

NA VE NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION

INTERIM REPORT TO CONGRESS
Executive Summary



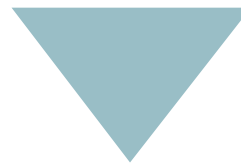
U.S. Department of Education
Office of the Under Secretary

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2002



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U.S. Department of Education
Office of the Under Secretary

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September 2002

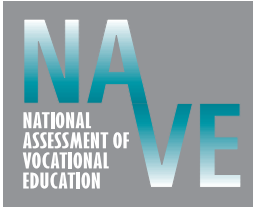
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Accompanying Statement from Independent Advisory Panel

Chairman John A. Boehner
Committee on Education and Workforce
U.S. House of Representatives
Washington, DC 20515

Chairman Edward M. Kennedy
Committee on Health, Education, Labor,
and Pensions
U.S. Senate
Washington, DC 20510

Dear Chairman Boehner and Chairman Kennedy:

In the amendments to the 1998 *Carl D. Perkins Vocational and Technical Education Act*, the Congress called upon the Secretary of Education to appoint an independent panel of vocational and technical education administrators, educators, and researchers, as well as parents and representatives of business, labor, and other interested parties to advise the U.S. Department of Education on the evaluation and assessment of programs authorized under this statute.

This Independent Advisory Panel—which has met a number of times to advise the Department on research issues and priorities—wanted to use the occasion of this first, interim report of the National Assessment of Vocational Education (NAVE) to express its views on several issues related to the forthcoming reauthorization of the Perkins Act. This panel will have more extensive comments and recommendations when the final NAVE report is completed. However, this interim report is rich in findings that should play an important role in shaping congressional and public discussion of the future of career and technical education in the United States.

Vocational education has occupied a significant place in American education since the first federal legislation was enacted in 1917 to help ensure that our nation's young people had the skills necessary to succeed in a changing world of work. Eighty-five years later, after 13 legislative reviews and revisions and far-reaching economic, social and technological changes, one thing remains constant: America's young people still need the skills to succeed in a changing world of work, although the mix of skills is constantly evolving.

Three points are especially worth bearing in mind:

1. At the beginning of the 21st century, vocational education remains an important part of the high school curriculum, although its function may be changing. Many students take vocational courses to prepare themselves both for the world of work and further educational programs. Moreover, while high school students are taking increasing numbers of academic courses, the decline in vocational course taking prior to the 1990s leveled off during the last decade. In short, these are courses that millions of students find valuable.

2. Whereas all students should be well-prepared academically and have the opportunity to pursue a bachelor's degree or other postsecondary training, it is important to recognize that two-thirds of America's young people do not obtain a four-year college degree and at least 25 percent go to work directly after high school. The reality is that most young people must draw on skills learned outside of four-year colleges to succeed in the workforce. That's where good career and technical education at secondary schools and community and technical colleges comes in. Moreover, these vocational students can be held to high standards. States such as New York are working to provide rigorous career and technical courses, and the standards embedded in them are reflected in state assessments.


3. Against a backdrop of frequent business complaints that young workers lack both general (literacy, numeracy, etc.) and specific technical skills, it is essential that our education system produce young people whose skills are a match for the jobs in our nation's workforce. Many jobs require technical skills, as well as strong academic skills, that can be learned in secondary and postsecondary vocational courses but do not require a bachelor's degree. That is one reason many Americans with bachelors' degrees are also turning to career and technical courses in community colleges. In the Los Angeles transportation industry, for example, three-fourths of all transit jobs do not require a degree yet demand high-level skills. These are well-paying jobs, because these skills translate into the high productivity that has brought the United States the world's highest standard of living. For many young Americans, career and technical courses can make the difference between living in poverty or entering the middle class.

This interim report provides ample material to begin the debate on how best to support quality career and technical education. On behalf of the entire panel (see list on next page), we urge the reader to carefully examine the data and analysis in this report.

Sincerely,


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Nightingale & Associates


Paul F. Cole
NAVE Advisory Panel Co-Vice Chairperson
New York State AFL-CIO


Russ McCampbell
NAVE Advisory Panel Co-Vice Chairperson
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Acknowledgments

This first report of the National Assessment of Vocational Education (NAVE) benefited from the contributions of many persons, both inside the U.S. Department of Education and in other organizations. The NAVE staff would like to extend its appreciation to all of these individuals and to acknowledge those whose assistance and advice were particularly crucial.

First, the work of the NAVE is conducted with the support of the Independent Advisory Panel, whose names and affiliations appear at the front of this report. Their guidance has been invaluable.

Several colleagues at the Department played important roles. At the Office of Vocational and Adult Education (OVAE), we are especially grateful for the input and cooperation provided by Assistant Secretary Carol D’Amico, Deputy Assistant Secretary Hans Meeder, Dennis Berry, special assistant for research, and Sharon Belli, OVAE’s liaison to NAVE. We would also like to thank former Assistant Secretary Patricia McNeil for providing the initial support for this assessment. Our partnership with Lisa Hudson, at the National Center for Education Statistics (NCES), was extremely productive. We also received useful advice from Alan Ginsburg, director of the Planning and Evaluation Service (PES).

The foundation of this report is the analysis undertaken by several contractors with whom we collaborated closely. In particular, we would like to thank Karen Levesque and Gary Hoachlander at MPR Associates, and Tom Bailey of Teachers College, Columbia University, for their careful work with the data and their help in interpreting results.

Finally, we appreciate the efforts of all those who helped with the production of the report. Andrew Yarrow of PES provided editorial support. Angela Clarke and Ann Nawaz from PES assisted with early document preparation and report dissemination. Barbara Kridl and Leslie Retallick of MPR Associates are responsible for the cover and layout design.

In the end, however, the judgments expressed in this report are those of the authors. While conducted by PES in the Office of the Under Secretary, this assessment is an independent study and does not necessarily reflect the views of the U.S. Department of Education.

Marsha Silverberg
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► Executive Summary

Nearly half of all high school students and about one-third of college students are involved in vocational programs as a major part of their studies. Perhaps as many as 40 million adults—one in four—engage in short-term, postsecondary occupational training. Given the magnitude of the vocational education enterprise, the ways in which students participate and the benefits they may receive can have significant consequences for the nation's workforce.

1998 Perkins Vocational and Technical Education Act

Federal support for vocational education, and for understanding its outcomes, has a long history. Most federal objectives for improving the quality and availability of vocational programs are articulated through the Carl D. Perkins Vocational and Technical Education Act and its predecessors since the Smith-Hughes Act of 1917. The most recent act (known as Perkins III) was passed in October 1998, and reflects both continuity with previous vocational legislation and some substantive departures. As policymakers begin to consider further changes in law—in anticipation of the reauthorization scheduled for 2003—they will be examining vocational education as a field in transition, prompted by sweeping changes in federal, state, and local education and training priorities.

As was true with previous vocational legislation, Perkins III directs the secretary of education to complete an “independent assessment of vocational and technical education programs.” This report, the first in a series by the new National Assessment of Vocational Education (NAVE), provides information to help policymakers shape future improvements in this particular component of American education.

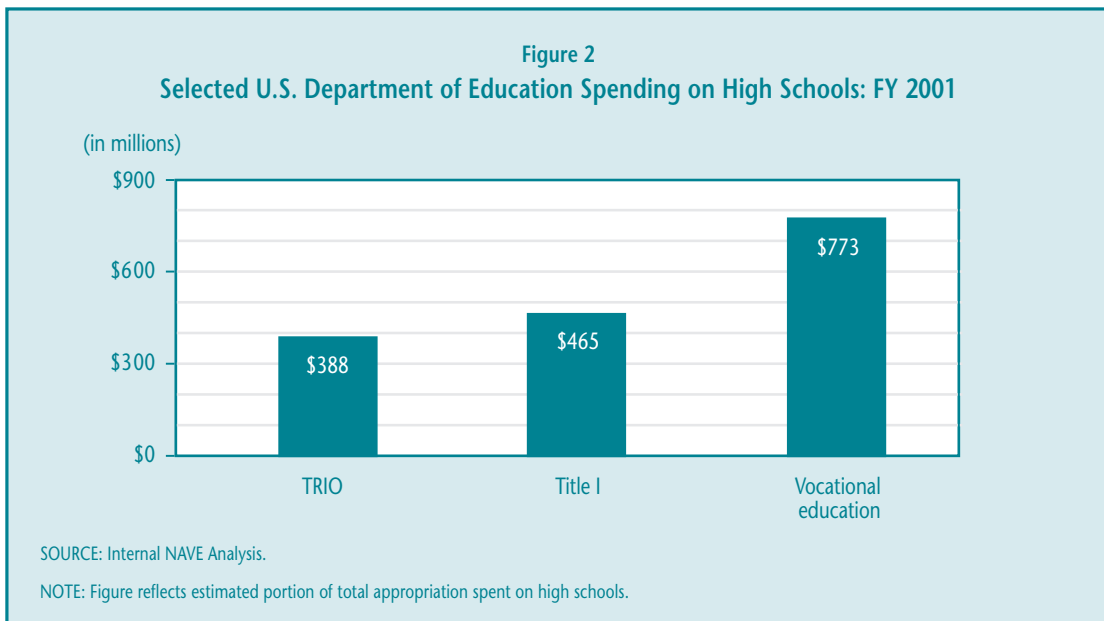
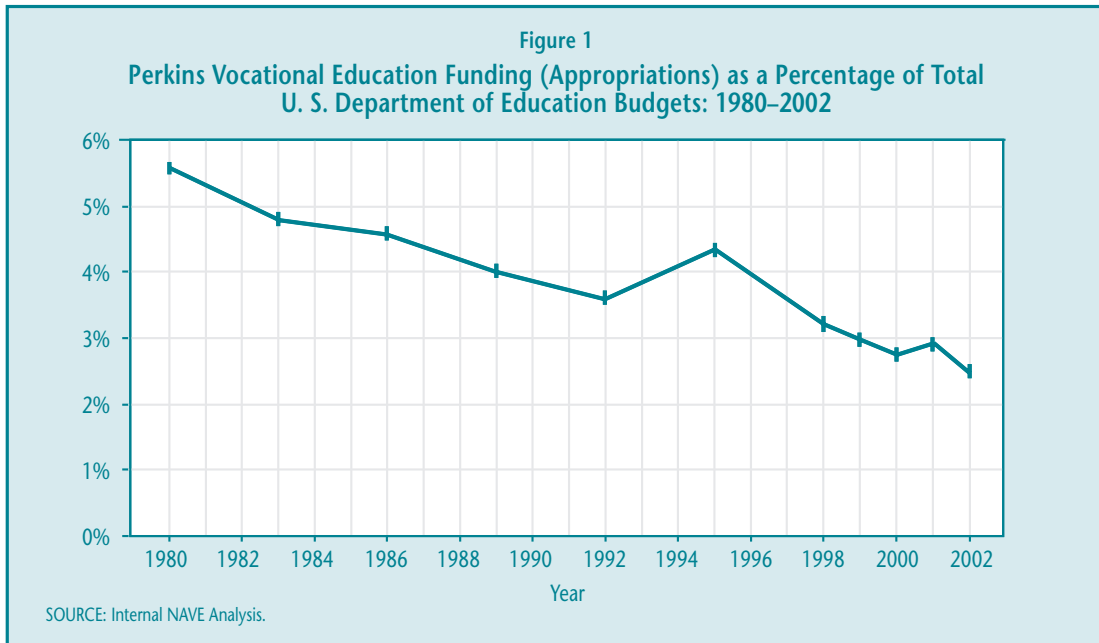
Interim Report Highlights

This interim report presents a small, but significant part of a comprehensive research agenda being conducted under NAVÉ. Studies still underway will examine the effect of vocational education on student outcomes, the quality of implementation, and the role of accountability provisions and other aspects of federal policy; these results will be presented in a final report. The interim report provides both a context for examining vocational education and a description of participation at the secondary and postsecondary levels, a logical first step in evaluating the status and effectiveness of vocational education. Four key themes emerged.

1. Current education, labor market, and policy trends are likely to broaden Perkins reauthorization debates.

Each time Congress considers federal aid for vocational education, the outcome reflects an understanding of the economic and educational priorities of the time and the nature of the federal role in education. The upcoming reexamination of the Perkins Act is likely to be shaped by several factors:

- ▶ ***High schools increasingly emphasize academic reform and college preparation.*** The poor performance of seniors on national and international tests, declining graduation rates, and high rates of college remediation have raised concerns about academic achievement at the high school level. Partly in response, nearly every state has set higher academic standards for high school graduation, and many have begun to include exit exams. The challenge many students, including those in vocational programs, face in meeting the new standards has raised questions about the role of high school courses lacking clear academic focus.
- ▶ ***Good jobs require at least some postsecondary education.*** Both high- and low-paying employment are available in the labor market, but a college credential of some kind is needed for the better-paying jobs. Employment growth in occupations requiring a vocational associate's degree is projected to be higher (30 percent) than overall employment growth (14 percent) through 2008 (Erard forthcoming). Thus, demand for postsecondary vocational education is likely to remain strong.
- ▶ ***For the past 20 years Perkins has represented a declining share of federal education budgets, but it is still the largest single source of Department funds spent on high schools.*** Perhaps because the primary objective of vocational education has not appeared well aligned with other priorities, appropriations for the Perkins Act and its predecessors have not kept pace with either inflation or the expansion of other Department of Education (ED) programs and ED's overall budget. In fiscal year 1980, funding for vocational education represented about 6 percent of total ED appropriations; it is now less than 3 percent (Figure 1). Despite the relative declining share, Perkins III remains the largest single source of federal education funds used to support high schools. Comparing dollars spent at the high school level, vocational education appears to be of equal federal priority as other programs focused on raising academic achievement (Title I) and preparing students for college (TRIO) (Figure 2).



2. Federal vocational policy attempts to achieve multiple goals and objectives.

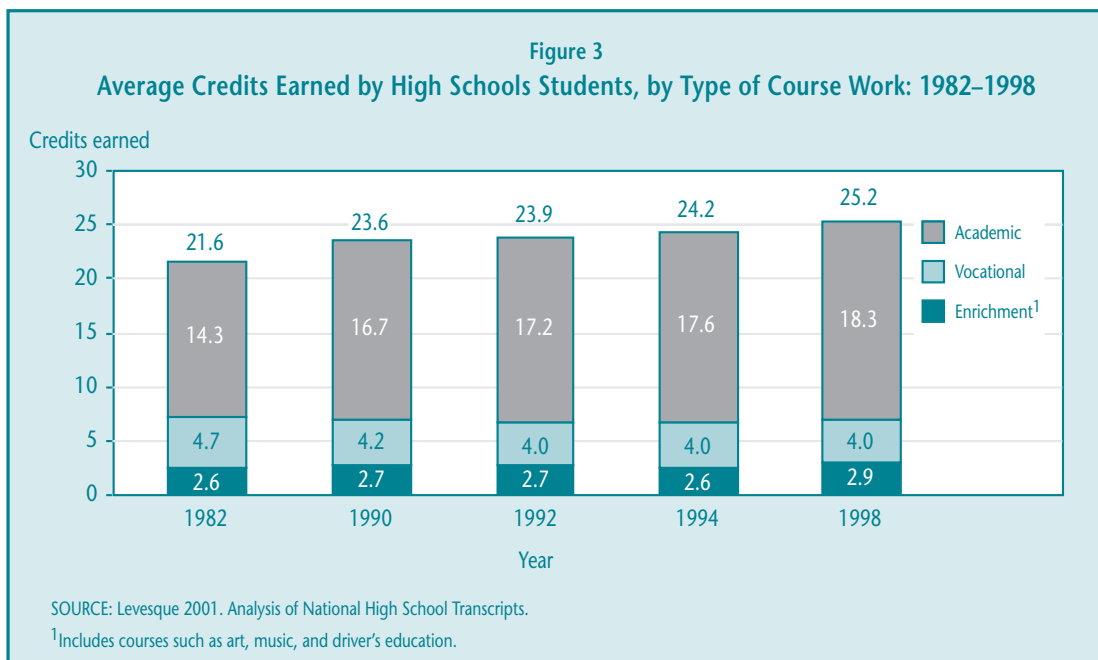
Evolving priorities clearly have moved federal support for vocational education toward fulfilling a broader set of objectives than training students for work in factories and on farms after high school, the original aim of federal vocational legislation

at the turn of the 20th century. For example, the stated purpose of the 1998 Perkins III is to enhance not only the vocational and technical skills of students who choose to participate in vocational education but also their academic skills. In addition, other sections of the legislation suggest that vocational education is expected to contribute to high school completion, entry into postsecondary education and training, postsecondary degree completion, and employment.

Currently, federal policy allows states, school districts, and postsecondary institutions to decide which objectives are the highest priority for Perkins spending. In contrast, Title I of the recently enacted No Child Left Behind Act, with funding now 10 times greater than Perkins, is unambiguously focused on one core mission: raising the academic achievement of disadvantaged students.

3. Secondary vocational education remains a large component of the high school curriculum, but the full effects of academic reform are not yet evident.

Although there has been little change in the amount of vocational course work taken by high school students over the past decade, vocational education’s share of the overall high school curriculum has declined as students earned more academic credits (Figure 3).



- ▶ ***Vocational participation rates have been relatively stable during the last decade.*** Across most of the 1990s, almost 45 percent of all high school graduates earned three or more occupational credits, the equivalent of three, year-long courses. Most of these students (25 percent of all graduates) “concentrated” their courses in a single program area (e.g., health or business). Occupational “concentrators” are the closest proxy for vocational program completers.
- ▶ ***Many types of students continue to be involved in vocational education, including those in “special population” groups.*** For the most part, there has been little change in who participates in vocational education over the last decade. Vocational education serves a diverse set of students, with most coming from the middle range of academic and income advantage. Still, some groups continue to participate more substantially than others: students who enter high school with low academic achievement, have disabilities, are male, English-language proficient, or from lower-income or rural schools. Gender differences remain. Girls’ vocational course taking has been declining while that of boys has remained consistent. Despite these trends, differences in the rates of participation in computer technology courses, geared to a potentially high-paying field, virtually disappeared by 1998.
- ▶ ***Students who participate most in vocational education have increased their academic course taking, but important gaps remain between them and other students.*** By 1998 the gap in academic credits earned between occupational concentrators and other students had grown smaller (from 1.6 in 1982 to 1.1 credits in 1998). However, vocational students still take less rigorous academic courses than do other students: for example, substantially fewer concentrators (26 percent) than non-concentrators (42 percent) completed a college preparatory curriculum (Table 1).

Table 1
Academic Credits and Course Taking for Occupational Concentrators¹
and Non-concentrators: 1998

	Concentrators	Non-concentrators
Core Academic Credits Earned	13.7	14.8
“New Basics” Curriculum ²	45.7%	59.4%
College-Prep Curriculum ³	25.9%	43.2%
Algebra 1	87.1%	93.2%
Advanced Math ⁴	26.0%	42.4%

SOURCE: Levesque 2001. Analysis of National High School Transcripts.

¹Concentrator = A graduate earning three or more credits (years) of occupational vocational education in a single program area (e.g., business services or health care).

²New Basics = Four credits of English, three credits each of math, science, and social studies.

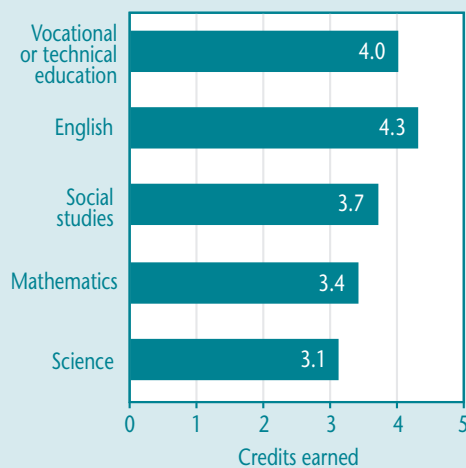
³College-Prep Curriculum = Four credits of English; three or more credits in math at the algebra 1 or higher level; two or more credits in biology, chemistry, and physics; two or more credits in social studies with at least one credit in U.S. or world history; and two or more credits in a foreign language.

⁴Advanced Math = Mathematics instruction including algebra 3, trigonometry, and above.

► ***Students take more vocational than math or science courses*** (Figure 4). Despite the emphasis placed on academic reforms over the last decade, high school students earn more credits in vocational education (4.0) than they do in math (3.4) or science (3.1).

These course-taking patterns may well change, as school reform continues and as rigorous state exit exams become more common. By 1998–1999, nearly 20 states were already phasing in these assessments, and 6 more were in the process. Many students who pursue a vocational program of study come to

Figure 4
Average Credits Earned by High School Students, by Subject Area: 1998



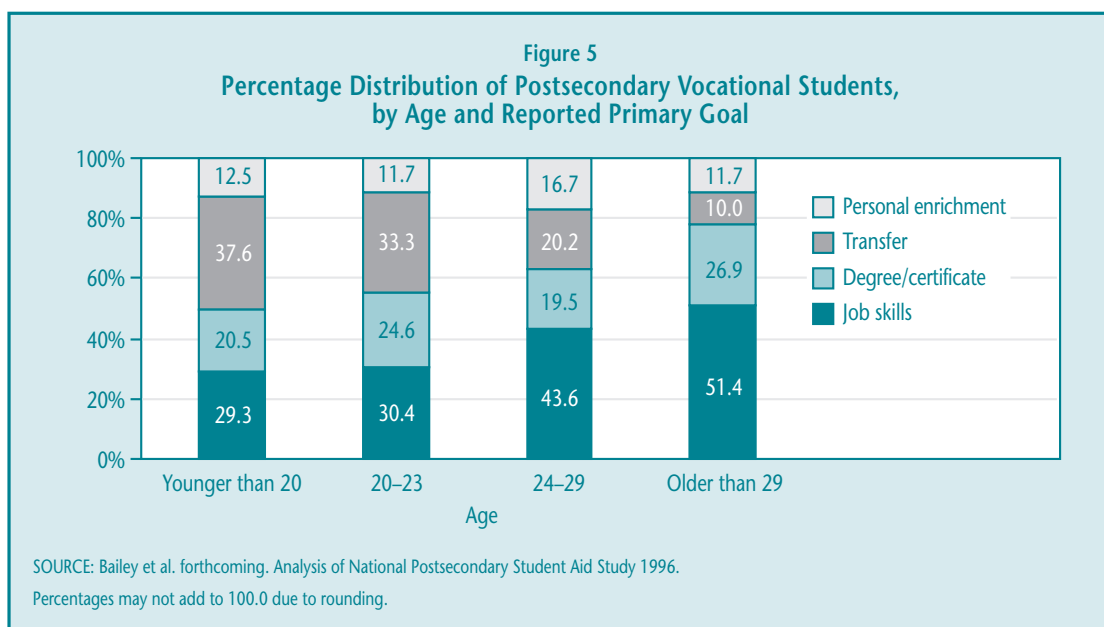
SOURCE: Levesque 2001. Analysis of National High School Transcripts.

high school with lower levels of academic achievement and are therefore likely to face the stiffest challenges in passing the new assessments. Participation in secondary vocational education and other electives may decline as students focus their efforts on passing these exams. Some evidence suggests that even the minimum competency exams required for graduation in some states or districts in the early 1990s may have reduced vocational course taking (Bishop and Mane forthcoming).

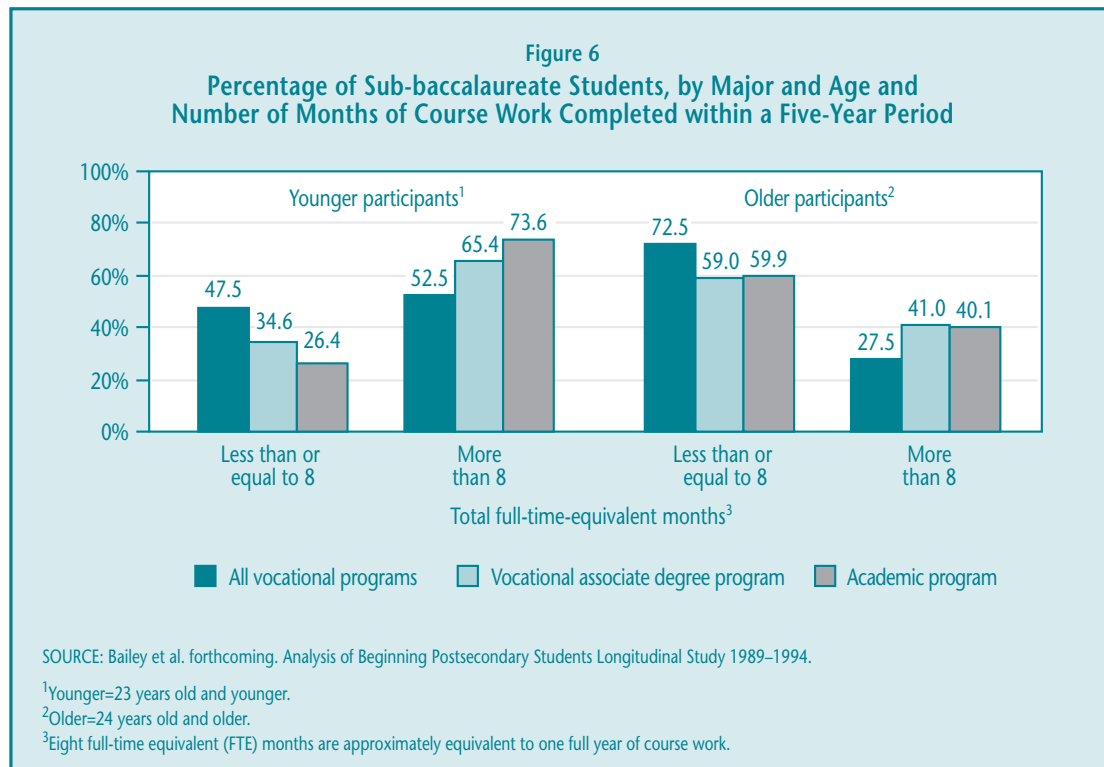
4. Postsecondary vocational education serves a diverse set of students, many of whom will not complete the course work needed to fulfill their objectives.

About one-third of all students in undergraduate postsecondary education are considered to be in vocational programs. The Perkins Act defines vocational education as occupational programs requiring less than a baccalaureate degree (P.L. 105-332, Section 3(29)), some of which are offered at four-year postsecondary institutions. Not only do sub-baccalaureate students outnumber those in baccalaureate programs, but twice as many sub-baccalaureate students choose a vocational over an academic major.

These sub-baccalaureate vocational students vary in age and work experience, and they report enrolling for different reasons—to get an associate’s degree or institutional certificate, to transfer and pursue a bachelor’s degree, to enhance their job skills, or to engage in personal enrichment activities (Figure 5). The students also differ in their personal resources, with students enrolled in for-credit, degree-oriented course work more economically disadvantaged than those who enroll in noncredit courses.



However, like their academic counterparts, many vocational participants leave sub-baccalaureate institutions and programs having completed few courses (Figure 6). Just under half (47.5 percent) of the younger students—those less than 24 years old—in vocational programs complete eight or fewer months of postsecondary course work over a five-year time period. Nearly three-quarters (72.5 percent) of older vocational participants complete no more than eight months of course work. Eight months of full-time equivalent course work corresponds to what might be considered a year of postsecondary education and training.



For older students with substantial work experience who enroll primarily to improve their job skills, a course or two may be exactly what is needed or desired. Some may participate to help them obtain one of the newly emerging industry- or employer-developed certifications (e.g., Microsoft, Cisco, Automotive Service Excellence), which may be an important way to realize labor market gains without actually earning a degree or institution-based certificate.

Those same one or two courses, though, fall well short of expectations for those working toward a postsecondary education credential. About half of all postsecondary vocational students indicate wanting to earn a degree or certificate, includ-

ing those who intend to transfer to obtain a bachelor's degree (Figure 5). Many of these students are younger, recent high school graduates with limited job history. For these students, in particular, a college degree can lead toward labor market success as well as the fulfillment of a personal goal. But it is likely that the half of younger vocational students who leave postsecondary education with fewer than eight months of course work (Figure 6) do so without having achieved their objectives and without a concrete signal of their skills.

Conclusions and Next Steps

Vocational education and its place in American education continue to evolve. The broadening of its goals, the increasing diversity of participants, and the changing education and labor market climate in which it operates, suggests vocational education is a flexible option for schools and students.

With this flexibility comes some challenges, however. At the high school level, participation in vocational education is an elective choice that faces increasing pressure from emphasis on academic improvement and testing. For both secondary and postsecondary vocational education, the wide range of participants and objectives raises a question about how effective a role federal policy plays and whether that policy can or should promote a clearer set of priorities.

The data in this initial report addressed one of several important questions for policy: Who enrolls in vocational education and for what purpose? That analysis raises additional questions about the effectiveness of vocational education in improving student outcomes, the consequences of new funding and accountability provisions for programs and participants, the implementation and quality of vocational education, and its alignment with other major reform efforts. The final NAVE report, scheduled for submission later this year, will provide more rigorous evidence to help policymakers and practitioners respond to these issues.

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made under the Perkins Act for vocational and
training or tech-prep programs to a State unless
expenditures for vocational and technical education
programs year prior to the grant year were equal to
federal expenditures during the 2nd year prior to
the grant year. If the ratio of expenditures to effort
may be calculated on a per capita basis.

Special one-time project costs, and the costs of
included from the computation of maintenance
and appropriations for the Act are less than
during the preceding fiscal year, the required
for a State shall be reduced by the same
proportions were reduced.



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“(b)(1) Notwithstanding section 311(d),