DOCUMENT RESUME

ED 466 946 CE 083 553

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TITLE Implementing the "Education Consensus": The Federal Role in Supporting Vocational-Technical Education.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE 2002-03-00
NOTE 24p.; Paper commissioned for "Preparing America's Future: The High School Symposium" (Washington, DC, April 4, 2002).
CONTRACT ED-99-CO-0160
AVAILABLE FROM For full text: http://www.ed.gov/offices/OVAE/HS/jacobs.doc.
PUB TYPE Opinion Papers (120)
EDRS PRICE EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS Community Colleges; Economic Change; *Education Work Relationship; Educational Change; *Educational History; Educational Legislation; *Educational Policy; Federal Regulation; *Federal State Relationship; *Government Role; High Schools; Labor Force Development; Lifelong Learning; Policy Formation; Postsecondary Education; *Vocational Education

ABSTRACT

This paper continues a long-standing process, expressed in current practices of reauthorizing federal legislation every 5 years, of examining the rationale for federal involvement in occupational (vocational) education. Past discussions of this issue have come to a broad set of conclusions that the federal government should fund what states cannot fund on their own, including efforts to improve the quality of occupational education, to enhance equity, and to conduct the kind of research and demonstration projects that are more efficiently carried out at the federal level. Section I of the paper outlines the historical role of the federal government in occupational education and details two important changes in the continuing arguments--the Education Consensus around the need for a better-prepared labor force and the Institutional Transformation of high school and postsecondary occupational education since the early part of the 20th Century. Section II outlines why certain changes implied by the Education Consensus are unlikely to be undertaken by states and why there remains a justification for a federal role in implementing this consensus. Section III presents an explicit argument for the need and role constraints for federal policy in occupational education, especially given limited funding and the current government attitude not to intrude on the prerogatives of the states. (Contains 21 references.) (KC)

Implementing the "Education Consensus":

The Federal Role in Supporting

Vocational – Technical Education

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March 2002

This paper was prepared for the Office of Vocational and Adult Education, U.S. Department of Education pursuant to contract no. ED-99-CO-0160. The findings and opinions expressed in this paper do not necessarily reflect the position or policies of the U.S. Department of Education.

Implementing the "Education Consensus": The Federal Role in Supporting Vocational – Technical Education

James Jacobs and W. Norton Grubb

Introduction

Until the Smith-Hughes Act of 1917, the first legislation specifically funding vocational education, [1] the federal government had not supported kindergarten through grade 12 (K-12) education at all. Inevitably, its enactment raised controversial issues of what aspects of education states should support—since education was and remains a state responsibility—and when the federal government might intervene. But there was a sufficiently strong consensus around the need for more vocational preparation to overcome opposition to federal funding, at least for limited purposes, and a broad coalition of business representatives, educators, social reformers, and labor unions united in support.

Since then, of course, times have changed, and so it has been necessary to revisit the original rationale for federal funding, to update its purposes, and to modify the kinds of programs on which federal funds may be spent. This happened in 1931 with the establishment of the National Advisory Committee on Education, leading to the passage of the George-Ellzey Act in 1934 and the George-Deen Act in 1936, both of which increased federal funding for vocational education. In 1936, President Roosevelt convened the first Advisory Committee on Vocational Education, which was charged with the first external evaluation of federal efforts. Recommendations from this committee were finally implemented in the 1946 George-Barden Act. A significant piece of new legislation, the Vocational Education Act of 1963, increased appropriations again and allowed states flexibility in the development of programs. Amendments to the legislation were made in 1968 and 1972; in 1984 it was renamed after Carl Perkins, and reauthorized in 1990 and again in 1997.

The current practice of reauthorizing federal legislation every five years, with an associated national study (the series of National Assessments of Vocational Education), demonstrates that the questioning of the federal role has become a virtually continuous activity. On the one hand, this pattern of constant reexamination has made occupational education somewhat unstable as it has been subjected to periodic federal changes and as new purposes—the support of New Deal programs in the 1930s, the emergence of equity rationales in the 1960s, workforce development efforts towards training or retraining incumbent workers—have complicated and sometimes confused the original purposes of the Smith-Hughes Act (Rosenfeld, 1993; Hoachlander, 1986). On the other hand, the continued scrutiny of the federal role has made it possible for adjustments to keep up with changing conditions and priorities.

In this paper, we continue the process of examining the rationale for federal involvement in occupational education. Past discussions of this issue have come to a

[1] There are problems of terminology, which we avoid. The original term for work-related education was vocational education, but, because this term has often been associated with low-quality programs, various synonyms have developed including vocational-technical education, career-technical education, occupational education (widely used in community colleges), and other hybrids. We use all these terms interchangeably, and we also note that professional education is the precise equivalent of vocational education, with all the same issues and controversies, at the baccalaureate level and above.

broad set of conclusions:[2] that the federal government should fund what states cannot fund on their own, including efforts to improve the quality of occupational education, to enhance equity, and to conduct the kind of research and demonstration projects that are more efficiently carried out at the federal level. Our conclusions will be roughly consistent with this persistent argument, but we will focus in particular on two important changes that justify a federal role and that ought to shape subsequent legislation:

The emergence of what we call, for lack of a better term, the Education Consensus on the need for a better-prepared labor force for a knowledge-based society. Education has become not only an initial activity accomplished before entering the labor market, but a continuous, lifelong process. The Education Consensus recognizes not only the need for more education, but education of a different kind, incorporating competencies that were not relevant in 1917. And increasingly, economic rewards are shifted to those who earn degrees or other forms of credentials that demonstrate educational achievement.

The continued escalation of average levels of schooling, with the consequence that high school vocational education should play a different role than it did in 1917, and that institutions that didn't exist then—community colleges and other postsecondary institutions—play the dominant role in occupational preparation. We will label this, for ease of reference, the Institutional Transformation of vocational education.

In Section I, we outline briefly the historical role of the federal government in occupational preparation, extracting from this history some continuing arguments and then presenting in greater detail these two important changes, the Education Consensus and the Institutional Transformation. In Section II we outline why certain changes implied by the Education Consensus are unlikely to be undertaken by states, and why there remains a justification for a federal role in implementing this Consensus. In Section III we become increasingly explicit about what federal policy might do in the realm of occupational education, especially given limited funding and the desire not to intrude on the prerogatives of the states.

Back to Our Roots: Continuity and Change in Federal Support

At the turn of the last century, around 1900, there was widespread fear that the previous methods of preparing a labor force—apprenticeship-based methods, some controlled by unions and some provided by employers in corporate schools and "vestibule training" on the job—had become inadequate.[3] Improvements in technology—the development of electrically-driven equipment, the expanded use of complex machinery, new production processes in many different sectors—and shifts in business

[2] Indeed, one of us has written such a paper for the National Assessment of Vocational Education of the late 1980s; see Grubb and Stern (1989).

[3] For this history we draw on our own work (Lazerson and Grubb, 1974) and Grubb and Lazerson (in progress) as well as on Kleibard's (1999) book-length examination of the history of vocational education.

organization—especially the expansion of corporations with their great needs for accountants, clerks, and various management positions—were changing the nature of occupations and skills required and, it was widely feared, leading to shortages in certain critical occupations. Public officials and business leaders concerned with economic growth and international competition pointed to the success of Germany and its system of vocational education and argued that continued success in international competition required emulating the German system. The social dislocations of the period—huge increases in immigration, the general movement into cities, increases in women working, increases in poverty, increases in youth unemployment—alarmed many social reformers and settlement house workers, who in turn called on the schools to play a role in keeping youth off the streets and teaching them to be more productive and better-paid workers. Educators bemoaned the high dropout rate from high schools, especially since it led to the "wasted years" syndrome between the age of compulsory attendance at 14 and the age of high school graduation at 16 or 17, when employers were more likely to hire youth. Agreeing with the necessity of keeping youth in school longer, they searched for forms of schools that would be more motivating and more likely to lead to permanent employment. Somewhat reluctantly, unions joined the movement, wanting to have some leverage over the kind of vocational education provided in schools and hoping that higher levels of schooling might elevate the status (and earnings) of middle-level workers. So the coalition for vocational education contained many different proponents, each with slightly different reasons for supporting this innovation but joined in their view that high schools should change.

But high schools, as they emerged from the nineteenth century, were still predominantly academic institutions, with a curriculum resembling the current college prep curriculum. As colleges and universities developed their own professional programs, the academic track became even more attractive as a route to the baccalaureate degree and the professions. The only concession to vocational goals in high schools was the introduction of classes in business, partly in response to competition from private business and secretarial schools. Federal support was necessary if the multiple goals of the movement for vocational education were to be met, in order to make the transformations in high schools that states and localities were unable to undertake on their own. And so industrial education for production-related occupations, trade education for the emerging wholesale and retail sectors, and home economics to support the application of "science" in the home[4]—but not business education, already incorporated into high schools—were included in legislation for federal funding. The original legislation also envisioned substantial support for continuation schools, where individuals who had entered their initial employment would continue to receive academic instruction. Although these schools did not flourish, the principle of continuing to learn while employed was embedded in the original legislation.

[4] We'll note in passing that home economics to support women in the home was expanded just as women were moving in larger numbers into the labor force, an anachronism that has continued to bedevil home economics.

The Smith-Hughes legislation therefore provided federal support to introduce innovations into high schools that might otherwise persist in being wholly academic institutions, all in the name of preparing the labor force to generate individual benefits, high rates of economic growth, a stronger role in international competition, and solutions to various social problems. There were, to be sure, many things either wrong or incomplete or exaggerated about this early version of an Education Consensus: it often led to overly_narrow vocational programs, providing preparation for poorly_paid entry-level jobs; it created fragmentation in high schools that often operated to the detriment of poor, working-class, and agrarian youth; the schools by themselves could not do much to improve international competitiveness or economic growth, even if expanded education was a good idea for many other reasons; and the introduction of vocational education probably had less to do with keeping students in high schools than did the high school diploma as a prerequisite for entry into professional programs at the college level. But the notion of educational innovations, in the interests of both public and private goals, supported in part by the federal government, was firmly established.

If we fast-forward from 1900 to 2000, we can see that many of the conditions of a century ago are remarkably similar to those prevailing now. Immigration has increased, presenting new challenges in integrating recent immigrants into society and the economy; inequality has increased from the early 1970s to the mid-1990s; the problems of youth unemployment and "wasted years" have persisted. In particular, a new version of an Education Consensus has developed, extending the earlier consensus forged after 1900. The current version is different in its details than the earlier one, because economic conditions have changed; but it remains similar in its emphasis on changing education. It goes something like this: the Knowledge Revolution (or the Information Society) is changing the nature of work, increasing the skills required for the 21st century in virtually all areas of employment. In response, it is necessary for prospective employees to have both higher *levels* of education—in most cases education beyond high school (the notion of College for All, which has replaced the earlier ideal of High School for All[5])—as well as different *forms* of education, with a new focus on such higher-order competencies as problem-solving abilities, communication, and critical thinking skills. Individuals are more likely to find their skills becoming obsolete and to lose their positions as firms change their technologies and products; therefore, lifelong learning is necessary to keep up with these changes. In addition, the growth of contingent labor—of employers hiring temporary rather than permanent workers—has exacerbated job instability and made lifelong learning even more necessary. International competition has increased, and, because no developed country wants to fall into the ranks of undeveloped countries relying on raw materials and unskilled labor, the need for greater levels of education and training over the lifespan is even more compelling.

[5] On "College for All," or the view that all students now need at least some college, see Rosenbaum (2002) and Boesel and Fredland (1999).

This view creates a new importance for continuing education, not just initial education; it posits public as well as private benefits; and it stresses broadly vocational purposes to the near-exclusion of other goals. This view is now so widely supported by a variety of evidence and anecdotes, and so widely accepted among policymakers and employers as well as educators and researchers, that we can speak of it as a new Education Consensus. Since it is by now so familiar, it also constitutes a kind of simple story or narrative than can be used to justify legislation.[6]

If we take the Education Consensus as true,[7] then a number of implications follow for federal (as well as state and local) policy. In terms of *levels* of education, policy should first promote high school graduation, since the economic penalty for dropping out of high schools has gotten larger and larger; and since access to college of some sort is increasingly important, high school completion is a near-requirement.[8] In addition, policy should enable students to access postsecondary education, though not necessarily at the baccalaureate level. It is important to stress completion rather than merely access, because attainment of a degree is usually necessary to realize the economic benefits of spending additional time in postsecondary education (Grubb, 1999).

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[6] Policy in many countries is driven by narratives or widely accepted "stories" about why certain programs are worthwhile. The creation of such narratives typically takes a considerable period of time and many different participants; once widely accepted, policy narratives are resistant to change, and empirical evidence—the kinds of results that research can generate—is not usually enough to modify or complicate a policy narrative. See, for example, Roe (1994).

[7] While there is a great deal of truth to the Education Consensus, there are also serious flaws in this view of the world—as there were in the earlier consensus generated around 1900. One is that the extent and speed of transformations at work are often exaggerated: many jobs remain unskilled, many jobs are untouched by new technologies or new forms of work organizations, and the pace of change has been slow enough that the normal workings of education and training markets are probably adequate to keep pace with changes. A second problem is that, in some places, the issue is less one of insufficient numbers of skilled workers than one of inadequate numbers of challenging jobs, resulting in the underemployment of relatively skilled workers and overeducation rather than undereducation. A third issue is that the Education Consensus is often too simple: many renditions of this narrative stress the computer "revolution" and changes in technology, but they fail to confront changes in work organization including contingent work. Fourth, the education gospel often assumes that employers know what kinds of skills they need and speak with one voice. Instead employers are often quite unsure of their needs, are unable to project their demands very far into the future, and vary substantially in what they need; for example, small and medium-sized employers often demand workers with job-ready, specific skills while large employers want employees more broadly prepared for the long run. These problems mean that the empirical underpinnings for the Education Consensus are sometimes incorrect and that the resulting policy may be wrong. Finally, and perhaps most seriously, the Education Consensus assumes that increases in education and changes in education policy can cure all ills, social and individual. This is clearly not so, and in many cases the realization of educational reforms requires changes in non-educational policies. However, the deficiencies of the Education Consensus are a subject beyond the scope of this paper, though they will be examined more carefully in Grubb and Lazerson (in progress).

[8] While the availability of second-chance programs in community colleges is certainly important, and allows high school dropouts and others who have learned very little in high school to continue their education, this is not a route to be encouraged because the probability of completing extensive remedial coursework and then progress to postsecondary credentials is not high.

In terms of the *kinds* of education that should be supported, it follows from the Education Consensus that broader and higher-order competencies are necessary for skilled work in flexible production, to facilitate retraining as technologies change and required competencies shift, and to enable individuals to move among jobs if necessary. The kinds of narrow job-specific skills associated with traditional high school vocational education are now inappropriate. In addition, if higher-order competencies are necessary, then other problems in the current educational system need to be directly addressed, including the very low levels of standard academic competencies that many high school graduates (and certainly high school dropouts) have, the subsequent need for remedial education, and the tendency to teach in ways that encourage only rote learning rather than a deeper understanding of both academic disciplines and occupational methods and procedures. Finally, if lifelong learning is as important as the Education Consensus suggests, then policy should support access to educational institutions throughout the lifespan, not simply at the conventional ages of 6 to 22 or so. This means that assessment, counseling, remediation, and a number of support functions become far more significant than they were when vocational education served a relatively homogenous group of secondary students.

It is equally important to acknowledge the escalation of education levels, especially since the Education Consensus is partly (though only partly) correct about levels of schooling. As we have moved from the ideal of universal high school, articulated around 1900, to an emerging consensus about (some) College for All, the role of the high school has changed and new institutions—particularly community colleges—have become more important. Vocational course-taking in the high schools has remained steady and has not grown; almost all high school students still take at least one vocational course. Yet the percentage of "concentrators"(students taking three or more courses in a single occupational area) has declined dramatically (Levesque et al., 2000). This is partly due to the pressure from increasing graduation requirements stressing academic coursework; partly because high schools have found it increasingly difficult to maintain coherent programs and maintain up-to-date equipment; partly because parents (and students) want access to college and see vocational education as a "dumping ground" with potentially discriminatory effects for women, minorities, and lower-income students; and partly because the evidence suggests that the vocational track in most high schools does not generally lead to higher earnings or improved employment. The Education Consensus implies that high schools should be places where students master a set of basic (or general, or foundation) competencies necessary for all of adult life, rather than specializing in specific preparation for employment; this idea has been embedded in state high school exit examinations that focus on basic academic subjects, and now in the exams required in the No Child Left Behind legislation.

Conversely, occupational education programs in community colleges and related institutions[9] are where preparation for the workplace is now taking place. These programs have expanded since the 1960s and have become increasingly differentiated as the variety of occupations in the economy has expanded, and as, increasingly, occupational preparation becomes formalized in colleges rather than being developed on the job. In 1996, about one-half of sub-baccalaureate students majored in a vocational program area (Levesque et al., 2000).

Furthermore, and consistent with the emphasis on the economic shifts embedded in the Education Consensus, the nature of occupational education in community colleges has changed. The dominant fields of study have shifted away from the traditional occupations that have dominated high school vocational education to newer occupations that are part of the modern economy: 29 percent of enrollments are in business, 22 percent in health occupations, 12 percent in engineering and science technologies, 5 percent in computers and data processing. The "old" vocational areas —agriculture, home economics, marketing, trade, and industry—together comprise only 12 percent of all enrollments (Levesque et al., 2000, Section VI). The dominant areas are occupations that make greater use of academic competencies, rather than manual abilities alone; they provide access to professional and semi-professional occupations, rather than blue-collar jobs; they tend to pay more than occupational preparation in older fields and enjoy more employment stability; and they are fields also represented at the baccalaureate and graduate school level, facilitating transfer from community colleges to four-year college. As a result, the transfer rates from community colleges to four-year colleges are higher from some occupational areas than from academic areas (Palmer, 1986-7); these "modern" postsecondary occupational programs can lead either to well-paid employment, or further education, or both.

Because of the Institutional Transformation in occupational education, any federal policy should emphasize different goals at the secondary and at the postsecondary levels. At the secondary level, the emphasis should be on completing high school, not simply with standard academic skills (something that the No Child Left Behind legislation tries to accomplish through periodic exams) but also with the higher-order competencies that are prerequisites both for further education and for employment in the jobs of the modern economy. The emphasis of occupational education in high school should *not* be on obtaining the job-specific, entry-level skills of traditional vocational education. We will have more specific recommendations in Section

[9] These other postsecondary institutions include technical colleges or institutes, which are much like community colleges but tend to offer only occupational degrees; area vocational schools, which have moved into postsecondary education; and private trade schools. However, we pay less attention to these kinds of institutions because technical colleges are being transformed into comprehensive community colleges in most states; area vocational schools and centers usually offer short, job-specific vocational education of the sort that is obsolete and ineffective; and private trade schools are not eligible for Perkins funding (though they receive large amounts of federal grants and loans).

III for supporting the innovative high school programs variously described as the "new" vocational education, or "education through occupations," or "college and careers."

At the postsecondary level, however, implementing the Education Consensus implies quite different approaches, again detailed in Section III, to ensure that postsecondary occupational education follows the precepts of this consensus. Thus a different set of recommendations follow, particularly those that enable comprehensive institutions to improve the quality of their occupational offerings.

But first it is necessary to examine why there should be a federal role in occupational education—why, if the Education Consensus in this country is so powerful, there is not enough support from state governments and local institutions to make these changes on their own. The federal government proves to have some distinct advantages over states and localities, particularly in the areas of program improvement and equity, that not only justify federal intervention but also make a federal role crucial to implementing the Education Consensus.

What the Federal Government Can Do

There are several ways to justify federal support, even for a public good like education that has been the responsibility of states. One is simply a pragmatic and political approach: if some outcome is important to enough organized groups in our country, then they can persuade Congress and the president to enact legislation supporting that outcome. This is close to the political process that led to the Smith-Hughes Act, when the support from different political constituencies finally became strong enough to overcome opposition, without much hand_wringing about what precisely justified the federal role. However, quite apart from the fact that such a pragmatic approach cannot convince skeptics, it cannot detail which specific practices should be supported. Over the long run, a purely pragmatic coalition of supporters often leads to different groups stressing different practices and, therefore, to diffuse use of federal funds with no particular effect. Moreover, legislation produces a cluster of public and private individuals and groups who directly benefit and who become a constituency, which promotes the continuation of the legislation, often at the expense of any examination of public needs. Many of the federal commissions who examined vocational education have pointed out the significance of the state and local vocational educators in producing local political support for their activities, despite little enthusiasm from parents, the private sector, or other educators.

A more principled approach has a chance of being more targeted, more effective, and more influential over the long run. The principled approaches that have dominated in federal legislation for vocational education have included program improvement and equity. But why don't states and localities support these goals adequately? The answers provide some guidance about which kinds of spending might be justified and which

might not. In particular, the following seem to be reasons for state (and local) failure in these areas:

- States—at least most states—suffer from diseconomies of small size. They are less able to engage in innovations requiring some initial experimentation in a variety of settings to see where they work and where they don't; they are less able to evaluate these innovations. Thus states have an incentive to wait until other states develop promising practices. And so there's been a justification for the federal government to engage in demonstration and pilot projects to develop effective practices because of the economies of scale that the federal government enjoys, and because of the economies of breadth—the federal government is in a better position to see the successes and failures in *all* states, not just in local programs. This justification implies that federal activity should be confined to supporting examples of innovative practice, evaluating their effects, and promulgating their effects (both positive and negative).

- States (and localities) are, directly or indirectly, the creators of educational institutions—in this case, high schools and community colleges—and may not be politically able to see the need for reform. This is, of course, a problem that all funding institutions have: foundations are usually unwilling to hear bad news about their grants; presidents (and governors, and mayors) don't want to hear that their favorite projects have failed; legislators are usually more engrossed in getting new legislation passed (and taking credit for it) than in evaluating the results carefully and potentially taking the blame for mediocre results; and local educators may be reluctant to admit that the program they have just implemented is ineffective. In some instances, change means the loss of jobs, money, and prestige, or unfavorably affects constituents and supporters—leading to the status quo as the most acceptable option. Careful evaluation and complex judgments, such as understanding the conditions under which an improvement works or fails, are not especially valuable in the political process. Here is an area where the distance of the federal government from state and local conditions is a *benefit*, rather than a problem: the federal government can more readily distance itself, both politically and emotionally,[10] from the state and local politics that prevent dispassionate analyses of innovations.

- In education, states have inherited traditions of local control, both in K-12 education and in community colleges, with their commitments to serving local communities. Over time, states have increased their power relative to local K-12 districts, especially as state funding has increased relative to local funding (of course, some states are more centralized than others). Still, the creation of

[10] Assuming that it's appropriate to ascribe emotions to government, of course. But debates over innovations often become hot and heavy, and here the distance of Washington from state capitols and local boards may be useful.

coherent state policies is often undermined by traditions of local control. This is particularly the case for community colleges, where most state agencies (with some notable exceptions such as those in Florida and North Carolina) have very little power to improve the quality of local programs. Here, then, is a justification for a stronger federal role in program improvement.

- Support for the Education Consensus is often interpreted as support for only one means of success for high school students: gaining access to a four-year college. In this country, academic alternatives dominate any programs with the appearance of being vocational. Parents continue to press for their children to enter academic programs in high school since they presumably lead to college and the baccalaureate degree. Good education, particularly at the high school level, has often been reduced to one measure: how many students attend postsecondary institutions. Community college students tend to say they want to transfer to four-year colleges, since this is the high-status alternative. Yet many students do poorly in their academic tracks, fail to go on to college or to transfer to a four-year college, and fail to complete the postsecondary degrees they or their parents say they want. Therefore, while there is consensus that a variety of programs to prepare individuals for "modern" occupations is necessary, there is usually more parental and political support for the academic track.

In addition, even though the Education Consensus and its emphasis on higher-order skills implies that occupations programs should be broad rather than narrow, employers at the local level often pressure institutions for students with the specific skills that enable them to enter specific jobs immediately—"turn-key employees," as one community college leader described them—and thereby undermine the commitment to broader programs integrated with academic content. As a final example, there's been a broad consensus within occupational education that a mixture of school-based learning and work-based learning is superior to an emphasis on formal schooling alone. Yet quality work-based learning is difficult to implement and more expensive to maintain than traditional classroom instruction, although there has been some success in recruiting employer participants (Bailey, Hughes and Barr, 2000; Wieler and Bailey, 1997). Again, various dimensions of the Education Consensus are effectively undermined at the local level, providing a role for the federal government.

In this country, there has been a marked preference for comprehensive rather than specialized institutions—for comprehensive high schools rather than distinct academic and vocational high schools, for comprehensive community colleges rather than technical institutes, for comprehensive public universities rather than specialized liberal arts colleges and specialized institutes in business, agriculture, psychology, or teacher training. The dominance of comprehensive institutions is, in our view, a laudable and remarkable development: it is more equitable, since it does not create the kind of tracking mechanisms that separate institutions would; it allows students to change their interests more easily, without having to move to another institution; it means that different disciplines and fields of study are all in one institution, allowing for

the integration of academic and occupational content, for interdisciplinary and multidisciplinary education and research.

_____But the reliance on comprehensive institutions comes at a cost: these institutions tend to be dominated by academic values and norms, by administrators and faculty from the academic side, and by institutional procedures (like funding mechanisms) that have been developed for academic rather than occupational programs. As a result, occupational programs usually feel like second-class citizens. More concretely, they have difficulty getting the funding they need for capital equipment and materials (as do some sciences and computer-related courses, to be sure); there are usually no built-in provisions for internships, co-operative education, or other forms of work-based learning; the connections to employers that are important to keeping up-to-date and the placements efforts that are crucial to realizing the benefits of occupational preparation are difficult to fund in enrollment-generated institutions.[11] Again, states have been the creators of these comprehensive institutions, and it has been politically difficult for them to overcome the biases in favor of comprehensive institutions with an academic focus. This is yet another reason why some federal role may be necessary to implement the occupational programs necessary under the Education Consensus.

In fact, the dominant use of federal funds for vocational education has implicitly followed this logic. Particularly at the postsecondary level, a great deal of Perkins funding has supported equipment purchases and the updating of programs and curricula—two activities that are difficult to fund in academic institutions. As one occupational instructor noted, "Shakespeare never changes," while occupational programs need to keep up with changing technologies and procedures.

_____Allowing states to establish policies inevitably results in inequities among states, as some provide better funding for education than others, or more inspired leadership, or more coherent programs. The federal government can therefore serve a role in evening out variations among states in the ability to implement the Education Consensus. This is, of course, a form of equity that is collective (focusing on states) rather than individual.

_____Finally, the Education Consensus implies a *national* interest in certain forms of education that *states* cannot serve. Indeed, states are often in competition with one another, pursuing "beggar-thy-neighbor" policies to lure employment from other states, a practice that is unproductive from a national perspective. Instead, to the extent that

[11] There are now several independent analyses that have come to virtually the same conclusions about the difficulty of maintaining the support services that are important for occupational programs within comprehensive academic programs. See Grubb (1996), based on examining a variety of education providers in four communities; Bailey, Badway, and Gumport (2001), which includes the very best of the private trade schools; work in progress at the Community College Research Center, in which case studies of 16 varied community colleges are collecting a variety of information on recent developments; and work in progress by James Rosenbaum. See also Jacobs (2002).

education is a component of economic growth and international competitiveness,[12] the preparation of the labor force as a whole, rather than in particular states, is crucial; the need for a skilled workforce for the 21st century, as the common rhetoric goes, is a national rather than merely a state interest. While this is especially true among the new information and computer-based technologies, there is also a national interest is areas such as allied health and now airport security, where it is entirely appropriate for the federal government to play a role in stimulating a national response to the needs in these occupations (Karp, Jacobs, and Hughes, 2002). So, once again, it is impossible to rely on the incentives of individual states to implement the Education Consensus; a national effort is necessary.

Thus, on close examination, there are many reasons why states do not and cannot support forms of education—including occupational education—that are necessary for the Education Consensus to be fully developed. These reasons imply that a federal role is important—but not just any role, since these different rationales imply specific tasks for the federal government to undertake. In the final section we outline some concrete directions for federal policy in occupational education that follow from both the Education Consensus and the Institutional Transformation of occupational education.

Options for Federal Policy

At the outset, there is a major decision that, in theory if not in practice, the Congress and the federal government might make. In some areas of education and social policy—including the education of low-income children (in the Elementary and Secondary Act (ESEA) and now the No Child Left Behind Act) and Social Security and Medicare for the elderly—the federal government provides enormous sums of money, in effect supporting all or most of a certain activity. This is an approach that conceivably the federal government could take in occupational education. While the government now spends about $1 billion for vocational education, federal support for postsecondary vocational programs contributes only two percent of total spending (Grubb and Stern, 1989). One could imagine spending three or four times that amount in order to provide all programs an array of support services, more money to provide adequate support for equipment and materials, yet another large sum to equalize the differences in the extent and quality of occupational programs among states, and still more money to eliminate high school dropouts and to ensure "College for All"—particularly among low-income and minority youth. In order for the federal government to contribute 10 percent of the budget of community colleges—a substantial but still modest proportion—it would have to increase its spending by about $4 billion per year. But we don't think that such substantial funding is remotely possible, particularly not if the current recession

[12] The role of education is often badly exaggerated in both growth and economic competitiveness, but it surely plays some role. Grubb and Lazerson (in progress) examine this problem with the Education Consensus.

deepens. Instead, as in so many areas of social policy, the federal government will probably be confined to playing a role with considerably more modest sums.

This implies that the dominant federal role should be to stimulate innovation and improvement, instead of funding large amounts for relatively routine activities. This is an obvious way to leverage relatively small sums and to compensate for the inabilities of states and localities to support certain crucial activities (as we argued in Section II). It is also consistent with the recent history of federal legislation in promoting program improvement. Furthermore, if our argument about the Education Consensus is correct, then program improvement should be defined as those activities that further the innovations necessary to realize the Education Consensus *and* which states and localities are unlikely to implement on their own. In turn, we examine the specific implications for secondary schools, for postsecondary institutions including community colleges in particular, for the potential recipients of federal funds, for equity, and for the structure of grants and the activities of the Department of Education.

Secondary Occupational Education: As we argued in Section I, the Institutional Transformation of education over the twentieth century has resulted in a general consensus that specific vocational preparation should not be part of high school. The No Child Left Behind Act supports this idea in stressing the acquisition of basic academic competencies at all levels of the K-12 system, as do the many states that have developed their own assessments of academic abilities. In this sense, the goals of K-12 education have, for the moment at least,[13] been defined in terms of basic academic competencies, a rough consensus that seems to leave little room for occupational education.

But the way these competencies are achieved has never been as clearly defined. One strand of historical development stresses the conventional academic track of the nineteenth century high school—now four years of English, three years of math, three years of science, and so on, a curriculum developed by convention without any internal coherence. The alternative stresses that high schools might develop a variety of approaches to suit the different interests and motivation of different students; this is the approach, for example, of magnet and charter schools and other choice mechanisms, which intentionally allow the development of alternatives to the monolithic high school.

In this second path, there's a powerful role for new forms of vocational education, the approaches that have been variously labeled "education through occupations," "college and careers," or simply the "new" vocational education.[14] These approaches

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[13] See Cuban (1989) for the historical argument that this stage of reform is likely to be overthrown in the future.

[14] The literature on these approaches is enormous, much of it supported by the former National Center for Research in Vocational Education at the University of California (U.C.) at Berkeley, of which one author of this paper (Grubb) was a part. For a two-volume compendium of papers on various aspects of these reforms, see Grubb (1995). This approach has been taken up in many other reforms including expanding

tend to integrate academic and *broadly* occupational content; they often facilitate this integration with novel structures including the creation of schools within schools (as in career academies), the creation of majors or clusters defined by broad occupations, or the creation of entire schools (including magnet schools) with a broadly occupational theme. They also incorporate paths to postsecondary education like Tech Prep activities and usually try to incorporate forms of work-based learning as well, creating other forms of learning and bridges to employers. They are therefore a novel form of occupational education, closely connected to academic competencies and the higher-order abilities stressed in the Education Consensus, and they are closely related to other strands of the current school reform movement (see Hughes, Bailey and Mechur, 2001). Continuing to support such efforts through federal funding—as has been the case since 1990, when the Perkins Amendments stressed the integration of academic and vocational education—is a way of simultaneously reforming vocational education, creating high schools consistent with the Education Consensus, and serving the acquisition of basic academic and higher-order competencies.

A related issue, both in current state efforts and in the assessment required by the No Child Left Behind Act, is how broadly or narrowly competencies are defined. In many states, the assessments emphasize decontextualized facts and procedures, in contrast to the Education Consensus that stresses various higher-order competencies. These assessments can only have the effect of narrowing the education of students, particularly low-income students. Therefore, an important activity for federal support is the development of assessments that are more consistent with the Education Consensus and with "education through occupations," with broader conceptions of competencies, and with a greater array of higher-order abilities. The development of such alternate assessments is also consistent with the economies of scale in research and development that only the federal government can achieve.

Postsecondary Occupational Education: The Institutional Transformation of the twentieth century has led to the bulk of pre-professional occupational preparation taking place in community colleges and a few technical institutes. The purposes of these institutions are now quite different from those of secondary schools, and the markets they serve are far more diverse and specialized. It has become increasingly awkward to lump federal funding for secondary and postsecondary education into one piece of legislation and even more difficult to apply similar models of accountability to what are becoming two distinctly different institutions. The idea of separate pieces of legislation for secondary and postsecondary vocational education (or separate titles within one act) has been promoted consistently over the past 20 years or so [15] and has never been able to win politically, yet with the Institutional Transformation now makes more sense than ever before. Given the developments of the 1990s, and the increasing insistence that high schools focus on basic competencies rather than specific

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numbers of career academies, the Talent Development High School model developed at Johns Hopkins University, and a number of occupationally focused magnet schools.

[15] Again, see Grubb and Stern (1989) for one such argument.

occupational preparation, the reasons for distinct legislation have strengthened. Therefore the Department of Education and Congress should develop two distinct pieces of legislation to accommodate the different reform issues at the secondary and postsecondary levels. Within both pieces of legislation there can still be a commitment to systemic goals and a clear federal vision of one system.

This would also allow a federal division of funds between the secondary and postsecondary functions. Currently, allowing each state to determine the division of the funding creates glaring discrepancies; in some states as much as 85 percent of the funds are allocated to secondary institutions, while others divide them equally. There is strong suspicion that the differences in the funding breakdowns have more to do with the relative political power of secondary and postsecondary vocational leadership than any reflection of needs or markets within the state. If there is a serious interest in federal impact, then these divisions should be mandated through federal legislation.

If reforms at the postsecondary level are driven by the need to implement the Education Consensus described in Section I and to overcome the deficiencies of state and local policies reviewed in Section II, then a number of more specific postsecondary innovations should be supported by federal funding:

Continued efforts to integrate academic education and higher-order competencies into occupational programs. While there are many ways to achieve such integration,[16] and a great deal of progress has been made in some colleges (particularly in incorporating so-called Secretary's Commission on Achieving Necessary Skills (SCANS) skills), in general these changes require considerably greater and sustained support (both financial and moral).

Efforts to develop more effective forms of remedial or developmental education. Community colleges and other postsecondary institutions have been forced to respond to the academic limitations of many students by expanding remedial/developmental education. Unfortunately, there has been relatively less attention to the quality and effectiveness of these programs, especially for occupational students, though again there are some promising innovations (such as learning communities combining developmental courses with occupational courses). Federal support for innovation in developmental education—*not* simply for conventional learning labs, for which many colleges use their Perkins funds—would benefit all postsecondary institutions.

Efforts to support work-based learning. The arguments for some form of work-based learning as a complement to conventional college-based instruction have been made many times, but such efforts are spotty in community colleges.[17] The

[16] Again, a great deal of writing about these innovations has come from the former National Center for Research in Vocational Education at U.C. Berkeley; for one example see Grubb (1996), Chapter 5.

[17] Colleges did not benefit much from the School to Work Opportunities Act of 1994, which in any event has ended. See Hughes, Bailey, and Mechur (2001).

development of experiments and demonstration projects to support such efforts, and to examine the conditions under which they prosper, could be a federal role.

Encouragement in providing more imaginative and productive links to employers, going beyond the ceremonial annual convening of "advisory" committees. These may include participation in the development of skill standards or certification instruments, teacher preparation, curriculum development, work-based learning, and so on. Given the growing volatility of labor markets and occupational career pathways, direct involvement of the private sector is an important component of any postsecondary vocational education activities (Jacobs, 2000).

- Efforts to correct the limitations of comprehensive and academic institutions. Federal support might continue to fund equipment and materials, as it now does; career-oriented counseling, which is underfunded and unimaginative in most colleges; and placement activities, which are quite weak in most colleges. In this area, the activities of the most sophisticated private trade schools, which have the luxury of narrowly defined missions (rather than comprehensive and diffuse missions) and considerably greater resources, can provide guidelines for public community colleges and federal funding.

- Efforts to connect the community colleges and other postsecondary institutions with programs at the four-year and postgraduate level. While it is entirely correct to concentrate the federal role at the sub-baccalaureate level of educational preparation, it would be shortsighted not to appreciate that almost all of the "new vocations"—information technology, accounting, design, engineering, nursing, and business—are evolving into career pathways where a four-year degree is becoming the gateway for mobility beyond the entry level. Many community colleges already have articulation agreements with four-year colleges, so federal funding should concentrate instead on more specific curricular links.

The problem with this list of potential activities—all consistent with improving the quality of broadly conceived occupational education and with implementing the Education Consensus—is that there are too many possible activities. It would be, we think, a mistake for the federal government to spread its resources too thinly. One solution would be for the Department of Education and Office of Vocational and Adult Education (OVAE) to concentrate a number of demonstration or pilot projects in each area—e.g., five projects to improve placement services, eight models of expanding work-based learning, and so on—rather than allowing individual colleges to pick and choose among this long list, which is the current practice that dilutes the innovative potential of federal funds.

The Potential Recipients of Federal Funds: Most federal support for education, and for vocational education in particular, supports activities at the level of schools or colleges. But, as we clarified in Section II, the need for federal funding often arises because states are unable to develop the policies and innovations necessary to

realize the Education Consensus. Therefore *states* rather than local educational institutions could be the targets of some federal funding, to improve their policies in line with the recommendations in this essay.

For example, very few states have developed coherent policies for developmental education, and yet that activity has been growing and is critical to providing the basic competencies necessary for well-paid occupations. Many states have supported customized training for specific employers, but they have not thought to use customized training as a vehicle for work-based learning complementary to college-based programs. Most states have extremely awkward provisions for funding occupational facilities and materials; some analysis of existing patterns of funding, and some experimentation with alternative methods of allocating funds, might overcome one of the persistent problems of occupational education. The transition from high school to community college is still uneven and plagued with inconsistencies in preparation (including deficiencies in academic competencies); a few pilot projects to provide models (in addition to Tech Prep) of closer integration between secondary and postsecondary education might help states overcome this pervasive problem. There are many other examples, and our point is simply that the federal role could be reconceptualized to include the improvement of *state policies* in addition to improvements in *local practices*.

On the improvement agenda should be the federal development of new models for vocational education administration. One of the unanticipated consequences that emerged from the original formulation of the Smith-Hughes Act was the establishment of state agencies and a dual system for the distribution of federal funds. While this system has provided an insulated means of upward mobility for vocational educators out of the classroom and into administration, it has not only separated them from the mainstream of education, but also provided few standards and benchmarks for adequate professional behavior. One reason why traditional vocational education has been unable to develop a valued place within the new Educational Consensus has been the inability of its leaders to understand the occupational changes around them and provide programmatic leadership. If there is any future for vocational education on the state and local level, these leaders need significant retraining.

Equity: Readers will notice that we have made few recommendations directly related to equity, including the conventional practice in federal legislation of targeting certain funds for specific special populations. We see little evidence that such efforts by the federal government have had many positive effects, or have had any lasting power beyond the period of funding, or have been incorporated into routine practices. In community colleges, these programs often result in balkanized and uncoordinated services, where some students receive counseling or tutorial support from special sources disconnected from the other support services of the college, creating inefficiencies and inconsistencies and weakening the integration of such students into the mainstream of the college. While equity is clearly an important goal, we suspect this kind of targeting does little good and has the potential for some harm. Far too little

money is distributed to make a major difference, though there is enough to create yet another set of programs and further disperse the mission and focus of vocational education.

Instead, our approach is to emphasize the improvements in the institutions and programs that students in need of special services are most likely to attend. Low-income, minority, and disabled students are much more likely to attend public community colleges than four-year colleges, and community colleges (the "people's colleges") are committed to serving a broad diversity of students. Similarly, alternatives to the conventional college-prep curriculum in the high school often serve (or are targeted towards) students at greater risk of dropping out. Improved remedial/developmental courses will disproportionately benefit at-risk students; improved methods of career counseling will help the large number of undecided students ("experimenters," we often call them) who flounder without direction; work-based placements integrated with college (or high school) coursework enable low-income students to stay in school. Concentrating upon skill standards and certification examinations will benefit individuals who are in need of immediate entry-level work.

Thus the improvement of community colleges and of alternative programs in high schools automatically serves the interests of inclusion and equity and the needs of special populations. The vision behind this conception of equity is that institutional improvements available to all students, rather than targeted to a few, end up benefiting high-risk students disproportionately, and therefore are ways of achieving greater effectiveness and greater equity simultaneously. To be sure, it is important to make sure that innovations supported by federal funds are broadly inclusive—rather than, for example, creating the equivalent of gifted programs focusing only on middle-class students, or honors colleges with the same effects. But with this important caveat, we suspect that the critical goals of equity are better served through institutional improvements rather than individual targeting.

The Structure of Federal Grants and the Activities of the Federal Government: If federal policy is to provide broad support for a large number of educational institutions, as it does in the No Child Left Behind Act, then formula funding providing some resources to every institution is appropriate. If, however, the purpose of federal funding is to promote program improvement, then a stronger alternative is to provide project grants to specific institutions for support of specific purposes. This allows the federal government to specify more clearly which improvements they want to support, to be sure that institutional recipients use funds for that purpose rather than for some unintended purpose (as often happens now), and to evaluate the successes and failures of innovation. Of course, this role comes at considerable cost, since the specification of project grants, the procedures for allocating such grants, and the monitoring and evaluation of the results are all more costly. Often, Congress has insisted on distributing as much funding as possible to the local level, and with this goal the more expensive and elaborate procedures necessary at the federal level are impossible.

Another challenge is that a federal role in fostering innovation requires greater expertise and imagination on the part of federal officials, as executing innovations requires a deeper understanding of schools and colleges than does the simple distribution of money to states and localities. In particular, because of their increasing importance to American postsecondary education in general and postsecondary occupational education in particular, knowledge of community colleges needs to be strengthened within the federal government.

In the end, the challenges of improving the quality of occupational education are not especially different from those in any other area of social policy. While it's naïve to think that any aspect of policy can be above simple, self-interested politics, a clear sense of purpose and a disinterested recognition of the strengths and weaknesses of different institutions, governments, and practices will go a long way to creating coherent policy and improved programs. The Education Consensus, despite some limitations, provides the purpose and direction that can motivate federal policy in several areas, including vocational-technical education. The recognition of institutional changes, summarized in the Institutional Transformations described briefly in Section I, and the realization of what different levels of governments do well and poorly, summarized in Section II, provide yet other guidelines for federal policy. And so the possibility exists for individuals, institutions, governments, and grant-makers to work together, serving both their own and the national interest, to improve the quality of education for the next generation.

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