students in a xenophobic and present-oriented society. As in the case of history, these general approaches to social studies and civics can take many forms:

- Current policy issues specific to occupational clusters or industries can form the basis for examining any political issues, including traditional subjects (the rule of law, separation of powers, and the like), the tension between individualism and civic virtue, the behaviors appropriate for a democracy, and like. The current federal legislation related to dislocated workers, the reformulation of the health sector, the debates over international trade as they apply to agriculture and the computer industry, the regulation of employment conditions including laws related to discrimination and sexual harassment, the debates about unemployment versus inflation as targets of fiscal and monetary policy, the declining role of unions: the public issues that can be related to occupational clusters, or to occupational concerns more generally, are endless and varied. They also exist at local, state, federal, and international levels, allowing instructors to move among the different levels in a federal system and from the familiar to the more abstract.¹⁵

- Occupationally-oriented issues can become themes cutting across a variety of courses. Issues like the measurement of well-being (in unemployment rates, earnings, and measures of inequality like poverty rates), trends in employment, and changes in the nature of occupations, industries, and skill requirements, are issues that can be examined not only in government and history, but also in English (including literature), perhaps in math, and in occupational courses.

- In some occupations and industries and in some areas of the country, international trade is sufficiently important to provide a basis for examining other countries. The trade of

Western states (and others) with countries around the Pacific Rim, or the southern tier of states with Mexico and Latin America, or certain states with Europe provide topics related to the well-being of local workers that can be used to explore a variety of international issues.

- Science, technology, and society (STS), a curriculum development with a large number of examples, can be used to examine technological changes, their influences on society, and the government regulation of business — either for particular occupations or industries, or in more general ways. The general subject of STS is broad enough to encompass either technical changes specific to an occupation or industry — for those Academies, clusters, and magnet schools that focus on a particularly occupational areas — or to encompass a variety of changes in different sectors. In some cases the STS courses appear to concentrate more on the applications of academic science, while others focus on technological change, shifts in occupations, and more recognizable vocational concerns; but in either case STS provides a vehicle for integrating science and its technological applications, industry and occupational transformation, and social concerns of many kinds.

- Every industry and every occupation involves some aspects of government regulation, and therefore provides concrete opportunities for examining the role of government and public policy in a "private" or capitalist society, particularly one with a comparatively strong distrust of government regulation. Instances of government regulation can then serve as ways to explore interest group politics, the limits of regulation, the roles of litigation versus legislation, and well-worn subjects like the three branches of government, checks and balances, separation of powers, and the mechanics of legislation — not as abstract topics that are "formal, superficial, and cold" (Dewey, 1916, Ch. 23) but as political mechanisms that influence students, their families and communities, and their future lives.

- The projects sometimes used to enliven social studies — debates, visits to state capitals, mock legislatures — can incorporate themes drawn from work and economic policy rather than non-occupational themes.

In addition to these suggestions for revised content, an occupational focus leads to another way to conceive civics. In addition to studying content drawn largely from political practice, civics in this country has always been conceived as a way of teaching individual responsibility — responsibility to the community, to the principles on which our republic was founded, to some sense of the public interest. However, because the content of civics has been drawn relentlessly from political concerns, the sense of responsibility contained within this tradition has been one of political responsibility or civic virtue. The analogous sense of responsibility within the economic sphere — the conception, for lack of a better

term, of the good worker-citizen — has never been part of civics at all.¹⁶ This notion has been incorporated into the curriculum only in certain vocational programs, particularly in the efforts to socialize students to be diligent and obedient workers. This is, of course, an aspect of vocational education that has drawn the fire of its fiercest critics, particularly those who argue that obedience is merely a way of legitimizing an oppressive economic system.

But this way of conceiving of the responsibilities of the worker-citizen misconstrues the issues. Just as the responsible citizen should not be passive and docile, and should not always be blindly obedient to political authority, so too the responsible worker-citizen should not always be docile and obedient. The rights and responsibilities of workers, often fought out only in the legal sphere, are also issues for a broader approach to civics, one in which teenagers confront the issues of self and other, private and public interest, and individual and collective responsibility that they will continue to face throughout their working lives.

There are, then, many opportunities for incorporating occupationally-relevant material into social studies and civics classes. To be sure, as in the case of history, doing so requires a change in teaching approaches away from the fact-intensive, didactic, and relatively abstract presentation of government to more issue-oriented presentation emphasizing student interpretation and participation — a change that is at least as challenging as the incorporation of different content into social studies. But the promise is that a widely-loathed corner of the high school curriculum could finally come alive for students, allowing high schools to prepare the kinds of engaged citizens and workers that nineteenth century educators first envisioned.

Conclusions: The Special Importance of Vocation in the High School

The humanities, including literature and history, and civics-oriented subjects, including social studies, have been fragmented in part by the special pleading of interest groups — for example, by environmentalists, feminists, fundamentalists, and advocates of multiculturalism and consumer rights. Proponents of more career-oriented education have been among those arguing that their points of view be incorporated into the crowded curriculum, of course, and so the idea of integrating occupational content with literature, history, and civics could be dismissed as merely another example of partisanship.¹⁷

But several elements distinguish occupational issues from the particular positions espoused by feminists or fundamentalists, environmentalists or advocates of parental education. Occupations and economic life are all-encompassing: they affect everyone, rather than being political positions or life choices that some will choose but others reject.

Furthermore, high school students are, consciously or not, making choices about their future occupations in their decisions about what subjects to attend, whether to prepare for college or not, whether to complete high school or not. Since these links to occupations are hidden by the "academic" appearance of the high school, the incorporation of more occupational themes into high school courses provides them with ways to wrestle with the variety of occupations and their consequences — ways that are embedded in the curriculum, rather than being independent in the ways career guidance and counseling usually operates.¹⁸ Because students are beginning to grapple with occupational options and their relation to school, there may be greater motivational power to occupational themes and content. At the very least, the ubiquitous question about the "relevance" of subjects has an obvious answer when occupational themes are used. And while occupational "relevance" may be too narrow and utilitarian a criterion for many teachers of English, history, and social studies, it provides a route into these subjects, a way of "backing into" an aesthetic appreciation for language, a sense of historical empathy that ignores present concerns, or a veneration for our political culture that now eludes the majority of students.

In high schools or schools-within-schools like Academies with an occupational focus, the incorporation of themes drawn from work is both natural and constructive, a way of making sure that such education does not become overly utilitarian. But even where an occupational focus is absent, the use of themes and projects provides a pedagogical route out of the most stultifying teaching. In selecting themes, the merits of occupations that John Dewey (1916, Ch. 23) claimed are still valid. Dewey noted that an occupation "balances the distinctive capacity of an individual with his social service" (p. 308), allowing instructors to address both individual interests and the social concerns present in occupations. Second, he argued that "a calling is also of necessity an organizing principle for information and ideas" (p. 309), one that is less contrived than the usual topics organized in school subjects, allowing exploration of a variety of information and ideas without being forced or unnatural. Finally, he declared that "the only adequate training for occupations is training *through* occupations" (p. 310), and called for a broad approach to occupational preparation. By using occupations to provide a context for instruction, the use of work-oriented themes provides a way of preparing students broadly for their occupational futures while avoiding the overly-narrow training of traditional vocational education. The use of occupations to illuminate these academic disciplines can restore to them the sense that they are important for understanding the world youth and adults live in — rather than disconnected from the world, irrelevant, abstract.¹⁹

The role of occupations within high schools is distinctive, then, and the argument for incorporating occupational themes in English, history, and social studies classes is not

simply another form of special pleading. In the end, however, debates about alternative content for these subjects, or alternative ways of teaching them, usually present false dichotomies. The issue is not whether students in English should read the canon of Shakespeare and Elliot or the anti-canon of Alice Walker and William Least Heat Moon, or whether they should read literature about work or literature about personal life. The purpose of education should be to turn them into readers, able and interested in reading different kinds of literature for their own purposes.²⁰ The battle in history should not be whether a chronological or a thematic approach is better, or whether historical empathy is more important than a concern with history illuminating present concerns; these are debates that professional historians cannot resolve. The problem high schools face is to convince students about the value of history and historical thinking in its many and varied forms. And the purpose of social studies and civics in enhancing political participation cannot be advanced as long as students view it as the most boring subject in the high school curriculum; the mechanics of government and our civic tradition are important, but without student motivation and current application they are irrelevant.

Most high schools are now failing in these tasks. Most students leave as neither readers, nor amateur historians, nor engaged political participants. But integrating these subjects with occupational applications and concerns provides one way to remedy these failures — a way that can simultaneously rescue these subjects from irrelevance and can prevent occupationally-oriented curricula from ignoring the moral and political purposes of education.

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FOOTNOTES

¹ There are various other disciplines that are somewhat easier to integrate with occupational perspectives. Economics, for example, has often been adapted into agricultural economics or business economics. There is both a sociology of occupations and psychology of occupations that could be incorporated into high school courses. In this chapter we stress the disciplines linked to the humanistic and political traditions of education.

² The Applied Communications curriculum contains resource sections in which literary works are listed that relate to topics covered in the lessons of each module (i.e., following and giving directions, evaluating performance, and so on). However, none of the suggested literary works is used as a basis for a lesson in the sequence. Supplementary lists of literature that could be used to accompany the Applied Communications sequence have been compiled by a few state education agencies. The South Carolina Department of Education has developed its own modules as a literature supplement to Applied Communications. However, the literature used is from the traditional canon and not literature about work itself. The career education movement of the 1970s also suggested integrating career education into academic subjects, but it too neglected literature; see, for example, Davidson et al. (1975), presenting the perspectives of the National Council of Teachers of English.

³ One of the exceptions is a reading textbook developed for high schools by Prentice Hall of Canada, Language at Work. This reader includes examples of Canadian fiction, poetry, and nonfiction that relate to the subject of work and is not therefore directed to a U.S. audience. In addition, a few instructors, particularly several in community colleges, have initiated their own forms of integration by creating humanities courses—mainly dealing with science and technology—centered on work-related themes. One such course, entitled "Working in America", has been developed at Kirkwood Community College in Iowa, as part of a project on Integrating the Humanities into Vocational Education, sponsored by the National Endowment for the Humanities and the American Association of Community and Junior Colleges; see Grubb and Kraskouskas (1991).

⁴ Eleanor Smith, "The Humanities in Business: A Team-Taught Course", panel presentation, Eastern Regional Meeting, Community College Humanities Association, Nov. 16, 1990. This is an example drawn from a community college, where some of the most interesting cases of integrating literature and history with work-oriented themes have been developed; see Grubb and Kraskouskas (1992).

⁵ We note, however, that the history of technology is generally covered as a series of names and dates associated with particular inventions — the cotton gin, the spinning jenny, the steam engine, and so on. The analytic issues which are just as important now as in the nineteenth century, and which could be applied to computers, computer-integrated technologies, lasers, new materials, and other recent inventions — what problems cause inventions to come into being, what influences their diffusion, what kinds of social issues and dislocations are generated by inventions — are less often examined.

⁶ For an excellent review of the issues surrounding presentism, see Seixas (1993). He points out that professional historians are divided on the issue of present-oriented readings of history versus historical empathy — as on most issues — so that there is no orthodoxy that high schools must adopt. A thematic and present-oriented approach to history was a mainstay of reforms during the 1960s; see especially Oliver and Shaver (1966).

⁷ There is a National Association for Science, Technology and Society with newsletter, "STS Today", and many developments in both schools and colleges; see Yager (1990). While STS is often associated with social studies rather than history, there is an obvious historical approach to STS.

⁸ See Parsinnen and Spodek (1992) and the special issue on "Exploring the City" of "Continuum", a newsletter of Paths/Prism in Philadelphia.

⁹ The practice of "backing into" abstract material is quite common in some of the integration efforts we have observed. In one Academy, the vocational teacher observed, "We don't tell them [the students] we're going to do algebra because they're afraid of algebra; we just trick them into doing it."

¹⁰ In a way the separation of social studies and history is artificial, since some advocates have argued that history should be the centerpiece of social studies. However, we want to stress the emphasis within social studies on citizenship and political participation, an emphasis sometimes present in the rationales for history but which limits the range of purposes and subjects taught within history — and which specifically makes it more difficult to move away from political history. There are many obvious parallels between recent debates about history and those about civics, as this chapter notes; on the sense of crisis common to both, see especially Seixas (1993).

¹¹ See especially National Commission on Social Studies in the Schools (1989) and the mammoth Civitas: A Framework for Civic Education (Quigley and Bahmueller, 1991).

¹² The 1979 guidelines of the National Council for the Social Studies acknowledged that learning could be structured either around disciplines or around issues, but encouraged the latter. For an excellent review of social studies issues, see Brophy (1990).

¹³ See also Cuban (1991) on the stability of social studies teaching.

¹⁴ On issue-centered approaches, see the special issue of The Social Studies, September/October 1989.

¹⁵ Social studies in the early grades is founded on the "expanding environments" notion of moving from the child to the family to the neighborhood and then outward to increasingly distant and abstract units. Social studies in the high school seems to have lost this approach to teaching; but given the difficulty many high school students have with more distant events and units of government, a recasting of the expanding environments approach might be appropriate.

¹⁶ If we think of an education as preparing students to examine their responsibilities in the major spheres of adult life, civics prepares them (in theory, at least) for their roles as citizens. Preparation for their roles as parents and family members takes place only sporadically, in parent education courses or "social living" or sex education courses. But preparation for their roles as workers is generally absent entirely.

¹⁷ On the tendency of social studies to be fragmented by special interest groups, see NCSSS (1989), p. vi. Of course, the recent commission reports calling for more history, or more social studies, are themselves examples of special interests within the constellation of the school subjects; for example, Charting a Course itself declares that "no branch of the school curriculum is more central than social studies" (NCSSS, 1989, p. x).

¹⁸ See, for example, Belinda McCharen's recommendation in Chapter 19 that guidance and counseling be embedded in the curriculum, rather than segregated into separate counseling activities.

¹⁹ See also Kliebard (1992) on the decline of humanistic studies.

²⁰ For this argument we are indebted to an elegant essay on the battle over the canon by Pollitt (1991).

A New Vision for Vocational Education: Assessing Implementation of the 1990 Perkins Act

Lawrence Rosenstock*

INTRODUCTION

The 1990 Perkins Act offers vocational educators unique challenges and opportunities to reshape their practices in ways that will deepen the educational experiences of students and bring vocational education into the 21st century. The principal issues for the National Assessment of Vocational Education at the local level concern whether or not local players are seriously striving to implement key features of the Perkins Act (i.e., integration of vocational and academic education and "all aspects of the industry" instruction). "Integration" and "all aspects" represent a radical departure from past practice in vocational education. These new practices are not easily understood and may be difficult, complex, and time-consuming to implement. Oddly, most vocational practitioners claim that they are already doing these things.

Assessing these new practices and measuring degrees of implementation will be difficult. This paper will examine the dimensions which signal that schools are integrating vocational and academic instruction. It is critical that the National Assessment develop instruments that distinguish practitioners who are actually integrating academic and vocational education from those who are using the same terminology to describe practices that are not true integration. For example, the assessment should be capable of distinguishing between poles, where one program's integration stops at students occasionally using math to measure raw materials and another program's academic and vocational teachers have engaged in sustained, long-term planning and students' entire vocational and academic curriculum has been fully integrated and structured around learning about and operating within an industry. Thus, it would be important to know if integration of academic and vocational instruction appears in a program's objectives but is not afforded teacher planning time and does not appear in course materials.

INTEGRATION OF VOCATIONAL AND ACADEMIC LEARNING

In the 1989 hearings on the reauthorization of the Perkins Act, virtually every commentator noted the need to bring together these two parts of our educational system. The Act clearly requires integration in its sections on state assessments, state plans, local plans, local evaluations, and elsewhere. The challenge for local implementers is to translate this rhetoric into day-to-day reality in schools.

Section 239(c)(1)(B) requires that basic grant funds be used in programs that "integrate academic and vocational education in such programs through coherent sequences of courses so that

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students achieve both academic and occupational competencies." The breadth of the meaning of "integration" is emphasized in both the House and Senate Reports. For example, the Senate Report states:

"[T]he local recipients are to use Perkins funds to support programs which integrate academic and vocational training. Such integrative activities are intended to support a sequential course of study which uses an applied context to teach both broad and specific job training and which at the same time reinforces academic skills." (p. 20)

"The Committee notes that such integration must be supported by a two-pronged approach: it must include the development of the curricula, and it must include the teacher training required to make effective use of that curricula." (p. 10)

Similarly, the House Report emphasizes "academic curriculum...directly connected with real life applications," including "more advanced skills of thinking, problem-solving and comprehension" (p. 6). It notes that important elements for integrating academic and vocational coursework include: "curriculum development and professional development," ensuring that "both vocational and academic instructors [are] involved from the start in the integration of the curricula," and the need for strong leadership "to break down the significant barriers that often exist between vocational and academic programs."

Under the Act, in assessing "integration of academic and vocational education," it would not be adequate to look at students' transcripts or schedules and determine that integration is taking place because math, English, social studies, science, and vocational courses are listed. Rather, the inquiry must determine the extent to which curricula are synthesized and the level of development and use of basic and advanced academic skills in the vocational setting. There is no single, prescribed way to do these things, but a comprehensive approach is involved, with courses aligned, sequenced, and mutually reinforcing (both across students' current schedules and over time), and with academic and vocational staff working together. The degree of integration in the program must be assessed, not whether the student takes separate, unintegrated programs which may or may not become integrated in the student's mind.

One barrier to integration is the nearly total separation between academic and vocational education in today's schools. In the Perkins Act, Congress seeks to deter the tracking that relegates some students to "work with their hands," with minimal and diluted academic content in their courses, as schools fulfill their own prophecy of these students' limited potential. The subtext of vocational education has been its function of sorting by social class: Vocational education is for the "non-college bound," (i.e., working-class) student. Pursuing integration with academic education requires us to take a different view which sees vocational education as an alternative way to learn the same academic concepts and skills (including research, analytic, and philosophical thinking skills) that other students must learn. This is a new expression of an old truth. Vocational teachers have always seen students demonstrate competence, thinking ability, and creativity in a vocational setting, although some students are unable to demonstrate those skills in an academic setting or on a standardized test.

Vocational students demonstrate mastery through exhibition. Academic educators are now pursuing similar approaches which allow students to show individually configured excellence. As academic and vocational education integrate, academic education must go even further in embracing vocational methodologies, while vocational education must include much greater academic content.

"ALL ASPECTS OF THE INDUSTRY" INSTRUCTION

The new Perkins Act provides a platform upon which to integrate academic and vocational education—"all aspects of the industry" instruction. "All aspects" reflects a movement away from occupationally specific, narrow, skill-based training. The term "industry" should be interpreted broadly. In the legislative history, Congress expresses strong concern about overly narrow skill training. Also, the list of factors in the Act (planning, management, finance, underlying principles of technology, technical and production skills, labor, community, and health and environmental issues as they pertain to an industry) indicates that using the term "industry" instead of "occupation" is intended to broaden, not narrow, the focus of the training. Thus, the term is not intended to be limited to the highly specific definitions in the Standard Industrial Classification. Rather, it should be read broadly to cover such examples as the automotive or transportation industry, the construction or housing industry, the telecommunications industry, etc. Within this broad framework, local schools can use considerable discretion in how to name or define the "industry."

This broad view is important for ensuring that the purposes of the Act are met. Focusing on "all aspects of the industry" ensures that the areas of planning, management, etc., are not defined away by a view that says they are not needed for the particular job or occupation for which the student is training. Congress was very concerned about developing a broad range of occupational and academic skills and not locking students into overly narrow skill training for one predefined job slot.

Neither integration with academics nor "all aspects of the industry" instruction can be accomplished without the other. They are two ways of looking at the same educational goals. Integration means merging the head and the hand. "All aspects" means essentially the same thing; that is, broadening our currently narrow, occupationally specific definitions to encompass the skills (often conceptual and critical) required to understand management, planning, history, and the social aspects of broad industries.

ELEMENTS OF INTEGRATION

To fulfill the Act's promise, the people closest to the students at the local program level should have the strongest sense of the Act's goals, what the local evaluation is looking for, and how to best document student learning through integration of vocational and academic instruction. In addressing the range of local curricular and programmatic issues regarding academic integration and "all aspects of the industry" instruction, the following elements should be considered:

- teacher planning and coordination
- curriculum emphasis
- course materials
- student and teacher scheduling
- new teacher training and staff development
- work-based learning
- student assessment

Teacher Planning and Coordination

Integration of vocational and academic education is no small feat. Faculty from the various disciplines must work together to align and sequence coursework and to make it mutually reinforcing. Local administrators must allow substantial planning time for this work.

It is not enough merely to export a few vocational competencies into the academic setting, nor merely to import a few academic competencies into the vocational setting. These practices are self-reported by many practitioners as representing adequate integration within their schools. However, schools can take certain steps to indicate that they are doing more. To get at those steps, the assessment must ask: Do vocational and academic teachers see their mission as joined? Are they, collectively, working up their own lesson plans, including observations, experiments, readings, demonstrations, writings, and other things that fit within the flexible system?

When teachers in various disciplines produce their own teaching materials and thus gain ownership over those materials, they find themselves less threatened by the "difficulty" of other teachers' subject matter. Teachers attuned to the methods and materials of the language arts and social studies find that the methods, language, and thought processes of the sciences can easily be conjoined with the materials they are using in their disciplines. Inversely, scientific materials and subjects (including vocational ones) can be enriched and enlivened by the application of a more humanistic, qualitative, and consciously subjective approach.

Data sources available to assess planning and coordination:

- teacher schedules
- inservice calendars
- local staff development policies
- state staff and curriculum development offerings
- visits to exemplary programs

Curricular Emphasis

We experience reality seamlessly, not in fragmented disciplines. We do not ordinarily consider events and processes in terms of their distinct historic, physical, mathematical, and aesthetic components. Teaching should try to approach our experience of reality. The assumption here is that the constant switching of gears by teachers and students throughout the day, from subject to disconnected subject, results in an onerous fragmentation of learning. Academic curricula, like vocational curricula, suffer from a narrow conceptualization. In seeking to unify the curriculum, the new Act envisions an integrated, broad view of industries and their relationship to the economic and social realities of communities.

Multidisciplinary efforts cannot be generated abstractly. There must be an organizing theme with enough power and coherence to drive the entire curriculum. An "all aspects of the industry" focus provides a foundation for creating such themes. For example, the study of environmental management is enriched by science and vocational teachers working together, and the study of affordable housing is enhanced by the collaborative efforts of carpentry, architectural drafting, and social studies teachers.

Education must move away from a process that teaches skills as separate entities to one that uses analogies and connections between skills as a way to sharpen students' powers of observation and expand their experience. This may help prevent students from being "turned off" by one or another specific subject. To further enrich this integrated learning, teachers must be urged to use as many resources from the community as they can muster. Bringing the outside world into the classroom (and the classroom to the outside world) will help break down the artificial, counterproductive division between school and the "real" world.

In its experimental, hands-on component, vocational education has its greatest strength. Fundamental to its approach is an understanding that some learners need to work with their hands to inspire and open their minds. By integrating disciplines and learning styles, students experience a holistic world which becomes a laboratory for acquiring knowledge and skills, and for learning to pose and solve problems.

Data sources available for assessing curricular emphasis:

- course catalogues
- course objectives and syllabi
- texts and other course materials
- instructional methods
- student assessments
- class assignments
- visits to exemplary programs

Course Materials

Vocational personnel are inundated with trade journals, association mailings, and staff development activities which emphasize a narrow-skill, occupationally specific focus. New materials must be developed and teachers must be provided opportunities to shape them. The practice of covering material only sufficiently enough to prepare for the next course in sequence must change. Rigid instructional patterns in which the entire class studies the same thing at the same time also must change. Reliance on textbook dominance, emphasis on "coverage," and student memorization must be reduced.

Although there is no one best way to organize instructional materials, these materials must encourage students to explore concepts as they relate to the students' lives. Vocational materials must allow students to be actively engaged in broadly examining phenomena related to industries. These materials must encourage students and teachers to be active social inquirers and participants in their own communities. For example, vocational programs can explore and perhaps assist in providing low-income housing development, childcare, or services for the elderly. Active problem posing and problem solving should be a priority. Use of primary source materials should take precedence over use of secondary materials such as textbooks. Materials should involve student writing across the entire curriculum, including the vocational subjects, as a tool for learning.

In the work world, individuals rarely operate in isolation. Yet most vocational instructional material deemphasizes cooperative or group learning (e.g., competency-based vocational education focuses on duties and tasks performed by the individual learner). Materials should focus on

individual understanding within group processes. They should promote group exploration, discussion, questioning, and explaining.

Data sources available to assess instructional material:

- exemplars from model programs
- samples of district curricula
- samples of state-mandated curricula
- student writing samples
- evidence that teachers are developing their own new materials
- visits to exemplary programs

Student and Teacher Scheduling

Most secondary schools are constricted by anachronistic scheduling. They are hampered by rigid requirements for numbers of "contact hours" in each of the traditional Carnegie unit courses. Additional requirements for shop time compound the problem. An integrated, multidisciplinary approach seeks depth of student understanding, rather than breadth of "coverage" of various subject matters.

Vocational administrators usually present scheduling as the primary roadblock to change. The schedule—the status quo calcified—fragments academic and vocational learning into unrelated periods throughout the day and week. This raises the question of whether it is possible to integrate vocational and academic instruction without physically integrating vocational and academic instructors.

Much has been written about the isolation of teachers, yet little has been done to end it. Most teachers know little about the practice of other teachers whom they have worked close to for years. Team teaching helps end isolation and combat the notion of the individual as sole transmitter of information. It also allows for the type of multidisciplinary benefit described above. Back-to-back scheduling (e.g., having a vocational and a social studies class share two periods) allows teachers to work together and creates opportunities for common planning time. In schools where these techniques are tried, teachers often feel liberated from former constraints and enjoy the unanticipated pleasure of collaborating.

Data sources available for assessing scheduling:

- master/teacher/student schedules
- teachers' room assignments
- staff development activities
- district graduation requirements
- state vocational class hour requirements
- visits to exemplary programs
- credit mechanisms for multidisciplinary study

New Teacher Training and Staff Development

Even a cursory examination of most states' teacher-certification requirements reveals a continued emphasis on narrow-skill training for future vocational educators. Similarly, course

catalogues for teacher-training programs at the undergraduate and graduate levels do not depart from sustaining the status quo. What forms of guidance from state and officials will best encourage these changes? Certainly, at the state level, the connection between teacher-training courses and teacher-certification requirements is great, as courses are generated which serve certification requirements. The assessment must closely examine the extent of state officials' commitment to bringing about these changes. Vocational educators are a maturing work force; therefore, reshaping the expectations of new practitioners entering the field has great potential for change, even in the near term.

It is also critically important that state and local staff-development opportunities for teachers and requests for proposals for training reflect the Act's new requirements.

Data sources available for assessing new teacher training and staff development:

- state vocational certification requirement
- teachers' college curriculum content and emphasis
- state and local staff development activities
- state requests for proposals for staff development
- local initiatives to train and retrain teachers

Work-Based Learning

Cooperative placements, work-study, and apprenticeship programs can do more for students when they are integrated with academic learning and when they embrace an "all aspects of the industry" approach. These programs can go beyond the work experience, integrating work-based learning with school-based learning. Rather than funneling students into a single occupational slot, an "all aspects of the industry" orientation would diversify students' work placements and rotate them through various sectors of an industry. Thus, a student in a hospital-based program would move through the nursing, finance, dietary, and other departments.

Experiential placements fail when students are the slender thread between the school and work cultures. An integrated structure, planned by school and employer staff, must be in place *before* the student enters the program. For example, a program at the Polaroid Company joins students, teachers, and work supervisors in daily seminars where all participants write reflectively about their common experiences.

Data sources available for assessing experiential placements:

- cooperative agreements between schools and employers
- interviews with students and employers
- examination of policies and procedures of model programs

Student Assessment

As vocational education integrates with academics, a broader range of students' abilities must be assessed. Unlike typical classroom procedures that rely heavily on linguistic and mathematical abilities, applied learning activities such as those that take place in vocational classrooms place greater emphasis on learning in context.

New methods for student assessment must emphasize the highly individualized ways in which people learn. The new Act's emphasis on integration commits itself to students' deep understanding of and experience in the core aspects of industries. Student assessments must reflect students' use of that knowledge as they explore and seek to solve, within the context of their own communities, the problems that face those industries. Such efforts go far beyond the bounds of traditional assessment measures.

Thus, as integration takes place and multidisciplinary learning ensues, new measures of student learning must be developed. The portfolio, a collection of student work, is coming into increasing use. Such portfolios for vocational students should include elements of student learning which reflect the new, broad, industry-wide focus.

Data sources available for assessing student progress:

- student portfolios
- graduation rates
- dropout rates
- rates of participation of special-populations students in high-quality programs
- college placement rates and other outcome measures

CONCLUSION

This paper focuses on ways to recognize meaningful change in local vocational programs. The National Assessment must determine what these new practices look like, and whether there is meaningful movement toward such practices. In this regard, it is important to identify schools with exemplary programs and undertake qualitative research which closely examines the process of implementation in these schools and disseminates the findings to others.

It is also critical that the National Assessment analyze state and federal guidance. Local implementers cannot succeed without strong support and encouragement at all levels. The assessment should examine how this necessary support will be forthcoming. How can the U.S. Department of Education and the states best offer sufficient guidance to local practitioners to redirect their programs as required by the new Perkins Act? Will the call be clear for a new, dramatically different practice?

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Beyond the Shop: Reinventing Vocational Education

by Larry Rosenstock and Adria Steinberg

Vocational education straddles a fundamental contradiction. On the one hand it has long been, and still is, a means of providing an education to students who would not otherwise attend school. On the other hand, it has created a dual system in which lower-income students are tracked into vocational classes and away from the academic courses which prepare others for further education and higher-income, white-collar jobs.

The Rindge School of Technical Arts opened in 1888 as the first public vocational high school in Massachusetts, and the second one in the United States. Built with funds provided by a local industrialist named Frederick Rindge, the school still displays his sentiments, carved in granite over the front door: "Work is one of our greatest blessings. Everyone should have an honest occupation." Frederick Rindge acted out of a democratic impulse, yet helped create a mechanism for the "sorting of students by their evident and probable destinies"¹.

The groundwork for Rindge's generous bequest had been laid fifty years earlier in Massachusetts, when the State Board of Education, led by Horace Mann, argued that the Common School system should be expanded to bring children from all backgrounds together in the schools. Concerned that many rural and working class families still did not send their children to school, local boards sought to differentiate the types of schools available. The introduction of vocational schools with agricultural and mechanical

¹ Carnoy, M. and Levin, H. (1985). *Schooling and Work in the Democratic State*. Stanford: Stanford University Press, 94.

programs was described as providing a practical reason for Irish immigrant and rural students to attend.

By the 1880's and 90's, secondary schools became increasingly viewed as avenues to middle management jobs in the new industrial firms. Aware of the increasing strength of organized labor, the business sector sought to create programs that would train students in the new technical skills needed by industry, instill in them attitudes of loyalty to their employers, and socialize them for an industrial economy. Thus emerged in Massachusetts the first dual system: one to educate middle and upper level managers, the other to train laborers and clerical workers.

Despite criticism of the narrow, utilitarian nature of vocational education, it continued to spread, advocated by the newly-formed National Association of Manufacturers and opposed initially by organized labor. A 1906 report by the Massachusetts Commission on Industrial and Technical Education triggered a debate between John Dewey and David Snedden, the Commissioner of Education in Massachusetts. While Snedden defended the efficiency of the dual system, Dewey saw the segregated vocational education favored by business as a "form of class education which would make the schools a more efficient agency for the reproduction of an undemocratic society."² Dewey viewed the issue of vocational education as central to the future of democracy. His framing of the issue then still resonates as strongly today:

² Westbrook, R. (1991). *John Dewey and American Democracy*. Ithaca: Cornell University Press, 175.

"Its [vocational education] right development will do more to make public education truly democratic than any other agency now under consideration. Its wrong treatment will as surely accentuate all undemocratic tendencies in our present situation, by fostering and strengthening class divisions in school and out.....those who believe in the continued existence of what they are pleased to call the 'lower classes' or the 'laboring classes' would naturally rejoice to have schools in which these 'classes' would be segregated. And some employers of labor would doubtless rejoice to have schools, supported by public taxation, supply them with additional food for their mills.....[Everyone else] should be united against every proposition, in whatever form advanced, to separate training of employees from training for citizenship, training of intelligence and character from training for narrow, industrial efficiency."³

While there was deep disagreement about the direction of vocational education, it nevertheless had wide support. A powerful lobbying organization, The National Society for the Promotion of Industrial Education, was supported by a broad range of groups including educators, the Chamber of Commerce, the National Association of Manufacturers, the American Federation of Labor (sensing the inevitability of vocational education, labor wanted a voice in redirecting its anti-union bias), major farm organizations, and settlement workers.

The campaign culminated in the passage of the Smith-Hughes Act in 1917, which began the federal support for vocational education that has continued until the present. The fundamental contradiction of vocational education was set: while it profoundly transformed the rate of Massachusetts high school enrollment from a mere 6.7 percent of those fourteen to seventeen years of age in 1888 to enrolling 32.3 percent of that population by

³ Dewey, J. (1913). "Some Dangers in the Present Movement for Industrial Education." *Middle Works*, 7:99,102.

1906,⁴ it became a separate, second-class system under separate control. [Dewey's advocacy of a single system won a Pyrrhic victory: vocational education was incorporated into the public school system, but as a distinct track within that system.]

The segregation of vocational education was further reinforced by two other concomitant factors. The first, the compulsory education laws of 1923, captured many students into vocational programs who were now required to go to school. At the same time, "intelligence tests" such as the IQ and Binet, were developed and used to channel students towards either vocational or academic concentrations.

By the time of the authorization of the Carl D. Perkins Vocational Education and Applied Technology of 1990, Congress was receptive to the idea of substantially reshaping vocational education. Widespread dissatisfaction with the job entrance rates and wage rates of vocational school graduates, combined with strong pressure from a coalition of national advocacy groups led by the Center for Law and Education⁵, galvanized support for change. With only 27% of all vocational students entering a field related to their study for even a single day⁶, the time had come to move away from narrow-skill

⁴ Krug, E. (1969). *The Shaping of the American High School, 1880-1920* [Quoting the Report of the Massachusetts Commission on Industrial and Technical Education (1906). Madison: University of Wisconsin Press, 220.

⁵ The Center for Law and Education, based in Cambridge, MA and Washington, D.C., advocates for the educational rights of low-income students and parents throughout the United States. Paul Weckstein, co-director of the Center, was a pivotal conceptualist and advocate for the new directions called for in the Perkins Act.

⁶ *National Assessment of Vocational Education* (1987) Washington, D.C.: United States Department of Education.

training for specific occupations to broad, "all aspects of the industry" instruction.⁷

Just over a century after its founding, Rindge was poised, once again, to play a leading role in defining vocational education. We had a veteran faculty, a new executive director (Larry Rosenstock, a former carpentry teacher at Rindge) returning after two years as a staff attorney for the Center for Law and Education, a new academic coordinator (Adria Steinberg), and the full support of Mary Lou McGrath, the Superintendent of the Cambridge Public Schools, who instructed us to comply with Perkins, and to "turn the program upside down and inside out" in order to do so. It was our task to help the faculty put the rhetoric of Perkins and the progressivism of Dewey into daily practice at Rindge.

CityWorks

"Some people seem to have a problem with the Rindge School of Technical Arts. They are always putting RSTA down and stereotyping us. . . the students in RSTA are dumb; they will not go to college; they are going to drop out. Well, I will not take this anymore! . . . Being a freshman in RSTA, I am positive that I will go to college, and a lot of my confidence has come from my teachers. RSTA students have worked hard, demonstrated enthusiasm and displayed some great exhibits. We are smart, not only in mind, but also with our hands. We have, or will have shortly, an advanced technological mind as well as an academic mind. . . We give respect, so we expect respect. Success demands it!"

⁷ The Perkins Act mandates that all vocational students "gain strong experience in and understanding of all aspects of the industry they are preparing to enter, including finance, planning, management, underlying principles of technology, technical and production skills, labor issues, community issues, health and safety issues, and environmental issues as they pertain to the industry."

In March, 1993, Paulina Mauras published this statement in our high school newspaper. Her anger is not surprising. As a ninth grader in the vocational wing of Cambridge's comprehensive high school, Paulina suffers from the low status accorded to vocational education and all who enter it.

What's worth noting is that this 14 year old is ready to do something about it. She is acting the way one would hope all members of a participatory democracy could act -- speaking out publicly in protest of something she sees as unfair, challenging class stereotypes, showing confidence in herself and her working class peers, and seeing herself as a member of a community.

Paulina's notion of combining hands and minds, and the development of her skills in doing so, come directly from her experiences in CityWorks, the centerpiece of the ninth grade program at Rindge. Cambridge is the "text" as students investigate the neighborhoods, the systems, the people, and the needs that comprise an urban community. Students work on individual and group projects, bringing aspects of their community into the classroom by creating numerous "artifacts" of Cambridge -- maps, photographs, tapes, oral histories and three-dimensional models.

Several features make this program unusual. First, CityWorks combines key characteristics of vocational programs--a project approach, apprentice-master relationships and real clients-- with the broader content and essential skills of academic education. Projects involve "hands on" work, like making a wall-sized map of the city and wiring it to light up selected landmarks. At the same time, students engage in problem-solving, like

deciding where on the map to locate a new teen center that would attract youth from all ethnic and racial communities of the city.

Secondly, CityWorks is taught in a space designed for collaborative project work. Looking for an alternative to both shops and classrooms, we borrowed the notion of "studios" from design schools. There is an open area at one end of the room for large-group activities such as demonstrations and exhibitions, but most of the room is subdivided into studios where teachers work on projects with small groups of students. This arrangement gives participants the flexibility to regroup, team up, or borrow tools and materials as the project necessitates.

Thirdly, community representatives are invited to help create a context for students' efforts. Staff members from city agencies and programs identify unmet community needs that students could address and also serve as an authentic audience for students' finished products and presentations.

At a recent exhibition of students' work, several teams of students displayed drawings and scale models of a heritage museum they had designed for Cambridge. Each group had a different conception of where the museum might be located and how it should be designed. The museum builders sat with their models to explain their ideas as audiences of parents, city officials and local businesspeople filtered through the exhibit.

In making the models, the museum builders were responding to a request from the city's tourist agency that is actually in the process of raising funds for a museum. Six weeks before the exhibit, the agency director had

come to speak to CityWorks students and ask for their help in this effort. With thousands of people visiting the city each year, it was important for students to understand the tourism industry and to help plan its development in a way that would take the needs of residents into account.

In addition to the museum builders, several other groups of students involved themselves in the question of what visitors to the city should see and do. Rejecting existing brochures featuring "Old Cambridge" and Harvard University, one group designed a tour and brochure featuring places of interest to visiting teens, while another created a "Sweet Tour" brochure for visitors seeking the best desserts in town.

A third group of students liked the idea of highlighting the efforts of a "local hero." They videotaped an interview with Mr. Gittens, a founder of the Cambridge NAACP, and learned that he had led a neighborhood organizing effort to get the city to open a new playground named after a child who was struck by a car because he was playing in the street. Their brochure featured a map locating the playground as well as the story of its creation. All three brochures, along with a tee shirt that another group of CityWorks students designed, have since been adopted by the board of the tourist agency as products that are distributed and marketed.

The goal of CityWorks projects is to help students understand their community and its needs, and ultimately to see themselves as people who can affect that community and create new opportunities for themselves and others who live or work there. Through the lens of community development, students arrive at a very different and more positive vision of

what it means to be a vocational student. The point is not just to make things, learn some skills and get a job, but rather to become thinkers and solvers of problem, who work well together in teams and communicate well with various audiences.

Towards Participatory Democracy in School

If Paulina had entered Rindge four years ago, the program she entered would have been very different from CityWorks, but remarkably similar to the one in place in 1888, when Rindge opened. In fact, thousands of other high schools in this country today still offer such a program: freshmen in vocational education go through an "exploratory" in which they sample each of the shops available in the school -- such as metalworking and carpentry. Teachers work in the autonomous isolation of their shops or classrooms; students suffer from low expectations and minimal and diluted academics.

This system, unchanged since its original design for the industrial revolution over a hundred years ago, is based on an outdated and undemocratic premise that fifteen year olds of lower income families should predict their adult occupations⁸. (Who among us at fifteen thought we would be doing what we are doing today?) In short, the ninth grade program functions as the gatekeeping mechanism that begins the stark segregation of vocational students by social class, race, gender, and language ability.

In choosing CityWorks, we rejected the purely consumerist notion of democracy so prevalent in American high schools today, where it is assumed

⁸ Rosenstock, L. (1991). *The Walls Come Down: The Overdue Reunification of Vocational and Academic Education*. Phi Delta Kappan, 72,6: 434-436.

that schools that offer the most options in courses and shops are best (even if these offerings are shallow and serve to track students). It was our goal to move towards a more participatory model where teachers work together toward the collective interest of the students and the school; where students are engaged, active participants in their learning and in their community; and where parents and community members have real roles in the school's programs. We saw a new mission, to use vocational methods -- experiential and contextual learning, team teaching, cooperative learning, and performance assessment -- so that vocational students can learn the same basic and advanced academic skills and critical thinking skills that all students must learn for further education or for work.

In 1990, more through instinct than anything else, we began a participatory planning process to develop a new ninth grade program. What we didn't realize is that the process of creating CityWorks would be as important in developing a democratic culture as the program itself -- because of its impact on teachers.

In embarking on program redesign, we set ourselves three ground rules: The first was to keep everyone in the department informed of all that we were doing. The second was that nobody would have to participate who did not want to. And the third was that those who did not want to participate would not be allowed to interfere with the efforts of those who did. When the first call went out for people to join a design team, six people volunteered.

Letting the Teachers Lead

By the Fall of 1991, the team had come up with an overall conceptual framework for CityWorks, fiddled with the schedule to create unprecedented daily meeting time for teachers, and had begun to design and renovate a space that would house the new program. We began the school year with enough classroom activities to last only about one month. The rest would have to come from the CityTeam meetings in which everyone teaching the course would participate. Although it was a bit terrifying not to have all of CityWorks plotted out, we also knew it would be a mistake to hand teachers a finished curriculum.

Teachers, like students, are not empty vessels into which the current wisdom can be poured. For years vocational teachers at Rindge had spent virtually all of their time at school teaching occupationally specific, narrow technical skills. Most believed that this is what it meant to be a vocational teacher. State mandated curricula reinforced this notion. Vocational teachers received manuals for their shop areas listing duties and tasks that were to fill the students' days.

If we wanted our school to be a place where all kids could be active participants in a democratic culture, we would have to structure a program where all teachers could be too. This meant encouraging teachers to unearth the reasons behind their current practice, and to reconsider that practice in the light of changing economic and social realities. In other words, it was important to respect and make room for them as thinkers as well as doers.

We suspected that Rindge teachers were experiencing a kind of cognitive dissonance. Certainly the curriculum they were teaching at school

left out much of what they knew to be important in their own work and lives outside of school. This was brought home to us early on in our reform efforts in a conversation with a teacher who had taught carpentry at Rindge for many years. Like many vocational teachers, he was an independent contractor outside of school. He explained that he would very much like to turn his business over to his sons, both of whom were skilled carpenters. The problem was that neither seemed to be good at most of the other tasks associated with running a successful contracting business--e.g. making good estimates, writing contracts, managing cash flow, dealing with clients and subcontractors, and getting variances from the local zoning board. These are all skills that are rarely taught in vocational schools.

This teacher held within his own experiences the seeds of a new approach to practice. The students in his classes should not be limited to banging nails, but should learn the range of skills that he knew as a parent, citizen, and small contractor were needed by his own sons⁹. The challenge for us has been to create a professional culture which encourages teachers to share their experiences and reflect on their practice. Several strategies have been particularly critical to that effort.

Common Planning Time. The most basic thing that we have done is to give teachers both informal and formal opportunities to work together. Their close physical proximity in the CityWorks room opens up the possibility of joint projects. Daily required CityTeam meetings ensure that such possibilities will be discussed.

⁹ "What the best and wisest parent wants for his own child, that must the community want for all of its children." Dewey, J. (1900). *The School and Society*. Chicago: University of Chicago Press, 7.

To create a meeting time in the daily schedule necessitated closing the shops for a period, not a popular move either with our own teachers or counselors from other parts of the high school who signed students up for shops as personal-interest electives. But it is critical to what we are trying to accomplish. The meetings are a time to reflect on what is happening in CityWorks, to review, revise and propose curriculum activities, and more generally, to get to know one another and explore the possibilities for collaboration.

Including "Outsiders". From the beginning, the vocational teachers who staffed CityWorks have been joined by a variety of people from very different backgrounds who bring other perspectives and experiences to the task. The "others" have included several academic teachers, a loaned employee from the Polaroid Corporation, bilingual technical assistants, and, as needed, consultants to assist staff--first in their work on curriculum, later on group dynamics and issues of organizational development. Teachers and students must gain experience in and understanding of the new relationships required of them by the world outside of school.

This mixture creates a forum for reexamining assumptions and for moving beyond the specific skills involved in particular trades or subjects to what it is important for all students to know and be able to do by the time they leave the program. At one critical junction, for example, when vocational teachers were resisting collaborative projects in the name of craft specialization, the Polaroid employee talked about the multi-craft perspective at his company and at other high performance workplaces.

Creating Genuine Interdependence. Curricular integration, an end in itself, produces important changes in teacher relationships as well. Once isolated in their own shops, and sometimes competing among themselves for students, teachers now plan curriculum and multidisciplinary projects together. As a result, they are more invested in the whole performance of each student, as well as the performance of the whole school.

The daily teacher meetings are productive because they have to be. Everyone knows that they are about to go in and teach CityWorks the next day (or the next hour). In a very real sense, they sink or swim together. If the program works, it will eventually increase enrollments and attract a broader clientele of students. If it does not, Rindge will suffer the kinds of staff cutbacks of other vocational programs. The competitive ethic of the old exploratory does not die easily, but it really is counter-productive in the new structure. It makes much more sense to collaborate, to nurture and support new ideas, and to look to one another for project ideas and strategies. This shared reflection has contributed to a new level of collegiality at Rindge: there is a higher frequency of teachers talking about teaching, planning and making instructional materials together, observing one another, and willing to ask for and provide one another with assistance.

Changing Expectations

Changes are evident in both the formal team meetings and informal times that staff spend with one another. During the first few months of CityWorks team meetings, teachers would almost never comment on a teaching or learning issue without prefacing it with a disclaimer: "I would never say

what's right for anyone else," or "this is just the way I do things" or "I know that everyone has their own way of doing things and that's fine."

The frequency of such statements provided clues to an underlying group norm that can best be characterized as "noninterference." "I won't look too closely at what you're up to or tell you what to do; and you won't scrutinize me." ¹⁰ The isolation of traditional schools and the conditions of teaching make teachers view their work with the sometimes fierce independence of artisans ¹¹. For vocational teachers, this perspective is reinforced by their highly specialized work within the school (and outside) as trade artisans.

In the past, Rindge teachers defended the separateness of their shops in terms of the differences among their trades, each with its own specific skill requirements. Shop autonomy seemed a natural, and even necessary, condition of vocational education. The most obvious negative side-effect was the competition for students. But perhaps an even more serious problem was that teachers had no reason to identify nor any real way to address the broader educational needs of their students. They focused on finding ways to interest students in specific technical areas, but did not feel responsible for ensuring that all students become better problem-solvers or communicators, or gain a good solid basis of reading, writing, and quantitative and scientific reasoning skills.

It is impossible to pinpoint a moment when the focus changed, but, after two years of team meetings, a sense of broader responsibility is now evident

¹⁰ Little, J.W.

¹¹ Huberman, M. (1989). "The Social Contract of Instruction in Schools." *Teachers College Record*, 91,1: 32-58.

within the group. It can be seen in an increased sharing of information and in a willingness to identify competencies that students need regardless of their schooling or career choices. Staff members routinely team up for multi-craft projects, and, sometimes even design classroom projects that do not involve their trade speciality at all.

In the early planning stages for CityWorks there was a tendency to swing from cynical skepticism (this will never work) to unrealistic enthusiasm (we're almost done). Now teachers approach the task of restructuring with a kind of rolling up of the collective sleeve. There is a noticeably greater tolerance for ambiguity. People are more willing to bring issues to the team for group problem-solving and have found ways to deal constructively with disagreements.

Teachers are evolving a shared language for talking about how they work together and for getting through the inevitable crises. Perhaps more importantly, we now have a picture of what we could and should become: a high performance workplace where staff members are highly interdependent yet each is an active participant, focusing energy on the tasks at hand.

The amount of time devoted to meetings, and the intensity of the staff work has, at times, created a worry that we might become too adult-focused. A school committee member once railed, "I'm sick and tired of hearing about how happy the teachers are at Rindge -- what about the kids?" Fortunately, this is not what students seem to feel. When freshmen are asked what is most noticeable or important to them about Rindge, most students begin with the simple statement: "The teachers here really care about you."

Of course, the teachers cared about students before too, but the scope of what they care about has broadened considerably and hence is more evident to the students. In the old way of doing business, teachers had little patience with students who were not ready to make a choice about what they wanted to be and were not motivated to learn all of the skills of that particular trade. They felt their identities as skilled craftspeople slipping away, to be replaced by a much less desirable identity as "caretakers of marginal students." ¹²

CityWorks and the other integrated programs give teachers a new identity. Even if students do not express interest in particular trades, teachers no longer feel like mere caretakers. They know that they can help students develop competencies, interests and attitudes that will serve them well in future schooling or work. This feeling of self-efficacy on the part of their teachers is evident to students. Several freshmen recently surprised a visiting reporter by telling her that what makes Rindge teachers different is that they like what they are doing.

Not surprisingly, students respond by becoming more engaged with school; their "creative juices" get going and teachers get to see them at their best. The caring and mutual respect go beyond the classroom walls. For example, during the summer a group of students who had just completed their CityWorks year responded to the invitation from one of their teachers to come up with ways to smooth the entry of incoming freshmen. Using the

¹² Little, J.W. (1992). "Work on the Margins: The Experience of Vocational Teachers in Comprehensive High Schools." Berkeley: National Center for Research in Vocational Education.

acronym R.S.T.A. (the abbreviation for the Rindge School of Technical Arts), they named themselves "Responsible Students Take Action."

When Paulina and her cohort entered Rindge, they received a new student handbook, covering all of the things the older students wished someone had told them, and they found immediate support, in the form of R.S.T.A. student mentors who had set up a table in the hall to help freshmen with everything from coping with sticky locks on lockers to dealing with hazing.

Impressed by such efforts, staff members have become willing to carve out even more unusual forums for student participation and input. Rindge is probably the only vocational school in America to have its own Innovations Board, with equal membership (and votes) of students and staff. The Board was created in late 1991, soon after CityWorks received an Innovations Award from the Ford Foundation. One of ten innovations in state and local government selected nationally from over 1,700 applicants, CityWorks was given \$100,000 to "broaden and deepen" the work.

The staff agreed to set aside one-third of this award to be given out over three years in small grants to other innovations in the Cambridge Schools that would further the CityWorks mission. The process would be overseen by a board with equal representation of students and staff, and several slots reserved for community representatives.

At its first few meetings, the board hammered out a mission statement and a set of priorities. Student members were outspoken in these discussions,

insisting, for example, that all proposals be submitted by at least one teacher and one student, and that proposals specify the ways in which students would be involved in carrying out the program.

By the spring, board members were reading and evaluating nearly two dozen proposals from all over the school district. After selecting and interviewing the finalists, the board selected nine winners, with proposals ranging from a new student-run radio program to a special summer school for bilingual students. Questioned by teachers and classmates as to why they did not use more of the money internally for Rindge projects and programs, several students spoke passionately of the need to end the isolation of the vocational program. They want the Innovations Fund to encourage teachers and students throughout the school district to try new ways to join hands and minds. Their hope echoes the note sounded by Paulina at the end of her statement to the school: "We give respect, so we expect respect. Success demands it!"

Bringing Change Out in the Open

There is a tendency in school reform efforts to build up a protective wall around what you are doing. If you don't, you might get accused by parents or worse, by school board members, of "experimenting with our children." Although it is possible to hide for a while, in the long run the only real protection is in convincing key stakeholders of the value and perhaps the inevitability of what you are doing.

The changes at RSTA have never been a secret. Staff members and students have made presentations at parents nights, spoken at each of the

junior high schools, and hosted hundreds of people at the exhibitions of student work. The interest in CityWorks expressed by the larger community has given an added impetus to the staff both to make the new program work well and to be able to describe it well to others.

The "public-ness" of what we are doing has caused some political problems locally. Speaking for a small but vocal constituency of parents, one school board member accused Rindge of mis-directing working class students by offering them liberal arts rather than the manual training that they need. This attack was made through letters to the editor of the local paper, obstructionism of even mundane Rindge matters before the school committee, and the encouragement of students to leave the district under a state school choice plan to attend a suburban vocational school. There were requests for state audits in three consecutive years - one even included an attempt to get the state to decertify our program.

Thus far, such attacks have tied up time and energy, but they have also solidified the staff, students, and parents behind the new program. Fortunately, we also receive very positive feedback about what we are doing, both from within the district and around the country. As awareness of the Perkins Act has grown, so have requests to visit our program or to send our teachers out as workshop leaders and presenters. In fact, the requests became so great that we set up our own formal mechanism for handling them: the Hands and Minds Collaborative ¹³ is a joint effort of Rindge and the Center for Law and Education.

¹³The Hands and Minds Collaborative is funded by the Dewitt Wallace-Readers Digest Foundation and the Mott Foundation.

Contact with other teachers and other school systems has brought major benefits to our staff. The attitudes, questions and comments of teachers from other districts become a yardstick against which Rindge teachers can measure the distance they have come, and can reduce the "general physical, social, and educational separation that divorces vocational teachers"¹⁴ from other practitioners.

In June of 1993, a dozen Rindge teachers served as workshop leaders at a national conference cosponsored by the Center for Law and Education, the Massachusetts Institute of Technology, and the Hands and Minds Collaborative. It was the job of the workshop leaders to assist the nearly two hundred participants in developing projects that would help them implement the Perkins Act in their own schools. At the last session, after listening to a number of teachers express concerns about the loss of time for trade specific training, Tom Lividoti, the electrical teacher at Rindge, spoke up: "I used to sound just like that. I was the loudest one complaining about fewer hours in the electrical shop. But what we're doing now brings out creative juices I didn't know kids had; I see developments on the academic end that I never dreamed were possible. I may not be able to turn out second-year apprentice electricians, but I know we are turning out better all-around students."

Academic teachers working with the CityWorks program have also found that they have important messages to share with their colleagues. In the Spring of 1993, Alif Muhammad, the CitySystems teacher, convened a

¹⁴ Little, J.W., 6.

workshop series for Cambridge teachers called: "Put the action back into math and science." Rob Riordan, a member of the Rindge Humanities team, addressed humanities teachers and scholars recently at a national meeting sponsored by the American Council of Learned Societies: "I started the year thinking it was my mission to bring humanities into vocational education. Now I believe we must bring vocational methodologies into the humanities."

Dilemmas and Challenges Remain

When we began to recreate ourselves, we knew that we wanted the school to be democratic in all of its many layers. The relations between administration and staff would be as egalitarian as possible and teachers would enjoy meaningful participation in decision-making. The relations between teachers would be democratic: there would be opportunities for teachers to diversify their roles, to team teach, and to have regular common planning time. The relations between teachers and students would be democratic: the teacher would act as coach and advisor rather than as a distant lecturer.

The methodology and curriculum would be democratic: we would not track, and therefore would have the same high expectations for all students; we would focus our assessment on student-originated projects, not teacher-designed tests. The relationship between the school and the community would be democratic: it would afford opportunities for students to investigate and actively seek to meet real community needs. Finally, we would try to make our physical environment -- our work spaces -- as democratic as possible as well: we would design and build spaces that further our democratic goals - despite the typical American high school architecture,

designed on the industrial factory model, that "gets in the way" of collective work.¹⁵

But the fundamental conundrum of vocational education remains insufficiently resolved: many still want from vocational education the "no-frills" schooling that they view as suitable for lower-income students, while others of us agree with Dewey that it is a vehicle for transforming secondary education and creating schools where all students can be 'smart.'

One of the most troubling aspects of our experience at Rindge is the persistent social class bias that pervades certain community members' beliefs about who should attend vocational programs and about what they should be doing once they are there. One critic noted that the new Rindge is preparing "Renaissance people, not plumbers." It goes without saying which he preferred for his own daughters, yet he still insisted narrow skills were better for low-income students.

This bias has its roots in the contradictory origins of our school, and will not fall easily in Cambridge - or elsewhere. Even Dewey, in commenting on it, noted with an aggravated sarcasm, "Nothing in the history of education is more touching than to hear some successful leaders denounce as undemocratic the attempt to give all the children at public expense the fuller education which their own children enjoy as a matter of course."¹⁶ At its core, this is what the experiment at Rindge seeks to achieve: to counter the

¹⁵ Assembly line architecture is supported by assembly line methodologies and curricula: see Steinberg, A. (1993). *Beyond the Assembly Line*. The Harvard Education Letter. IX, 2:1.

¹⁶ Westbrook, 178.

reduction of education to job training¹⁷ (which "erects more barriers to high-quality education for low-income students¹⁸), and to broaden creative intellectual work to all students.

¹⁷ Davis, J. et al (1989). *It's Our Own Knowledge*, Toronto: Ontario Federation of Labor Conference on Education and Training. 109.

¹⁸ Rosenstock, L. (1992). "Easing Students' Pressure to Predict the Future," *New York Times Letters to the Editor*: December 10, 1992.