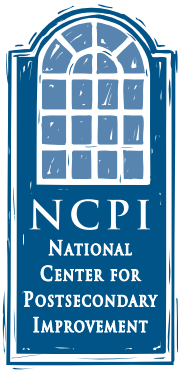

Employer Participation in School-to-Work Programs

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Abstract

This paper assesses the extent to which employers participate in school-to-work partnerships and work-based learning, using data from the National Employer Survey (NES). It opens with a brief discussion of the history of the school-to-work movement and the development of the School-to-Work Opportunities Act, which seeks to improve the preparation of college- and non-college-bound students for the workforce. The authors then present a review of the literature that focuses on incentives for employer participation in these programs and obstacles to bringing the program to a national scale. The authors then report on previous attempts to measure the number of participating employers and, finally, compare these estimates with a recent analysis of data from the NES. They find that, while 25 percent of U.S. companies participate in a school-to-work partnership and another 40 percent provide a work-based learning experience, it is not clear how substantive such involvement and experiences are.

Background

Recent interest in improving the quality of the U.S. education system has been driven by many factors, but arguably the most important in recent years have been concerns about the economic consequences of poor education. Most of these concerns have been focused on non-college-bound students, a group that has over time experienced significant difficulties in the labor market and has also increased significantly in number.

According to Current Population Survey data, as reported by the U.S. Department of Education (1997), the percentage of the population aged 25 to 29 that completed high school rose from 78 in 1971 to 87 percent in 1996. The increase in the percentage of high school graduates in that cohort that completed at least some college was even larger—a rate that rose from 44 to 65 percent over the same period. However, less than half of those college matriculants—only 31 percent of the 25- to 29-year-old high school graduates in 1996—ever received a four-year degree. As a result, high school curricula have largely been geared toward the college-bound student, particularly those aiming for a bachelor's degree. Students who go directly into the work force have received less attention.

This "forgotten half" (W.T. Grant Foundation 1988) of American society has been the target of a series of proposals for reform over the past decade, many of which have made use of the mechanism of bringing school and the workplace closer together. Reports such as *America's Choice: High Skills or Low Wages!* (National Commission on Education and the Economy 1990) warned that the ability of the U.S. economy to compete in the future would be tied to the success of current education reform efforts that were needed to raise the skills of the production workforce. The apparent failure of various vocational education programs to address the problems of this group of students also contributed to a rethinking of how the workplace and the education system should relate to each other.

At the same time, a convergence of research was pointing toward a new model that might simultaneously raise academic performance and help students who were not headed for college to make the transition to successful careers. Part of this research included comparative studies of national economic performance, particularly in Germany, a model of economic success that also produced high wages—at least through the early 1990s. These studies focused on the role that youth apprenticeship and programs like it that combined classroom studies with workplace experience played in producing skilled workers and competitive enterprises. Their authors argued that similar efforts could work in the U.S. as well (Hamilton 1990; Lehrman and Pouncy 1990).

The remaining segment of research came from cognitive psychology and documented the learning advantages of placing academic content in the context of real problems (Resnick 1987).

These arguments began to coalesce in public policy around a model that became known as school-to-work.[1] At its center was an effort to provide experiences in work-based settings that could be integrated with material in high schools to provide the following:

a. *A real context for learning academic material.* The academic concepts were illustrated in real work-based problems that provided a practical use for those concepts, a reason for learning them, as well as clearer demonstrations as to how they work.

b. *Teach work-based skills.* The experience in the workplace would teach skills related directly to work, such as how to use various equipment or work with real materials, that were difficult to duplicate in the classroom and provide some of the "vocational" skills that would help students secure jobs.

c. *Provide a context for supporting the social development of students, particularly students that might otherwise be at risk.* The attention of adult role models in the context of a constructive work atmosphere helped develop social skills such as the ability to work with others, to be punctual, and to monitor one's own behavior.

The School-to-Work Opportunities Act (STWOA) of 1994 was designed to support the development of programs to pursue these goals by bringing schools and employers together in partnerships and advancing programs of work-based learning. The main difficulty, many anticipated, was getting employers to participate.

Assessments of the amount of employer involvement in secondary education programs produced for the National Assessment of Vocational Education suggested that, with exception of co-op programs, employer involvement was essentially trivial. Youth apprenticeship programs that integrated classroom lessons and workplace experience were the closest in spirit to the school-to-work model. The largest of these programs, in Wisconsin, had no more than about 100 participants in the entire state. Estimates suggested that only about 1,000 students were participating in youth apprenticeship programs across the entire country, while as many as 3 million places would be needed to provide experiences to all of the relevant population (Osterman 1995). What would make enough employers participate to move the school-to-work agenda from a novel educational experiment to a mainstream program?

Incentives to Participate

Employer participation is a necessary condition for school-to-work programs. Perhaps because the promise of these programs for students appeared to be so great, less attention was given to thinking about what was in it for employers—what would get them to participate? In European countries, apprenticeships had been backed by legislation and an infrastructure that effectively compels many employers to participate or provide strong economic subsidies for participating. In the U.S., however, apprenticeship programs had been introduced in a decentralized way without the supporting infrastructure present in the European models such as collective bargaining agreements or legislative mandates that created explicit incentives for employers to participate.

The President had encouraged business leaders to get involved in school-to-work partnerships, and leading companies interested in advancing these programs created the National Education Leadership Council. The civic-mindedness that encouraged many companies to get involved in these programs was an important resource. Early studies of school-to-work pilot programs found that employers cited their desire to improve their communities as one of the most significant reasons for their participation (Bailey 1995). Another study of more general employer involvement in work-based learning programs found the same interest in civic-mindedness as the primary motivation for participating (Lynn and Wills 1995). But most observers doubted that this motive would be enough to get the school-to-work movement off the ground.

A second, and arguably more sustaining, motive behind employers' participation in school-to-work programs is the practical, economic benefits. Bailey (1995) outlines some aspects of these benefits. Employers who participate may enjoy positive public relations as a result of employing high school students, which helps promote their businesses. These companies may also use high school students as a cheap source of labor, particularly when needed on a short-term basis only. In a study conducted by the Institute on Education and the Economy (IEE), the most common impetus for a company's involvement in school-to-work programs was its need for low-cost, short-term labor (Hughes 1996). Companies recognize that student labor is less expensive than hiring adults on a temporary basis, because student interns often work for free or for a low hourly wage and receive no benefits (Hughes 1996).[2]

Another potential advantage of school-to-work programs for employers is that companies might use them to help meet their recruitment goals. These programs essentially give employers information about the job performance of a pool of workers while in their own establishment—workers who are about to look for permanent jobs, and information that is crucial for improving the success of employee selection efforts.

Nearly 50 percent of the companies surveyed by Lynn and Wills (1995) had hired students as regular employees upon completion of their school-to-work programs. Similarly, the Office of Technology Assessment found that nearly two-thirds of employers surveyed considered recruitment goals the most important reason for their involvement in work-based learning programs (Hughes 1996). By employing students, then, corporations are potentially making an investment in their firm and at the same time, reducing their recruitment expenditures.

Bailey (1995) argues that "collective motivation" may also be a reason that employers participate in school-to-work programs. The underlying concept here is that, by working together and by participating in programs such as school-to-work projects, corporations will help create a skilled labor force for the region or the broader economy. The notion here is that their self-interest might be advanced by acting collectively to raise skill levels in the economy as a whole. A 1991 Louis Harris poll found that, of corporations familiar with youth apprenticeship programs, 48 percent believed that their company's involvement could help in producing a skilled labor force (Osterman 1995). Another outcome of collective motivation is that of marketing an industry to young people, changing their perceptions of it. In her study, Katherine Hughes, a senior researcher at IEE, describes an employer in the construction industry who feels his participation in the school-to-work program enables his company to tear down negative stereotypes associated with his industry (Hughes 1996).

The same study also found that some employers experienced an improvement in employee morale as a result of having work-based learning programs in their facilities. The argument is that employees enjoy working with students, take pride in their work when they see students interested in it, and may better understand their tasks when they must explain and teach it to a novice (Hughes 1996). This last factor may not be, in and of itself, reason enough to justify an employer's involvement in school-to-work programs, but taken in conjunction with other motivating factors, this variable may prove to be a welcomed fringe benefit.

In addition to these motivating factors, there was a financial incentive in some parts of the country for employers to participate in school-to-work programs. The STWOA empowered states to facilitate the development of school-to-work programs, and by 1996 the federal government had granted $643 million to 29 states to help make that possible. Some states, including Michigan, Oregon, and Wisconsin, offer incentives in the form of tax credits or wage subsidies for those companies that hire youth apprentices (Hershey et al. 1997).

Obstacles to Participation

Even after the Act was implemented, however, most observers doubted that school-to-work programs would have more than a token representation across the country, because employers felt there was not enough self-interest to participate and the obstacles to participating were considerable (Bailey 1995; Osterman 1995; Stern 1995). For example, participation typically requires a substantial financial commitment up front. ProTech in Boston, one of the most successful school-to-work programs, placed high school students in part-time jobs in Boston area hospitals. A representative hospital that placed 28 students in its program calculated that it spent $5,678 per student on the program in addition to wages paid to the students (Osterman 1995).

The important elements of costs begin with training. Even in Germany, known for its extensive apprenticeship programming which reaches two-thirds of all youth, larger companies are finding the expense of apprenticeship training difficult to support. Dietmar Harhoff and Thomas Kane found that German employers lost $9,381 (in 1990 dollars) for every student trainee (Osterman 1995). In the U.S., many companies do not offer systematic training, even for their regular employees. Lynch (1992) reports, for example, that only 4 percent of 16- to 24-year-old workers received more than four weeks of formal training over a three-year period on the job. Only 1.5 percent of 21- to 29-year-olds were in apprenticeship programs in 1993 (Bishop 1996). Employers that do not currently offer formal training would have to develop such programs in order to be involved in school-to-work efforts, and the obstacles that prevent them from training, such as severe lack of resources, are also likely to be obstacles to participation.

In fact, the burden of developing a school-to-work program is likely to be even greater than a training program, because the former requires mentoring, coordination with the school curriculum, and broader instruction in aspects of the industry as a whole, as well as specific skills (Stern 1995). And the costs of supervising young students may be significantly greater than for full-time workers. Many companies surveyed by the Youth Entitlement Demonstration program in the 1970s, for example, believed that students could not contribute enough to justify the effort needed to supervise them (Bailey 1995).

Further, many employers have a bias against hiring high school students. Fewer than a third of American employers in 1991 believed that recent high school graduates were capable of holding jobs in their companies (U.S. DoL/U.S. DoE 1993). Employers may believe that recent high school graduates lack the basic skills and work habits required to become valued employees. Consequently, employers tend to hire older applicants over recent high school graduates, even when the older candidates are less qualified (Gregson 1995). The focus groups of employers conducted by Zemsky (1993) suggested that hiring

was not a problem for them—and when they did hire, they saw no reason to pursue recent high school graduates when older, more "reliable" applicants were available.

Exacerbating the general bias against high school students is the perception that the quality of students in these school-to-work programs would be lower, that it would be targeted to lower-ability students. During the 1980s, the Targeted Job Tax Credit perpetuated this stigma by providing tax credits only for those students who were on welfare or who suffered from some other legitimate disadvantage (Ascher 1994). Finally, employers may be reluctant to place students in some positions due to concerns about safety and liability (Hershey et al. 1997).

Measuring the Incidence of Employer Participation

In summary, the key obstacle to the school-to-work movement appears to be the lack of participation of employers, particularly in providing sites for work-based learning. And the explanation for that lack of participation has been the apparent lack of economic incentives for providing work-based cites. The evidence before the STWOA of 1994 was introduced suggested that there was very little employer involvement in existing work-based programs at school and little employer training of recent school leavers. Given all of the costs and drawbacks to employer participation noted above and the low level of initial involvement, most observers were skeptical that the school-to-work programs would expand.

There was some evidence, however, that once programs were in place, they might find it easier to expand. Lynn and Wills (1995) found, for example, that while most employers initially agreed to provide work-based learning places for students out of general civic-mindedness, they were on average pleasantly surprised by how well the students performed in their jobs. Similar findings came from studies of youth apprenticeship programs in the U.K. (Cappelli 1996). These findings suggests that once these programs have a foothold in the business community, they might generate support from within each company to expand.

Another crucial factor in determining the potential amount of employer involvement in these programs has been the state of the labor market. The importance of most of the incentives for employers to participate in these programs turn on how difficult it is to find qualified employees in the regular labor market. The value of student work or of recruiting qualified students into regular jobs is judged relative to the alternatives. We know, for example, that the amount of training that employers provide rises when it is more difficult to hire workers—that employers are more willing to make these investments when they cannot easily find qualified workers on the outside market (Bishop 1996). The two

decades before the passing of the STWOA in 1994 were periods of relatively high unemployment, especially for youth, and the estimates of low employer involvement in work-based learning and training were generated in these periods.

A set of case studies of employers who participated in school-to-work programs found that the benefits to the employers often did exceed the costs. Perhaps the main feature that distinguished the programs that paid off was that they were located in areas with tight labor markets (Bassi et al. 1997).

An initial study of employer participation in school-to-work programs prepared in 1995, one year after the Act was passed, found 59,239 employer-provided sites for work-based learning, offering 119,047 positions. In the following year, another study of 11 states receiving school-to-work grants from the Federal Government reported 39,000 work-based learning sites provided by employers (U.S. DoE/DoL 1996). These numbers are dramatically higher than the estimate of 1,000 students in youth apprenticeship programs, and the 1996 study suggests that they might be increasing rapidly. But the numbers still seemed far short of anything like a large-scale program for the country as a whole. And some observers wonder privately what these estimates include—whether they are simply reporting the traditional vocational education and coop programs as part of "new" school-to-work initiatives, for example, substantially understating the true extent of employer involvement.

The EQW National Employer Survey

Against this background, the EQW National Employer Survey (EQW-NES) set out to measure employer attitudes toward and participation in programs associated with developing worker skills, including programs targeted at youth. The survey was administered by the U.S. Bureau of the Census as a telephone survey in August and September of 1994. Public-sector employers, non-profit institutions, and corporate headquarters were excluded from the sample. Establishments in the manufacturing sector and establishments with more than 100 employees were oversampled. The sampling frame represents establishments that employ about three-quarters of all workers. The target respondent in the manufacturing sector was the plant manager; in the non-manufacturing sector, it was the local manager of the business site. In addition, the survey was designed to allow for multiple respondents so that information could be obtained in cases where the plant manager, or business site manager, did not have ready access to all information. Of the 4,633 eligible establishments who were contacted by Census, 1,275 refused to participate in the survey—a 72 percent response rate (National Center on the Educational Quality of the Workforce [EQW]1994).

A supplement to the NES was administered in March and April of 1996, again by the U.S. Bureau of the Census as a telephone survey. Those establishments who completed the original NES were re-surveyed. In addition to creating some short-term longitudinal data elements, the supplement explored areas that were not addressed by the original NES. Several items that focused on employers' participation in work-based learning projects, the extent to which employers hire young workers, and employers' evaluations of working students were included. With the data from the NES and its supplement, one can directly address questions concerning the nature of establishments that participate in work-based learning programs.

Seventy-five percent of the establishments that participated in the initial NES were retained in the supplement. There was some selection bias in the retained establishments across industry characteristics because of different response rates, but this bias is not severe. The retention rate for the smallest establishments (those hiring less than 50 employees) was less than 70 percent, for example, as it was for establishments in the transportation, communications, wholesale trade, and retail trade industries. Slightly more than 80 percent of the establishments in the chemical and petrochemical, lumber and paper, primary metals, and metal products industries ended up in both surveys.

The supplement to the NES posed several questions to establishments concerning their participation in work-based learning activities. Establishments were asked if they participated in:

- *Job Shadowing*: Where a student follows an employee for one or more days to learn about a particular occupation or industry.

- *Mentoring*: Where a student and employee are paired for an extended period of time. The employee helps the student learn certain skills and knowledge the employee possesses (e.g., model workplace behavior), challenges the student to perform well, and assesses the student's performance.

- *Internships*: Where for a specified period of time students work for an employer to learn about a particular occupation or industry. This may or may not include financial compensation.

- *Cooperative Education*: A method of instruction whereby students alternate or parallel their academic and vocational studies with a paid or unpaid job in a related field.

- *Registered Apprenticeships*: Formal programs registered with the U.S. Department of Labor or with an approved state apprenticeship agency. Registered apprenticeships are typically paid work experiences.

- *Youth Apprenticeships*: Multiyear programs combining school and work-based learning in an occupational area. These are designed to lead directly into a related postsecondary program, entry-level job, or registered apprenticeship program. These may or may not include financial compensation.[3]

A composite measure was developed to indicate if a given establishment participated in *any* type of work-based learning, whether or not their programs were under the aegis of the School-to-Work Opportunities Act. Thus, the NES supplementary data measure participation in both government-sponsored programs and any programs developed on an autonomous basis by individual establishments. Since the STWOA was quite new when the NES supplement was administered, it is safe to assume that most of the work-based learning activity measured was *not* a result the legislation.

Table 1 shows the reported participation rates in various forms of work-based learning. An estimated 19 percent of establishments was involved in some form of work-based learning activities in the spring of 1996. The universe from which the first NES sample (NES-I) was drawn consisted of about 650,000 establishments. A 19 percent participation rate would translate into about 124,000 workplaces engaged in some form of work-based learning. Tables 2 and 3 show participation rates in work-based learning by establishment size and industry, respectively. While small establishments (those hiring less than 100 employees), accounted for over 60 percent of establishments participating in work-based learning, this is an artifact of the large number of such establishments. These establishments actually participated less than larger ones. Indeed, the propensity to engage in work-based learning is directly related to establishment size.

Table 1. Participation in Work-Based Learning (WBL) Activities, 1996

Type of Work-Based Learning	Percent of Establishments
Internship	17%
Mentoring	12%
Cooperative Education	11%
Job Shadowing	11%
Registered Apprenticeships	3%
Youth Apprenticeships	2%

Table 2. Participation in WBL Activities by Size of Establishment, 1996

Establishment Size	Percent Doing Any WBL	Percent of All Doing WBL
20-49	15%	40%
50-99	17%	21%
100-250	23%	20%
251-1000	38%	14%

Table 3. Participation in WBL Activities, by Industry of Establishment, 1996

Industry	Percent Doing Any WBL	Percent of All Doing WBL
Communications	57%	5%
Health Services	35%	15%
Machinery/Instrumentation	31%	6%
Finance	26%	6%
Transportation Equipment	25%	1%
Hotels	25%	3%
Utilities	24%	1%
Insurance	24%	2%
Chemicals and Petroleum	23%	2%
Printing and Publishing	22%	3%
Business Services	22%	8%
Primary Metals	19%	1%
Freight	18%	2%
Textile and Apparel	17%	1%
Retail Trade	16%	28%
Food and Tobacco	14%	1%
Lumber and Paper	13%	1%
Miscellaneous Manufacturing	12%	2%
Construction	11%	5%
Wholesale Trade	11%	6%
Metal Products	8%	1%

In the summer of 1997, a new National Employer Survey was conducted by the Census Bureau with funding from the National Center for Postsecondary Improvement (NCPI) and the Consortium for Policy Research in Education (CPRE). The U.S. Census Bureau was again retained to administer the survey via telephone, and the sampling frame was identical to the initial NES. The sample for the National Employer Survey, Phase II (NES-II) consisted of three components:

1. A state component of about 2,000 completed interviews representing establishments in five states (California, Kentucky, Michigan, Maryland, and Pennsylvania). These interviews include questions on statewide education reforms that enable researchers to document the effects of reform.

2. Approximately 2,500 completed interviews that comprise a representative sample of the rest of the U.S. (45 states plus the District of Columbia).

3. A longitudinal component of about 900 completed interviews with business establishments that had participated in the initial NES.

Of the 6,971 establishments the Bureau approached to participate in the survey, only 1,506 (22%) refused, for a participation rate of 78%.[4]

The NES-II explicitly asked establishments about their participation in formal school-to-work programs. The wording of the query was:

> School-to-work partnerships consist of joint activity between schools and employers to build connections between school-based learning and work-based learning. Is your establishment participating in such a school-to-work partnership?

An estimated 26 percent of those establishments employing 20 or more people reported involvement in a school-to-work partnership (Tables 4 and 5). As in the NES-I, the NES-II asked employers about their participation in work-based learning activities. Overall, 39 percent of NES-II establishments reported participating in some form of work-based learning. In 1997, there were about 670,000 private establishments in the U.S. employing more than 20 people. The NES-II data would indicate that more than 170,000 of these were participating in a school-to-work partnership, and that over 250,000 were engaged in some type of work-based learning for high school and/or community college students (Table 6). Ninety-one percent of those establishments who reported participating in a school-to-work partnership also reported participating in some form of work-based learning activity, as compared with 21 percent of other establishments.

Table 4. Participation in School-to-Work (STW) Partnerships by Size of Establishment, 1997

Establishment Size	Percent Participating in STW	Percent of All Doing STW
20-49	24%	56%
50-99	24%	20%
100-250	33%	16%
251-1000	42%	7%
1000 +	60%	2%

Table 5. Participation in STW Partnerships by Industry of Establishment, 1997

Industry	Percent Participating in STW	Percent of All Doing STW
Communications	44%	3%
Health Services	44%	13%
Utilities	37%	1%
Finance	35%	5%
Transportation Equipment	35%	1%
Hotels	32%	2%
Primary Metals	30%	1%
Retail Trade	28%	38%
Printing and Publishing	27%	2%
Machinery/Instrumentation	25%	4%
Metal Products	25%	2%
Chemicals and Petroleum	24%	1%
Textile and Apparel	24%	1%
Miscellaneous Manufacturing	22%	3%
Wholesale Trade	21%	8%
Insurance	19%	2%
Business Services	18%	5%
Food and Tobacco	16%	1%
Freight	15%	2%
Construction	15%	4%
Lumber and Paper	12%	1%

Table 6. Association Between Participation in STW Partnerships and WBL Programs, 1997

Type of Work-Based Learning Activity	Participation Rate for STW-Identified	Participation Rate if Not STW-Identified	Overall ParticipationRate	Average # of Slots
Internship	44%	12%	20%	4.10
Cooperative Education	42%	5%	16%	3.76
Job Shadowing	41%	6%	16%	6.32
Mentoring	33%	1%	10%	8.86
Registered Apprenticeship	13%	6%	8%	6.80
Youth Apprenticeship	9%	2%	4%	3.98

The incidence of both participation in school-to-work partnerships and the sponsoring of work-based-learning activities is substantial, much higher than those indicated by earlier surveys. What explains these relatively high participation rates by private establishments? Some of the work-based learning activity we observe is likely attributable to the implementation of the STWOA of 1994. The participation in work-based learning by establishments that do *not* identify themselves as school-to-work in the summer of 1997 is similar to the overall reported rate in the spring of 1996, suggesting that any growth in that period could be tied to efforts associated with the Act. It seems reasonable to argue that full implementation of the STWOA was just beginning in early 1996, and what the NES-I supplement measures is really a baseline level of activity. As dollars became available and acquired by localities under the auspices of the STWOA, more establishments would be encouraged to participated in school-to-work partnerships and, consequently, in work-based-learning activities.

A second factor, more likely contributing to the acceptance of work-based learning programs by private establishments, is the current era of economic growth and its associated tight labor markets. The need for a qualified labor force is real and pressing. In the past, an expanding enterprise could hope to fill its labor needs with experienced workers in their mid-20s who already had work experience, possibly having been downsized out of a responsible position. Indeed, employers seemed readily able to find the "twenty-six-year-old with three previous employers" that Zemsky reports one manager holding up as the preferred new hire for entry-level jobs. As labor markets became tighter, such applicants became scarce indeed. Employers had to begin turning instead to recent school leavers and therefore have become more interested in whether graduates of the secondary school system have the skills to meet, and exceed, job requirements. Being active in a school-to-work partnership and sponsoring work-based learning experiences may be a way to address a current need.

In North Carolina, for example, the State Commerce Secretary has complained about a shortage of qualified employees available for sophisticated manufacturing jobs and in response has set up a program in the Commerce Department to help schools work with employers in developing workplace preparation programs like school-to-work (Catanoso 1997). No doubt, similar reactions in tight labor markets around the U.S. are contributing to the expansion of these programs. One can legitimately ask, however, whether we have truly built a new infrastructure that will develop work-based skills and facilitate the transition from the world of school to that of work—an infrastructure that will continue to work even when labor markets slacken. Or, will these initiatives wither with the next economic downturn and the labor surplus it produces?

Conclusion

In general, there seems to be greater consensus regarding the factors that may encourage a company's participation in school-to-work programs and less consensus regarding the factors that may dissuade a company from participating. Most observers believe, as we argue above, that the most important incentives for employer participation in these programs are economic and center on the need to fill job vacancies. However, even when the economy provides such incentives, other obstacles remain, and observers disagree as to their importance. According to the U.S. Government Accounting Office, the major obstacle to employers participation lies in educating employers about school-to-work programs and their benefits (Ascher 1994). Still others have suggested that employers and schools do not trust each other and that this accounts for employer resistance (Barton and Fraser 1978). Along the same lines, the EQW recommends that interactions between schools and companies be more "direct, substantive, and business-like" as a way to overcome resistance (EQW 1995).

Another issue concerns the extent and depth of employer participation in these programs. Though the EQW study finds that more than 20 percent of American companies participate in some type of internship program, schools nationwide have experienced difficulty in recruiting large numbers of employers who are willing to devote the time and resources to developing worthwhile internships for high school students (EQW 1995). Presumably, this suggests that employers who do participate are not providing nearly enough places for students in their programs.

Similarly, while 25 percent of U.S. companies report participating in a school-to-work partnership and another 40 percent report providing some sort of work-based learning experience, it is not clear how substantive such involvement and experiences are. The relatively low rates of formal apprenticeship opportunities could indicate that the current work-based learning activities are less far-reaching than the school-to-work community

might hope for. It is possible that the relatively high overall participation rates we are witnessing could be near the maximum we can reasonably expect from employers, short of coercive federal and state regulations along the European model. Even with tight labor markets, not all employers will find it cost effective or useful to engage in school-to-work partnerships or provide work-based learning.

As Osterman (1995) suggests, an alternative approach for expanding these opportunities may lie in expanding less intensive programs, such as unpaid job shadowing, mentoring, and field trips, that make fewer demands on employers. Whether we can construct a useful system for moving students from the world of school to the world of work using such "low-intensive" programs, or whether we can more aggressively promulgate the use of more formal programs, seems to be the policy question of the moment.

Endnotes

1. A good guide to the rise of the School-to-Work movement, as well as to its content, is provided in Olson (1997).

2. In fact, unpaid student interns are prohibited from doing work of value for an employer under the Fair Labor Standards Act, although remarkably few participants seem aware of this requirement.

3. These activities, and their definitions, were taken from the National School-to-Work Office's "School-to-Work Glossary of Terms," published in 1996.

4. The 6,971 establishments exclude those that were unavailable, unreachable, closed, or for some reason could not be contacted.

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