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The Role of Vocational Education in High School Reform

Taking Responsibility for Engaging Students in Challenging Academics

- 1. While there is widespread consensus on the desirability of making high levels of academic achievement the primary education goal for all students, we are not likely to achieve this objective by merely force feeding the traditional academic curriculum to everyone. Some other strategies are called for to effectively engage students in learning and provide clearer meaning for the time spent in high school.**
- 2. Vocational education, however, as traditionally conceived and practiced in high schools is not up to the task; typically, vocational programs are too occupationally specific and aimed at pre-baccalaureate, entry-level jobs that do not require high levels of academic knowledge and skill.**
- 3. Therefore, we need to foster in high schools a new kind of professional/technical education that conceives of preparation for work more broadly and that emphasizes a well coordinated program of challenging academic and technical study.**
- 4. Such a program could be modeled on the kinds of professional education found in the nation's finest four-year universities and graduate schools—in schools of architecture, medicine, law, dentistry, business, city and regional planning, computer science, social work, and education. It is ironic that we reserve some of the most engaging opportunities in formal education for a relatively small percentage of students who succeed in reaching the highest levels of the education process.**
- 5. To successfully redirect vocational education toward a professional/technical focus will first require a fundamental change in perspective about the role of work-related education in high school: through curriculum design and instructional practice, and as an objective of public policy, it is time to state forcefully and unequivocally that professional/technical education in high school has responsibility and will be held accountable for contributing significantly to students' academic achievement.**
- 6. Realizing this objective will require careful attention to 1) a programmatic framework built around industry majors or career clusters that defines broadly the domain of work and the knowledge and skills needed for lasting success in both postsecondary education and future careers; 2) development of curriculum that explicitly addresses and incorporates selected aspects of academic standards that are especially well suited to instruction in professional/technical programs; 3) professional development for teachers, both in-service and pre-service, that strengthens the capacity of vocational/technical teachers to teach selected aspects of academics and the capacity of academic teachers to teach academics in the context of challenging and authentic work-related situations.**

Taking Responsibility for Academic Achievement

*A New Standard for Vocational
Education*

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Integrating academic and vocational education—when the National Center for Vocational Education (NCRVE) first came to Berkely in 1986, this objective was central to our mission, and much of NCRVE's work during the past eleven years has been devoted to advancing this idea. We have not, of course, been alone in this campaign. Integration has figured prominently in the Perkins Act, the School-to-Work Opportunities Act, and the current reauthorization legislation. It has also been high on the agenda of a growing number of schools and school districts, especially those implementing career academics, career majors, student projects, and other innovations that demand significant curriculum changes.

Without meaning to diminish in any way the important progress that has been made on the integration front, it is fair to say that a great deal remains to be accomplished. As I visit high schools around the country, I am struck by how little integration actually exists, in either vocational or academic classes. In most community colleges, there seems to be even less. Perhaps I have simply missed a lot of the more innovative places, but if not, why after more than ten years of so much emphasis on this theme has there not been more headway? Let me offer a possible explanation.

First, integration that is rigorous, authentic, and sustained is very hard to do—much harder than most of us who have advocated integration ever imagined. To be effective, an integration activity must in the first instance be designed to accomplish an important, well defined educational objective. Integration is not an end in itself, so unless it addresses an academic or vocational objective that is deemed important at a particular stage in the curriculum, integration is inappropriate no matter how engaging the activity may be. Moreover, unless integration accomplishes this objective more effectively—that is, more students master the specified educational standard, they learn it more quickly, they retain it longer, or they can apply it in more diverse ways—than they would through the conventional academic or vocational approach, the integrated strategy is probably a waste of time. Alas, there are remarkably few practical guidelines for teachers about when to choose integration in lieu of other teaching strategies.

In addition, effectively integrating academic and vocational curriculum depends on much more than simply identifying work-related applications of academic knowledge and skill, no matter how advanced. Presenting students with an algebra problem requiring the application of Olm's law is not necessarily any more engaging than the mindless puzzle of determining the meeting point of two trains, one starting from New York at 40 miles per hour and the other from Los Angeles at 60. It is a superior problem only if the world of electronics, the context for the problem, holds genuine interest for the student and, ideally, the teacher as well. However, what interests one student may well bore another. Sorting out what fascinates whom in a class of 20 students (let alone four or more classes each day) and then defining bona fide applications of academics in a variety of different areas can easily overwhelm the most dedicated teacher.

And finally, even if we succeed in keeping integration sharply focused on clear, well specified educational objectives and in defining a legitimate application that really excites a student, doing this day after day, week after week in a fashion that builds systematically on previous activities is challenging, to say the least. Constructing rich, complex, cumulative integrated curriculum that develops simultaneously mastery of an academic discipline and its application in a coherently defined domain of the work world demands time, expertise, and resources that are beyond the reach of most teachers. While there are some organizations working hard to supply teachers with well designed integrated curriculum—for example, the efforts of the Center for Occupational Research and Development (CORD) or the New Standards Project—the stock of sound, tested materials is still quite limited.

And so, accomplishing noteworthy integration is difficult, and if we are really serious about achieving more of it, we are going to have to pay a lot more attention to curriculum development, alternative strategies for organizing and delivering instruction, and teacher preparation and ongoing professional education. NCRVE has had much to say on these issues, and these concerns will continue high on the Center's agenda for some time. But there is, I think, a second and perhaps more basic problem that must be addressed.

Most vocational educators remain ambivalent about integration that requires significant attention to academics. Almost everyone agrees in principle that a more rigorous vocational curriculum is desirable. But old habits die hard, and a great many vocational educators continue to believe that if their students lack, say, the math skills needed for success in their vocational classes, then addressing this problem is the responsibility of math teachers. It is a rare masonry class, for example, that consciously and systematically teaches the measurement, fractions, ratios, proportions, and simple algebra that are all part of working with bricks and mortar. It is

not that masonry instructors deny the importance of these math skills. Quite the contrary, but they do not usually view the masonry class as the place to teach math. Also, of course, they themselves have not been taught how to teach the mathematics of their profession. Consequently, integration, if it occurs at all, happens mostly on the margins.

It is time to change this. As a profession, as part of curriculum philosophy and objectives, as a matter of public policy, it is time to state forcefully and unequivocally that vocational education has responsibility and will be held accountable for contributing significantly to students' academic achievement. This does not mean that a vocational class should become a substitute for an academic class; rather it becomes a more carefully coordinated complement. In the example above, the masonry student still takes the expected academic math courses, but the subset of mathematics that is embedded in masonry becomes an explicit part of the masonry curriculum. That math is taught in both courses, with each reinforcing the other.

Vocational educators will argue that adding academic content of this magnitude to the vocational curriculum will require them to eliminate vocational content they are presently teaching. Perhaps so. However, if students have a better grasp of academics, they may be able to master the vocational material more quickly, producing a significant productivity gain in vocational classes. In any event, the message from parents, industry, and policy makers is quite clear: academics—ensuring that more students master an increasingly challenging foundation of math, science, English, and social studies—is the priority. Vocational educators should make it theirs.

Adopting this new standard is not simply a matter of survival for vocational education, although it may very well be that. Rather realizing the larger educational goal—significantly raising the academic achievement of all students—may depend critically on vocational education making academics its primary charge. For we know that for the majority of students in high school, and even for a very large number of students in postsecondary institutions, the way we have traditionally taught academics has not worked very well. How ironic, then, if vocational education dedicated to academic achievement, were the key to major progress in school reform.