Preparing for Productive Careers:
Students’ Participation in and Use of Career-Focused Learning Activities

Executive Summary

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EXECUTIVE SUMMARY

Policymakers have a long-standing interest in helping high school students formulate career goals and prepare for successful careers. The federal government has supported vocational and other career-focused education programs in high schools for nearly a century, beginning with the Smith Hughes Act of 1917. While federal funding for these programs has declined in real terms over the past 20 years, Perkins Act funding for vocational programs continues to represent one of the largest federal expenditures at the secondary level (Silverberg et al. 2002).

The goals of high school career-focused activities are evolving as educators concentrate more intensively on improving students’ academic achievement. As a growing number of students plan to attend college, some policymakers have questioned the value and relevance of traditional vocational programs, particularly those that prepare students for jobs that do not require a college degree. This has led some schools to develop career-focused programs designed to prepare students for at least two-year college programs. Some states now encourage all students to participate in career development activities designed to help students clarify goals and develop postsecondary education and employment plans. Nonetheless, some career-focused programs continue to provide technical training and internships for students who plan to work full time after leaving high school.

This report draws on recent surveys of three cohorts of students in eight states to examine the extent of student participation in career-focused educational activities and the potential value of those activities. The surveys, conducted as part of an evaluation of efforts to expand career-focused activities during the late 1990s, cover a random sample of students in 69 schools. The 69 schools were randomly selected from among those covered by the eight states’ school-to-work initiatives.

The rest of this executive summary outlines findings related to three main topics. First, to clarify the problems and educational needs that career-focused programs can address, we examine challenges recent high school graduates faced as they sought to achieve their education and career goals. Second, to gauge how schools and students are addressing these challenges, we examine the extent and recent growth of students’ involvement in career-focused high school activities. Finally, although an analysis of the effects of these activities on students’ outcomes is beyond the scope of our study, we examine how high school graduates appear to value and use some of these activities in their jobs and postsecondary programs.

CAREER-RELATED CHALLENGES FOR YOUNG ADULTS

The paths that young adults take as they leave high school reflect some of the challenges they face in defining and pursuing career goals. While some people figure out their career goals early in life, most change their goals as they accumulate work experience. Learning about a career of potential interest is easier if and when one has obtained a job related to one’s interests. As young adults formulate and refine their career goals, they may need to change their educational plans accordingly. Conversely, young adults who discover that they do not have enough resources or preparation for postsecondary education programs may need to revise their
goals. The ways in which young adults’ postsecondary paths conform to, or deviate from, their expressed goals point to challenges they face and needs that schools may be able to address.

Drawing on the eight-state follow-up surveys conducted 18 months after students left high school, we examine three issues related to students’ postsecondary transitions: (1) the extent to which students modify their career and education goals shortly after they leave high school; (2) the extent to which students make progress in achieving their education goals; and (3) the quality of the jobs they find, particularly the extent to which these jobs relate to their career goals or can finance postsecondary education.

- **Most students change their career or education goals shortly after leaving high school.**

As young adults continue to explore potential career paths after high school, it is natural that many of them will change their career and education goals. Students may change their goals after they learn more about particular careers or their own skills. However, shifting goals may also indicate that students have not properly considered alternative career options or the educational preparation needed to achieve them.

Many students appear to leave high school with vague or fluid career goals. Eighteen months after high school, three-quarters of surveyed students in the eight states changed their career or education goal. Approximately half have changed their career goal, half have changed their education goal, and a quarter changed both. The mix of specific career goals students report 18 months after high school is quite different from the mix of goals articulated at the end of the 12th grade. For example, many more students say they are interested in management or administration, and many fewer express interest in technical careers such as engineering.

Nearly all students continue to want some form of postsecondary education, but there are some large changes in the type of education sought. More than 95 percent of students report, both at the end of 12th grade and 18 months later, that they will need some postsecondary education to prepare for the job they expect to obtain. However, a large fraction change their mind about the type of education they need. For example, at the end of their senior year of high school, about one out of eight students said that they will not need to get either a two- or four-year college degree; however 18 months later, 62 percent of this group changed their minds, with 25 percent deciding they would need a two-year degree, and 37 percent saying they would need a four-year degree.

In designing career-focused high school activities, educators must confront the instability of young adults’ career and education goals. One open question is whether any high school activities can help students formulate clear, realistic goals and plans. If so, educators need to try...
to identify which activities are most effective and whether the efficacy of specific activities depends upon students’ interests, plans, or other characteristics. Another question is whether it makes sense for high school students to take one or more classes focused on a specific career area given the large number who change their goals after they graduate. To address this issue, additional research is needed on whether taking such classes can help students clarify their goals.

- **While most graduates have ambitious education goals, many drop out or do not enroll in postsecondary programs for economic reasons.**

Most young adults have high aspirations. Nearly all the respondents to the eight-state surveys conducted in 12th grade and 18 months after high school reported that they needed some postsecondary education for the type of career they plan to pursue. More than three-quarters said they will need at least a bachelor’s degree for their intended career.

As with previous studies, we find that many of the students in our eight-state sample make slow progress toward attaining their education goals (Figure 1). A year and a half after leaving high school, 30 percent of the respondents are not enrolled in, and have not completed, any postsecondary program, even though nearly all indicated that they need more than a high school degree to achieve their career goals. Moreover, about 14 percent of those who enrolled in some postsecondary program have dropped out without completing it, have not entered another program, and have no plans to do so within the next year.

Economic factors dominate the list of reasons for dropping out or never enrolling in the first place, highlighting the potential importance of accumulating some financial resources to help pay for education. Half of all those who drop out of postsecondary programs or never enroll cite an inability to pay tuition or the need to work as the reason. The importance of these economic factors points to the potential value of both financial aid policies and efforts to help students secure good jobs that can help pay for postsecondary education.

- **Most high school graduates are employed in jobs that do not relate to their career goals and provide limited resources for postsecondary education.**

Students’ jobs after high school can represent important steps in refining and pursuing their career goals. Whether or not students are enrolled in educational programs, employment can be helpful in developing basic and technical skills, learning more about a field related to a career goal, and accumulating resources that can be used to pay for education or training in the future. Students’ success in finding jobs related to a career interest reflects the degree to which they are prepared for the labor market and the personal resources they can draw upon in their job search.

Although nearly all young adults find some employment after high school, most jobs do not relate to students’ career goals, and most can provide only limited resources for postsecondary education. About 71 percent of young adults who were employed 18 months after high school reported that their job was in a different field than that of their career goal. As one might expect, given their lack of work experience, the pay and benefits of most students’ jobs are fairly
modest. Employed students earn, on average, $7.76 per hour. With these earnings, it is understandable why many young adults report some difficulty financing postsecondary education.

**STUDENT PARTICIPATION IN CAREER-FOCUSED ACTIVITIES**

Most high schools seek to help students begin to define career goals and prepare to achieve them. Schools do this by offering students career-focused learning opportunities, including career counseling, vocational and academic classes that center around particular careers, and internships and other work experiences. Each of these types of learning activities has been available in some schools for decades. During the late 1990s, some policies—including the federal school-to-work initiative and changes to Perkins legislation—were designed to expand student participation in career-focused learning activities. Federal and state policies also sought to engage a diverse mix of students in most of these activities. However, during the same period, many schools sought to implement academic reforms that increased graduation requirements. These new requirements could have made it harder for some schools to expand student participation in certain career-focused activities, particularly relatively intensive and time-consuming ones.

To gauge the cumulative effects of these trends, we examine students’ participation in career-focused high school activities. Drawing on the eight-state 12th-grade surveys, we examine the extent to which students participated in specific career-focused activities and the
degree to which these activities grew or declined between the Classes of 1996 and 2000. Here, we report findings on (1) the prevalence and growth of specific activities, and (2) the mix of students participating in these activities.

- Nearly all high school students participate in some career-focused activities, although the most prevalent activities are brief ones.

Nearly all students participate in some high school activity designed to clarify their goals and prepare for a career. We analyzed the extent and growth of student participation in three types of activities: (1) career development activities designed to expose students to alternative careers or help students develop educational plans; (2) vocational and academic classes or assignments that students perceive to be related to their career interests; and (3) work experiences that schools developed for students, including paid and unpaid workplace positions and school-based enterprises. Nearly all (99.8 percent) students participated in at least one of these activities, and a substantial fraction (43 percent) participated in one of each of the three kinds of activities.

The most prevalent activities are career development activities. Nearly all (99 percent) the members of the Class of 2000 in the study schools participated in one of the six main types of career development activities: job shadowing, group worksite tours, employer presentations, career counseling, career interest inventories, or the selection of a career area to plan for. The activities involving the largest fraction of students were career counseling, employer presentations, and career interest inventories (Figure 2).

In the eight states surveyed, some career development activities appear to have expanded significantly during the late 1990s. Compared to the members of the Class of 1996, those in the Class of 2000 were more likely to report attending employer classroom presentations, and substantially more likely to have had a job-shadowing experience (Figure 2). The growing popularity of career-exposure activities may also be due to the fact that schools can easily implement these activities without disrupting the academic schedule or imposing a large burden on any individual school staff members.

While some more intensive career-focused activities—such as vocational classes and internships—involve a substantial fraction of students, these activities are not as common as career development activities and did not grow during the late 1990s. Among the Class of 2000, about 54 percent of students reported taking a vocational class in the 11th or 12th grade, and 18 percent said they had a high school academic class designed for students with their career goals. About 23 percent said they had participated in a school-based business, 17 percent had a paid internship they found through school, and 20 percent had a school-sponsored unpaid internship. While there was no substantial growth in any of these activities between the Classes

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2 After career development activities, the next most common career-focused learning experiences are academic assignments that students view as relevant to their goals (87 percent report having one such assignment). Like career development, these assignments are often brief.
FIGURE 2

PARTICIPATION IN CAREER-FOCUSED ACTIVITIES
CLASSES OF 1996 AND 2000

Career Development Activities:
- Job Shadowing: 25% Class of 1996, 43% Class of 2000
- Group Work Site Tour: 37% Class of 1996, 62% Class of 2000
- Employer Presentation: 78% Class of 1996, 82% Class of 2000
- Career Counseling from School Staff: 78% Class of 1996, 84% Class of 2000
- Career Interest Inventory Questionnaire: 76% Class of 1996, 79% Class of 2000
- Selected Career Major/Area to Plan For: 47% Class of 1996, 43% Class of 2000

Career-Focused Classes:
- Vocational Class in 11th or 12th Grade: 30% Class of 1996, 54% Class of 2000
- Academic Class Designed for Students’ Career Area: 17% Class of 1996, 18% Class of 2000
- Academic Assignment Related to Career Interest: 87% Class of 1996, 87% Class of 2000

Work Experience Activities:
- Paid School-Arranged Job/Internship: 15% Class of 1996, 17% Class of 2000
- Unpaid School-Arranged Job/Internship: 16% Class of 1996, 20% Class of 2000
- School-Based Enterprise: 26% Class of 1996, 23% Class of 2000


*Difference between Class of 1996 and 2000 is statistically significant at the 5 percent level.
**Difference between Class of 1996 and 2000 is statistically significant at the 1 percent level.
of 1996 and 2000, a somewhat larger fraction of students reported having more than one unpaid internship, perhaps reflecting efforts by state and federal agencies to promote “service learning” activities. Since unpaid internships tend to be briefer than paid ones, they are often easier to develop and expand and are less likely to interfere with students’ academic studies.

- A diverse mix of students participate in nearly all career-focused activities, although college-bound students are somewhat more likely than other students to say they received career counseling and somewhat less likely to report taking vocational classes.

Policymakers and educators try to give all groups of students comparable access to career-focused educational activities. Some educators also seek to engage a diverse mix of students in these activities to ensure that stereotypes do not discourage potentially interested students from participating. At least three dimensions of access and diversity are potentially important. First, over the past decade, many educators have sought to design or reconfigure career-focused programs so that they attract not only those who plan to enter the labor market after graduation but also college-bound students. Second, federal vocational education policies encourage schools to find ways of addressing gender-based or racial stereotypes that may impede participation in particular programs. Third, Perkins requires schools to make vocational programs accessible to special populations—including students with disabilities.3

Most career-focused activities appear to attract a diverse mix of students with a broad range of postsecondary plans. Using the eight-state Class of 1996 and 2000 12th-grade surveys, we examined the extent to which rates of participation in career-focused activities vary by students’ college plans and demographic characteristics. The participation rates for most subgroups were not substantially different from the average for all students, suggesting that schools have engaged a diverse mix of students in most activities. However, we found a few subgroup differences in participation rates with potential policy implications—including differences for groups defined by students’ college plans, disability status, and gender.

While students planning to attend college are somewhat less likely than other students to participate in vocational classes, they are more likely to recall receiving career counseling. The rates of participation in most career-focused activities do not differ substantially for those who were planning to attend college and those who were not. Consistent with previous findings, a somewhat larger fraction of students who have no plans to enter college said they took a vocational class in their junior or senior year (59 percent) than was the case for students who did have college plans (52 percent). On the other hand, more college-bound students (86 percent) than non-college-bound ones (79 percent) recalled receiving at least some career counseling during high school. These differences may reflect the fact that college-bound students had a

3The other special populations are economically disadvantaged students, foster children, female or male students preparing for nontraditional occupations, single parents, and displaced homemakers. Our survey did not contain sufficiently large samples of each of these groups to examine each of their participation rates.
better rapport with staff members who provide career guidance. Some studies suggest that much of the career advice high school guidance staff provide concentrates on planning for college, which might explain why these staff have less contact with students who have no college plans (Rosenbaum 2001). Guidance staff may want to explore new ways to reach students with no postsecondary education plans.

Although students with disabilities were just as likely as other students to participate in most career-focused activities, their participation in school-sponsored internship programs appears to have declined during the late 1990s. Within the Class of 1996, the fraction of students with disabilities who had participated in a school-sponsored paid internship (22 percent) was significantly higher than that of other students (14 percent). Between the Classes of 1996 and 2000, the internship participation rate of students with disabilities declined (to 9 percent), while the participation rate of other students rose (to 17 percent). This trend could reflect the efforts of some schools to remove any perceived stigma associated with internship programs—particularly programs that, in the past, had sought to involve substantial numbers of students with disabilities and other students facing special challenges.

Female students responding to the MPR survey were somewhat more likely than males to report receiving some career counseling, selecting a career area for the purpose of developing plans, and participating in unpaid internships during high school. These differences in male and female participation rates probably reflect, and perhaps even contribute to, the emerging gender gap in college enrollment. Consistent with the national trends, female respondents were more likely than males to develop plans for attending college and to enroll in college shortly after leaving high school. Career counseling, career planning, and unpaid internships all attract students planning to attend colleges. The larger numbers of females involved in unpaid internships may also reflect that many of these opportunities concentrate on education and health occupations, fields traditionally dominated by young women. Educators and researchers could explore whether, and how, internship programs and guidance staff members could reach out more effectively to male students.

**GRADUATES' ASSESSMENT AND USE OF CAREER-FOCUSED ACTIVITIES**

As high school graduates enter postsecondary jobs and education programs, they may realize which skills are useful and which past experiences have been helpful. Although young adults’ views are subjective, they may point to both the value and the limitations of specific high school activities. In addition, students’ actual behavior may indicate ways that specific activities have helped them.

Drawing upon the eight-state follow-up survey, we examined the extent to which graduates appeared to use their high school career-focused learning experiences. The survey allowed us to examine three ways students valued or made use of these experiences: (1) the extent to which

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4While the rate of participation of disabled students within the Class of 2000 appears to be appreciably smaller than that of other students, the difference is not a significant one. However, the participation rate changes between the Classes of 1996 and 2000 are significantly different for disabled and other students.
students viewed specific high school activities as helpful in figuring out what they wanted to do in a career; (2) graduates’ use of college credits earned through high school courses, including credits earned in vocational classes; and (3) how many school-arranged internships led to jobs after high school and the qualitative advantages of these jobs compared to the positions students found in other ways.

- **Young adults perceive as helpful in clarifying their goals both workplace activities providing one-on-one contact with employer staff and career-focused academic and vocational classes.**

The eight-state follow-up survey asked students who had participated in specific activities how helpful each of those activities was in “figuring out what you want to do or don’t want to do in a career.” These data should be interpreted with caution because some students may not have known whether they would have chosen the same career goal, had they not participated in a particular activity.

Students rated highly workplace activities that provide one-on-one contacts with employer staff members. Specifically, 71 percent of students participating in job-shadowing experiences, and 61 percent of those finding a paid job or internship through school reported that these activities were “very helpful” in clarifying their career goals. In contrast, students gave much lower ratings to group worksite tours and school-based enterprises. Thus students appear to feel that individualized workplace experiences are particularly helpful in clarifying their goals. In addition, many students gave high ratings to vocational classes and academic classes designed for students with their career interests. Both career-focused classes and paid internships may allow students to begin to glean whether they enjoy tasks associated with particular careers.

- **Many students do not use college credits they earn through high school classes, but some states are exploring new articulation strategies designed to help more students use these credits**

To help students prepare for, and succeed in, postsecondary education, some high schools have been trying to expand opportunities to earn postsecondary credits during high school. Advanced Placement—typically, an academic class designed for high-achieving students planning to enroll in a four-year college—is one of the most common types of high school classes providing postsecondary credits. More recently, educators have sought to expand the range of opportunities to earn college credit during high school. In particular, with support from the federally funded Tech Prep initiative, many high schools and colleges have developed articulation agreements that allow students taking vocational courses to earn credit toward a two-year college degree.

While there is no appreciable growth overall in the fraction of students who earn some college credit during high school, it appears that high school vocational classes represent a nontrivial fraction of all the credits students earn during high school. About 5 percent of those enrolled in postsecondary education said they had credits recorded on their transcript from high school vocational or technical courses, one-third of the 16 percent who used any credits earned in
high school. This suggests that Tech Prep and related initiatives may have helped some students earn postsecondary credits during high school and may have made it easier for them to complete a postsecondary degree.

Nonetheless, many students appear to have difficulty using credits earned in high school. The eight-state follow-up survey indicates that about 80 percent of young adults enrolled in at least one postsecondary education program within the first 18 months after high school. Most of these students enrolled in a two- or four-year college program. Even among students who reported that they had taken a high school course offering postsecondary credit and had enrolled in some postsecondary program, only about 43 percent said that those credits had been recorded on their transcript.

One reason many students do not use college credits earned during high school is that often they can use these credits only in a limited number of local community colleges. However, some states, such as Texas, are trying to help more students use college credits earned in high school by encouraging all two-year colleges in the state to accept credits for specific high school classes. Pursuing these strategies in other states might make it easier for high school students participating in Tech Prep and related programs to enroll and earn a degree in college.

- **While few students are employed after high school in jobs they obtain with help from school staff, these jobs appear to have several advantages over the positions they find in other ways.**

Sometimes high school staff try to connect students with employment opportunities or internships that could lead to paid positions after they graduate. Since most students can find some paid work on their own, the value of these efforts often depends upon schools’ ability to help students find positions that are more attractive than the jobs they can find on their own.

Overall, only 4.6 percent of students found their first job out of high school with the help of high school staff and another 2.8 percent found positions through a postsecondary program. The most common method of finding their first jobs after high school were referrals from family or friends, through the classifieds, or by contacting employers directly.

Although only a fraction of those leaving high school found jobs with help from school staff, these positions appear to have significant qualitative advantages over the positions students found in other ways (Table 1). These positions, while they did not pay higher wages, were more likely to relate to students’ goals, provide training, and offer tuition reimbursement. Moreover, these apparent advantages persist even after one controls for students’ characteristics. However, regression models do not allow us to control for any unobserved differences between students who find jobs with help from school staff and those who find jobs in other ways.\(^5\)

\(^5\)For example, if students who find jobs through high school are more motivated and have a better attitude toward work, then they might get better jobs because of their better attitude, not because they found the job through high school staff.
TABLE 1
CHARACTERISTICS OF FIRST POSTSECONDARY JOBS:
DIFFERENCES BETWEEN POSITIONS FOUND
THROUGH SCHOOL AND OTHER POSITIONS

<table>
<thead>
<tr>
<th>Job Characteristics</th>
<th>First Job Found Through High School</th>
<th>First Job Found Through Postsecondary School</th>
<th>First Job Found Through Other Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Jobs that:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide at least some training</td>
<td>70.3</td>
<td>70.0</td>
<td>61.5**</td>
</tr>
<tr>
<td>Correspond to career goals</td>
<td>43.1</td>
<td>48.5</td>
<td>23.3**</td>
</tr>
<tr>
<td>Helps pay tuition</td>
<td>20.7</td>
<td>14.3</td>
<td>10.2**</td>
</tr>
<tr>
<td>Average Hourly Wage</td>
<td>$7.40</td>
<td>$7.43</td>
<td>$7.33</td>
</tr>
</tbody>
</table>


Note: This analysis includes only young adults’ first postsecondary job.

**The differences among jobs found through high school, postsecondary school, and other means are statistically significant at the 1 percent level.

While these findings suggest that some students may benefit from career-related activities in high school, many uncertainties remain. We still do not know which career-focused activities, if any, really help students choose better postsecondary education and jobs. Researchers need to determine the impacts of career-focused activities on students’ ability to enter and succeed in a chosen career, taking into account all preexisting differences between those who participate in these activities and those who do not. In addition, before expanding career-focused activities, educators should consider whether the students who currently make less use of specific activities may not be interested or may face different challenges calling for some distinct approach. Furthermore, high schools clearly have a variety of priorities and demands on their resources, which can limit their capacity to develop or expand career-related activities. Assuming that some of these activities can improve students’ long-term outcomes, schools may still need to make sure that they do not interfere with academic or other activities that are determined to have a greater impact on students’ outcomes. Schools may also need to identify public or private funding sources to help pay for some career-focused activities. Addressing these questions and issues could help more students prepare for productive careers.