II. SCHOOL-BASED LEARNING

The school-based learning component of the school-to-work model is expected to affect students in several important ways. First, students receive career guidance that exposes them to a broad range of occupational opportunities and helps them to identify career interests. Second, students choose a career major that determines their academic and vocational program of study during at least their secondary years. Third, students become more engaged in learning and acquire skills more readily, as a result of improved teaching methods emphasizing hands-on, student-centered learning that is relevant to students' lives, career interests, and workplace experiences. Fourth, systematic activities and arrangements at the secondary level promote student entry into postsecondary education and training. Finally, students receive an industry-recognized credential certifying their mastery of skills and competencies required for their career objective.

Although Tech-Prep consortia are not currently required by law to include all of these school-to-work elements, documenting the extent to which they have begun implementing these key elements, or have expanded them, provides some preliminary indication of initial school-to-work development in Tech-Prep communities.

A.   CAREER EXPLORATION AND COUNSELING

Career development activities are generally considered critical to the success of school-to-work and Tech-Prep reforms. Both models call for students to make important choices during high school--selecting a career cluster or major, perhaps choosing an occupational specialty, and planning for postsecondary education or training. Students must be able to identify their interests and abilities, as well as formulate occupational goals on the basis of clear information about career options.

Currently, career counseling and career development activities may be provided in one of three ways: (1) as a required component for Tech-Prep students specifically; (2) integrated into regular school courses or activities and required of all students; or (3) made generally available to any student who wishes to use them. Ideally, career development activities would be universally available as part of a school-to-work system.

Data from the Tech-Prep surveys can help us to address three questions about the status of career exploration and counseling:

1.   How consistently are career development activities implemented?

2.   What are the most common methods for delivering career development services?

3.   Are middle schools promoting career awareness in Tech-Prep communities?

The definition and delivery of career development activities are likely to vary among individual districts and schools

An important issue concerning career development and counseling in school-to-work systems is how consistently and universally they will be provided. Evidence from the Tech-Prep surveys suggest that the emphasis on and approach to career guidance vary from school to school; creating a Tech-Prep consortium or school-to-work partnership may not greatly affect which strategies local districts adopt. Fewer than half of Tech-Prep consortia implemented specific career development activities consortiumwide--that is, in all member schools (Table II.1).

Individual career counseling is the most widespread career development activity but is not universally available

Schools currently deliver career awareness and counseling services in a variety of ways. Among Tech-Prep consortia, the most common forms at the secondary level are career exploration software, career activities integrated into academic or vocational classes, and, particularly, individual counseling. About 90 percent of the 867 Tech-Prep consortia conduct individual career counseling sessions in at least some of their member high schools. Only 52 percent of all consortia, however, report implementing these activities in *all* of their participating high schools--or a total of 3,476 secondary schools (Table II.1).

Some middle schools are already implementing the types of career exploration activities the STWOA promotes

The STWOA requires eligible partnerships to begin providing students with career awareness experiences, exploration, and counseling at the earliest possible age, but no later than seventh grade, to help students develop career goals and select career majors. This provision underscores the important role middle schools and junior high schools can play in a school-to-work system.

Tech-Prep consortia report that some middle schools are already engaged in providing career development activities (Table II.1). About one-quarter to one-third of Tech-Prep consortia report that all middle schools in their communities are offering some type of career awareness experiences to younger students. As at the secondary level, the most common type of career development activity is individual counseling.

The emphasis on career development may be growing

The STWOA's emphasis on career awareness and exploration will probably stimulate Tech-Prep consortium schools that have not been focusing on these elements to start doing so. There is some evidence from the fall 1993 and fall 1994 Tech-Prep surveys that individual career guidance and career awareness classes have become more prevalent components of Tech-Prep core programs. In 1994, more than 80 percent of the consortia defining a required set of core activities for all Tech-Prep

TABLE II.1   CONSORTIA PROVIDING CAREER DEVELOPMENT ACTIVITIES AT ALL
MEMBER SCHOOLS

students included career development experiences in their program model, compared with 75 percent a year earlier.[1]

B. SELECTION OF A CAREER MAJOR

Encouraging students to choose and follow a sequence of academic and vocational courses that prepares them for an identified career is an important element of the STWOA, but the concept is not unique to school-to-work. The Tech-Prep model includes a similar feature, in which each Tech-Prep program or program of study reflects a defined, occupationally relevant course sequence. Some Tech-Prep models offer narrowly defined programs of study geared toward particular occupational specialties; some provide broad career clusters--groupings of programs of study that prepare students for related occupations--that can be selected as a first step toward more focused career preparation. Students' enrollment in or choice of a Tech-Prep program can, in some communities, be equivalent to selecting a career major, as defined in the STWOA.

The Tech-Prep evaluation surveys examined the implementation of this important component in Tech-Prep communities. The surveys asked consortium coordinators several questions about the extent to which students choose a career cluster or specific occupational program that determines *both* their academic and vocational course options. Their responses can be used to address five questions:

1. To what extent are career-oriented programs of study available in Tech-Prep consortium districts? How did this availability change between 1993 and 1994?

2. In what career areas or clusters are these programs of study offered?

3. Is choosing an occupational program of study a fundamental part of the Tech-Prep experience?

4. At what grade level do Tech-Prep students usually choose a career cluster or major?

5. How consistently are career clusters defined?

Career-focused programs of study are common

Most consortia report offering either broadly defined career clusters or more narrowly focused programs of study to guide students' choices of academic and vocational courses. In 1994, slightly more than two-thirds of consortia reported that the students they consider Tech-Prep participants choose and follow an occupational cluster or program in at least one consortium district.

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[1]The proportion of consortia actually requiring and implementing career development activities for all Tech-Prep students in these years was likely to be less than the reported levels, however. As many as a quarter of the responses to the relevant survey item may reflect program goals rather than actual program operation. We have no reason to believe that this type of response inflation would be greater in fall 1994 than in fall 1993, however. Thus, the observed increase in emphasis on career development activities is likely to be real.

Expansion in the reported use of programs of study has been limited, however. An identical proportion of consortia reported defining and using career clusters in 1993 and 1994. Moreover, within consortia, growth in the number of districts offering career-oriented programs of study has been uneven. Among consortia that responded to both years of the survey, only about 30 percent reported implementing programs of study in more districts in 1994 than in 1993. On the other hand, just under one-quarter offered career clusters in fewer districts in 1994; almost half offered them in the same number of districts in both years. A total of 2,748 districts implemented these programs of study in 1994.
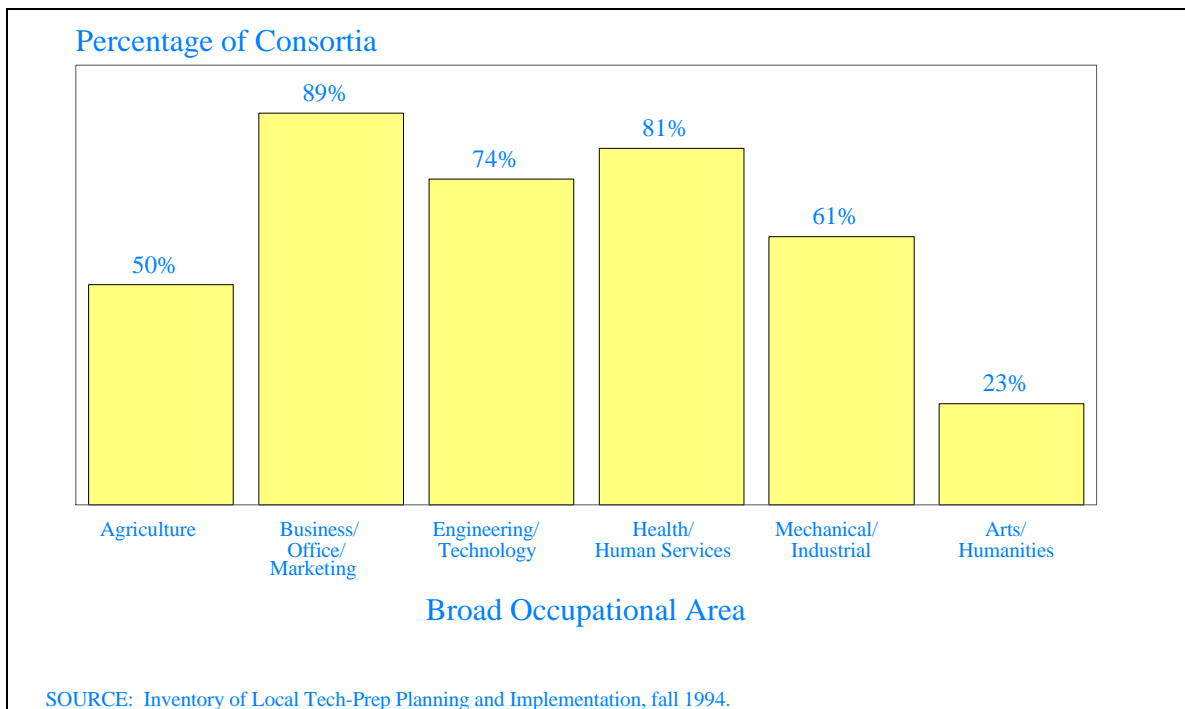
Programs of study are most frequently defined for business, engineering/technology, and health and human services

Tech-Prep consortia report offering programs of study in areas as broad as human services and as narrow as restaurant management. Programs of study are also offered across most of the common classifications for career clusters. If we group together the more narrowly defined titles recorded by consortium coordinators, the survey data indicate that the most commonly implemented career clusters involve business, office skills, and marketing (Figure II.1). There has been little change in this pattern. In both 1993 and 1994, close to 90 percent of all consortia with occupational programs of study defined at least one program that could be included in this broad business category. Programs of study in engineering/technology and health and human services were also common in both years.

FIGURE II.1

CONSORTIA WITH SPECIFIED CAREER CLUSTERS
Many consortia view choice of a career cluster as a critical step in Tech-Prep participation

SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.

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The survey data suggest that most consortia view choosing and following a career-focused program of study as a Tech-Prep key element. In 1994, almost 400 consortia reported that selecting a career cluster is a core part of their Tech-Prep initiative, similar to the "career majors" approach the STWOA promotes. These reports probably overstate the extent of this component's implementation, however. Some consortia that report requiring students to choose a career cluster are undoubtedly documenting program objectives rather than established Tech-Prep components. A sizable number of consortia report conflicting information. About 20 percent of the consortia that reported requiring students to choose a career-focused program of study (77 of 384) do not, according to another survey question, currently have defined programs of study or students involved in them.

Selection of a career cluster most frequently occurs before 11th grade

The STWOA requires communities to encourage student selection of a career-focused program of study (career major) in 11th grade or earlier. The Tech-Prep data show that many communities ask students to make at least a tentative choice at an earlier point. Among consortia that expect students to choose a career cluster as part of the Tech-Prep program design, most report that they have students choose in eighth grade (26 percent) or ninth grade (34 percent). Choices made in 10th and 11th grade are less common (18 percent and 17 percent, respectively).

This distribution probably reflects considerable variation in how consortia define a career cluster or program of study. In many communities, 8th or 9th graders must decide (with the help of their parents) whether to attend a comprehensive high school, vocational high school, or regional vocational center; such choices may be based on a preliminary identification of a career interest by the students. In other communities, students leaving middle school are asked about their career interests as input into scheduling high school courses. In both cases, the choice may have little real impact on students' course selection in the early years of high school, but the declaration of a tentative career focus and the intent to use this information to structure courses may be interpreted by consortia as the equivalent of a defined program of study.

Definition and use of career clusters undoubtedly vary significantly

Strategies for implementing career-focused programs of study in school-to-work initiatives are likely to vary, just as those adopted and documented by Tech-Prep consortia do. On the basis of information from both the national Tech-Prep survey and on-site observation of local Tech-Prep consortia, communities' understanding of the concept of such programs of study varies widely. Nearly 20 percent of consortia in each year of the survey did not use the broad labels, such as health/human services and engineering/technology, suggested in the questionnaire to describe their career clusters. Instead, they wrote in quite specific cluster titles, such as building construction, child care, broadcasting, computer-assisted design, and occupational home economics. We question whether these narrow titles refer to programs of study that specify both academic and vocational courses in an articulated program or simply refer to traditional vocational courses. Although counselors and vocational teachers in some schools do recommend that students interested in completing a vocational program take specific academic courses, our experience suggests that this advice is usually provided ad hoc, and students can choose not to enroll in the recommended, relevant courses.

Moreover, as discussed earlier, many communities ask students to identify career interests tentatively at the end of eighth grade or early in ninth grade and, to some extent, encourage counselors to incorporate these early expressions of interest into student course scheduling. Some communities may consider this activity to be student selection of a career-related program of study. In fact, however, the process of eliciting students' interests may be relatively casual, and students may not even be aware of the link between their interests and the courses they take. Unfortunately, the Tech-Prep survey data do not allow us to evaluate fully the extent to which career-related course sequences are actually defined and how much students understand them.

C. IMPLEMENTATION AND INTEGRATION OF ACADEMIC AND VOCATIONAL EDUCATION

A rigorous program of instruction and curriculum that integrates academic and vocational learning and is determined by students' choice of career cluster or major is fundamental to both Tech-Prep and school-to-work. New kinds of teaching methodologies and curriculum frameworks are being used to offer students contextual learning approaches--teaching concepts as they are applied in real life and the world of work, through hands-on problem-solving activities and exercises. Outdated vocational curricula are being revised to prepare students for more creative thinking and to reinforce basic skills and more advanced academic principles. Whereas Tech-Prep efforts may have focused more narrowly on individual specialized programs of study and courses, the STWOA promotes the broad availability of the new courses, linked in sequences around career themes.

The Tech-Prep survey explored two areas of curriculum development and integration. Specifically, the data can address three issues:

1. To what extent have Tech-Prep communities implemented academic curricula that emphasize contextual or applied learning strategies?

2. Are occupational-technical courses being developed or updated?

3. In which fields are the development and updating of technical courses most common?

Almost all consortia have recently made some efforts to develop and implement applied academic curricula

Evidence from the Tech-Prep survey indicates that some communities are already familiar with applied academic curricula--one form of academic and vocational integration on which school-to-work systems can be built. The data document the recent implementation within most consortia of academic curricula that emphasize contextual or applied learning. In the past two or three years, more than 92 percent of all consortia have introduced applied academic curricula that were either developed at the state or local level, or, more commonly, even purchased from commercial vendors.

New applied curricula are currently available in a relatively small proportion of schools

The Tech-Prep data suggest that communities still have a long way to go before implementing applied academic curricula systemwide. Despite substantial consortium commitment to new applied curricula, actual implementation among secondary and postsecondary schools is not widespread. Even among consortia that report using CORD's Applied Math curriculum--seemingly the most popular of the commercially available curricula--only slightly more than a third of their secondary schools are currently using the curriculum (Table II.2). Use of applied academic curricula, whether purchased from vendors or developed at the state or local level, in subject areas other than mathematics is even less common. Moreover, data collected on-site at some Tech-Prep consortia suggest that many schools offer only one or two sections of these applied courses.

Many consortia have recently revised or introduced new occupational-technical curricula

To meet the demands of the labor market for entry-level workers with good critical thinking, problem-solving, and technical skills, many schools need to update old vocational curricula and develop new occupational curricula and courses that can be incorporated into school-to-work systems. Some of this activity is already taking place in Tech-Prep communities. About 65 percent of all Tech-Prep consortia reported that, between 1991 and 1994, at least one secondary or postsecondary school in the consortium had implemented new occupational-technical courses or substantially revised existing courses to emphasize new instructional methods (for example, competency-based learning) or instruction in more advanced skills. The extent to which these new curricula have been adopted by consortium schools is unknown, however, because consortia were not asked to report the number of schools implementing such curricula.

The data suggest that developing or revising technical curricula is generally not a priority in the early years of Tech-Prep implementation. Consortia that received their first Title III-E grant in FY 1992 were significantly more likely (72 percent) than those that received their first grant in either FY 1993 (57 percent) or FY 1994 (49 percent) to be implementing new or updated occupational-technical curricula. This outcome may also foreshadow a lack of focus on such curricula in early school-to-work development. School-to-work partnerships may emphasize the development of new applied academic curricula over occupational-technical curricula, as did Tech-Prep consortia in the first few years of planning and implementation. Moreover, because many schools have already updated some technical curricula as part of Tech-Prep, school-to-work partnerships may choose to focus resources on other school-to-work components.

Emphasis on development of occupational curricula follows a pattern similar to that of career clusters

Consortia have emphasized technical curriculum activity in the same occupational areas in which they report offering career-oriented programs of study (Figure II.2). For example, just as business, office skills, and marketing represented the most commonly defined career cluster or major, vocational-technical curricula in these occupational fields have been the focus of recent curriculum revision and development efforts.

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TABLE II.2   RECENTLY INTRODUCED COMMERCIAL APPLIED ACADEMIC CURRICULA

FIGURE II.2

RECENT IMPLEMENTATION OF NEW OCCUPATIONAL-TECHNICAL
CURRICULA AT THE SECONDARY LEVEL,
BY BROAD OCCUPATIONAL AREA

Percentage of Consortia

Agriculture	Business/ Office/ Marketing	Engineering/ Technology	Health/ Human Services	Mechanical/ Industrial	Arts/ Humanities
28%	65%	58%	54%	52%	13%

Broad Occupational Area

SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.

D.   FACILITATING ENTRY INTO POSTSECONDARY EDUCATION AND TRAINING

The primary goal of school-to-work reforms is to promote students' successful entry into career-oriented employment. One approach to improving the transition of young people from school to work involves encouraging them to pursue advanced training and education at the postsecondary level. Tech-Prep efforts in this area have focused on articulating secondary and postsecondary institutions' courses and programs, to ease the transfer of students to college or apprenticeships and to prevent delays and duplication of course work and credit. Some Tech-Prep consortia have also required students to develop educational plans that include tentative postsecondary choices, to encourage early postsecondary planning. These approaches and the existing articulation agreements in Tech-Prep communities are likely to be building blocks for school-to-work systems in some local partnerships.

The Tech-Prep surveys document the implementation of these approaches to facilitating postsecondary transitions and allow us to address two issues:
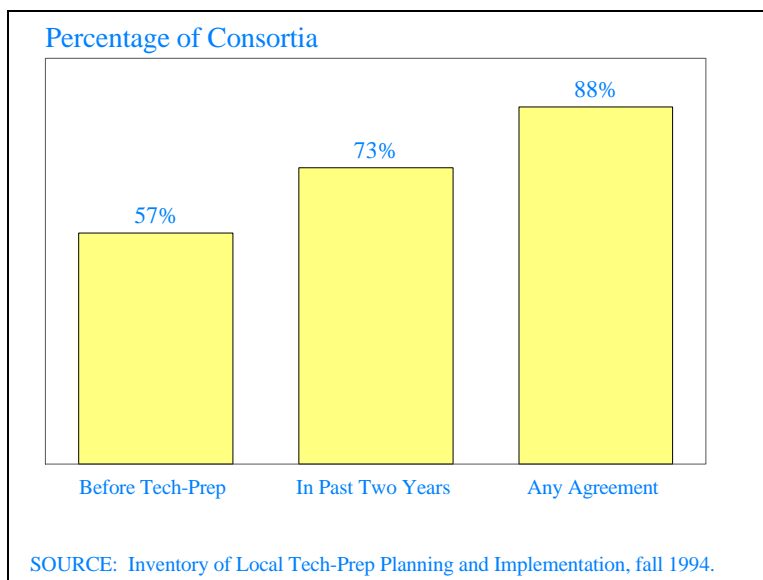
1.   To what extent have articulation agreements been signed?

2.   How important is postsecondary planning in Tech-Prep activities?

Articulation agreements have been established in many communities

School-to-work planners in many areas of the country will have the benefits of established agreements. By fall 1994, close to 90 percent of Tech-Prep consortia had signed articulation agreements between local secondary and postsecondary institutions (Figure II.3).[2] Many communities had developed articulation agreements even before the Tech-Prep consortium was formally established. In addition, recent Tech-Prep activity reflects continued emphasis on articulation. Nearly three-quarters of consortia have signed new agreements in the past two or three years, some working on articulation for the first time and others expanding agreements into new occupational areas or schools.

FIGURE II.3

CONSORTIA WITH ARTICULATION AGREEMENTS SIGNED PRIOR TO
TECH-PREP IMPLEMENTATION AND WITHIN THE PAST
SEVERAL YEARS

Percentage of Consortia

Before Tech-Prep	In Past Two Years	Any Agreement
57%	73%	88%

SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.

Many postsecondary institutions are already involved in articulation efforts

Two-year colleges that join school-to-work partnerships will most likely bring with them a familiarity with secondary-postsecondary articulation and a set of valuable institutional relationships. Consortia with signed articulation agreements reported a total of 1,300 postsecondary institutions as partners

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[2]The Tech-Prep Education Act requires consortia to operate their Tech-Prep programs under articulation agreements. The 10 percent of consortia that did not report having signed agreements may be in the process of developing such agreements; most were new grantees.

in these agreements. This figure represents nearly all of the two-year institutions that were members of these consortia and suggests that Tech-Prep has affected most of the nation's community colleges.[3]

Secondary-postsecondary planning is a key Tech-Prep activity

In addition to signing articulation agreements, many consortia promote postsecondary enrollment by helping students develop comprehensive educational plans. Close to 80 percent of the consortia that define their core program activities require students to complete plans that identify a career interest and the likely secondary and postsecondary courses that best prepare them for their career goal.

E. SKILL CERTIFICATES

A common objective of the STWOA and Tech-Prep Education Act is to help students acquire high level academic and technical skills. The STWOA promotes the awarding of a special industry-recognized credential--a skill certificate--to document students' mastery of key competencies required for specified entry-level jobs. Although efforts are under way to develop skill standards and certificates at the national level in some occupational areas, these efforts are not yet completed and do not cover the full range of occupations. In the meantime, the STWOA encourages local school-to-work initiatives to develop their own skill certificates, with input from employer partners. These credentials are not included in the Tech-Prep model, but some consortia that are moving toward school-to-work implementation have begun the process of creating them.

ED asked MPR to collect early baseline information about the status of skill certificate implementation from Tech-Prep consortia. The questions emphasized the distinction between a credential that documents specific skills that can be used as evidence of qualifications for potential employers and a traditional high school diploma. New items added to the fall 1994 survey questionnaire addressed four key issues:

1. How extensively are skill certificates being introduced in Tech-Prep communities?

2. When are they awarded?

3. What types of skills or outcomes do the certificates most frequently record?

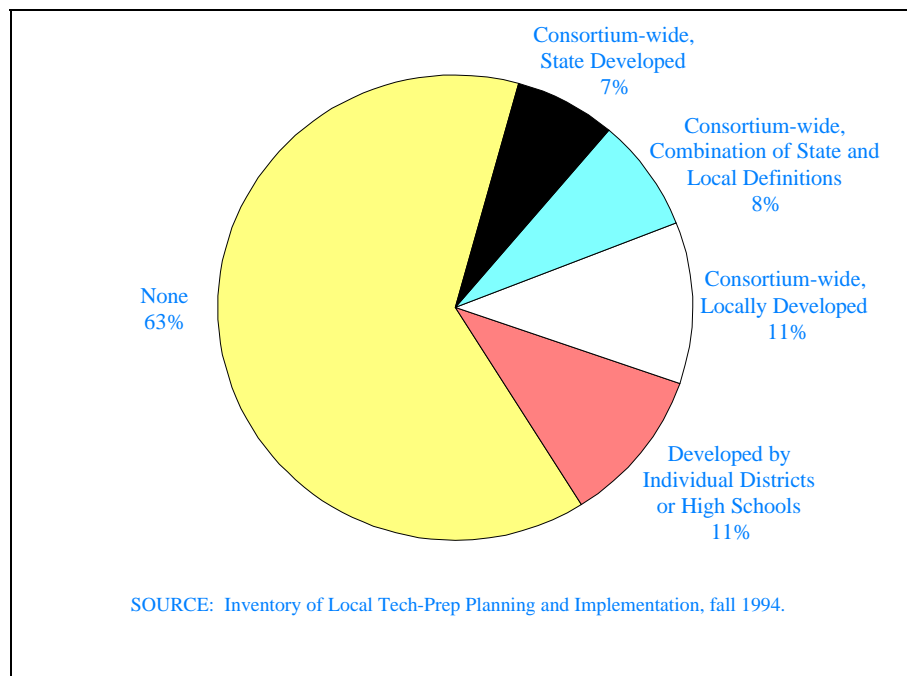4. Which individuals or organizations authorize or validate the certificates?

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[3]Some postsecondary institutions develop agreements with districts or schools in multiple consortia. Thus, the reported total number of postsecondary institutions involved in articulation agreements--1,300--is probably not an unduplicated count. The actual number of postsecondary institutions involved in articulation is probably somewhat lower.

Procedures for certifying students' skills have so far not been widely adopted

Unlike other components of the school-to-work model, skill certificates were never emphasized in the Tech-Prep legislation. It is not surprising that, in fall 1994, relatively few consortia had a process for assessing particular skills and recording the attainment of these skills on a certificate that could be used to document qualifications for potential employers (Figure II.4). Only about a third of all consortia report awarding credentials to some students in at least one of their consortium schools; some may be including standard community college degrees or certificates in their reporting of a skill certificate process.

FIGURE II.4

IMPLEMENTATION OF SKILL CERTIFICATES

Consortium-wide,
State Developed
7%

Consortium-wide,
Combination of State and
Local Definitions
8%

Consortium-wide,
Locally Developed
11%

None
63%

Developed by
Individual Districts
or High Schools
11%

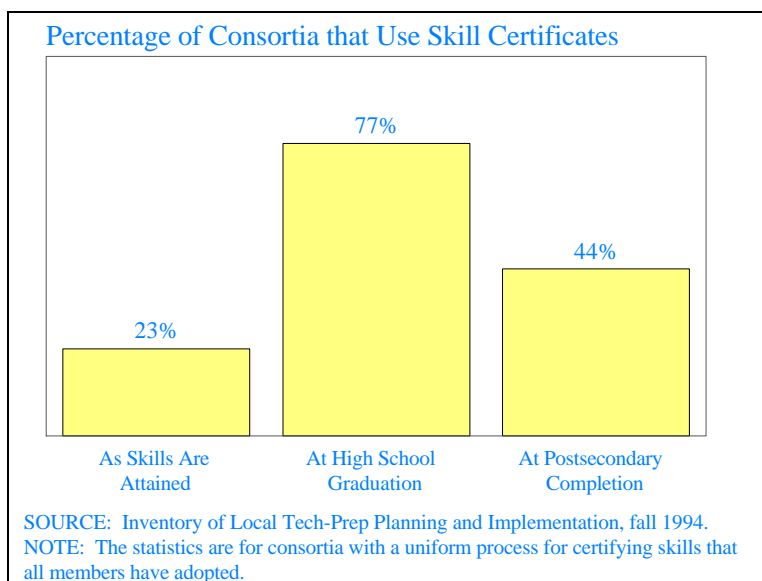SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.

States do not appear to be playing a significant role in developing skill certificates. About half of the consortia that do certify skills--or about 15 percent of all consortia--report that the state had input into the process of defining the credentials.

Certificates are most frequently awarded at the secondary level

Communities with an approach to certifying students' skills usually award the credential when students complete high school. Among the consortia that document students' skills, more than three-quarters provide a certificate at high school graduation. In comparison, slightly more than 20 percent of these consortia award a certificate as skills are attained; about 45 percent do so at the completion of postsecondary education or training (Figure II.5). Some communities award skill certificates at the completion of both the secondary and postsecondary levels (35 percent of the consortia that award certificates).

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FIGURE II.5

POINT AT WHICH SKILL CERTIFICATES ARE AWARDED

Percentage of Consortia that Use Skill Certificates

As Skills Are Attained	At High School Graduation	At Postsecondary Completion
23%	77%	44%

SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.
NOTE: The statistics are for consortia with a uniform process for certifying skills that all members have adopted.
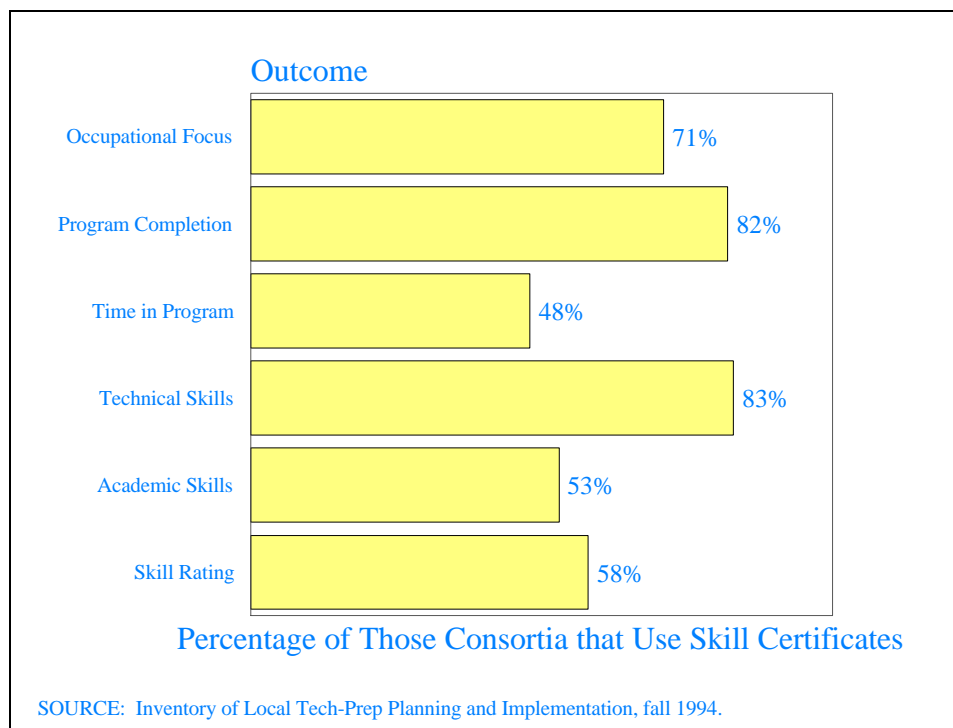
The greater availability of certificates for secondary-level skill development may reflect two factors. First, new school-to-work activity is currently focusing on the secondary level. Thus, updated occupational curricula and work-based learning experiences--which can both provide opportunities for acquiring new, documentable skills--are currently more likely to be implemented for high school students than for those at postsecondary institutions. Second, many of the secondary skill certificates reported by Tech-Prep consortia may be no different from those given to secondary vocational course completers in some communities. Some regional or area vocational centers and some vocational programs in comprehensive high schools began awarding skill certificates even before the STWOA was being debated.

Technical competencies and program completion are the most common outcomes documented in skill certificates

Skill certificates can contain many different elements, depending on the scope, objectives, and career focus of the program. For example, special credentials awarded for completion of a two-year comprehensive youth apprenticeship program might contain the title of the occupation for which the student has been prepared, academic and technical skills attained, and time spent at the workplace. In contrast, certificates awarded to vocational course completers are more likely to document only technical skills. The Tech-Prep survey data indicate that most skill certificates contain, at a minimum, a list of the occupationally relevant technical skills the student mastered, and the fact that the student completed an occupational program (Figure II.6). Only about half the consortia that award skill certificates list academic skills in the certificates.

FIGURE II.6

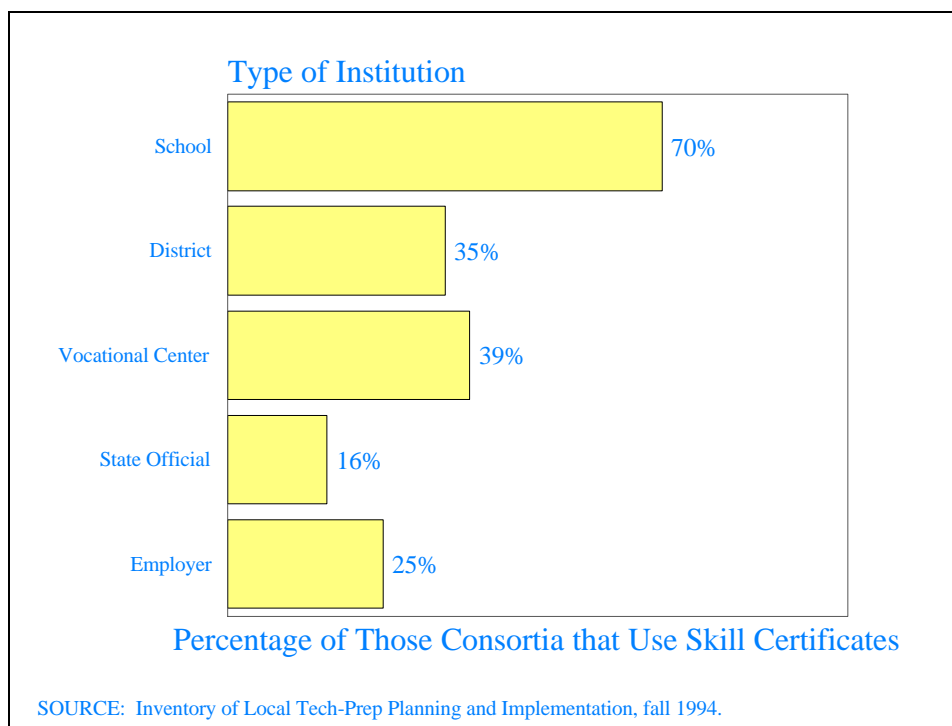OUTCOMES DOCUMENTED IN SKILL CERTIFICATES

Outcome

Outcome	Percentage
Occupational Focus	71%
Program Completion	82%
Time in Program	48%
Technical Skills	83%
Academic Skills	53%
Skill Rating	58%

Percentage of Those Consortia that Use Skill Certificates

SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.

School staff, rather than employers, usually approve students' mastery of skills

Valid skill certificates require an individual or group of individuals to evaluate and sign off on students' attainment of identified competencies. These two activities--the assessment and final ratification--may be completed by different people or institutions, but the approval of each is often documented.

At least among communities in the Tech-Prep consortia that award skill certificates, educators are most likely to verify student competencies (Figure II.7). Nearly three-quarters of the 222 consortia that award skill certificates report that the signature of an individual from the student's school is included; in contrast, only one-quarter of consortia report including an employer's signature or approval in the certificate. This outcome provides even stronger evidence that the skill certificates Tech-Prep consortia award may be associated with traditional vocational education completion rather than with more comprehensive work-based learning programs, in which employer assessment and input are considered critical.

FIGURE II.7

APPROVAL RESPONSIBILITY FOR SKILL CERTIFICATES

Type of Institution

School	70%
District	35%
Vocational Center	39%
State Official	16%
Employer	25%

Percentage of Those Consortia that Use Skill Certificates

SOURCE: Inventory of Local Tech-Prep Planning and Implementation, fall 1994.

F. PARTICIPATION IN SCHOOL-BASED ACTIVITIES

The overall number of Tech-Prep students can provide some measure of the level of participation in the school-based components of the broader school-to-work model. For the most part, consortia define Tech-Prep participation on the basis of student involvement in such school activities as choosing a Tech-Prep program of study, developing secondary-postsecondary career/educational plans, and enrolling in applied academic and articulated vocational courses. The STWOA identifies the same or very similar school-based components as important.

The Tech-Prep surveys allow us to answer two questions about participation in these school activities:

1.   To what extent are Tech-Prep students involved in the kinds of school activities that are likely to be included in school-to-work initiatives?

2.   Is participation in these activities growing?

More than 400,000 students participate in school-based activities that are part of the school-to-work model

In the 1993-1994 school year, consortia that could count Tech-Prep students reported a total of 432,000 participants. Although the definition of which students could be considered as "in Tech-Prep" was formulated by individual consortia and varied considerably, all of the students took part

in at least one of the key school elements the STWOA advocates. For example, 77 percent of the Tech-Prep participants (332,692) reportedly developed an individual educational/career plan, indicating a planned course sequence that spans the secondary and postsecondary levels. More than 90 percent of the students (388,861) were enrolled in one or more articulated or unarticulated vocational courses. Fewer students (approximately 60 percent, or 259,240) took applied academic courses. Clearly, some students were involved in multiple school-based components.

The actual level of participation for STWOA school-based activities in 1994 is likely to be larger than that reported for Tech-Prep students, for two reasons. First, some Tech-Prep consortia were unable to document the number of participating students. Second, counts of Tech-Prep participants may not include students involved in other school-based reforms on which school-to-work initiatives are being built--such as career academies, youth apprenticeship, and cooperative education.

Reported levels of participation in school-to-work school activities rose significantly between the 1992-1993 and 1993-1994 school years

Reported participation in at least some of the school-based activities of the type envisioned in the STWOA rose by between 50 percent and 150 percent in one year. In the 1993-1994 school year, consortia reported 432,000 Tech-Prep participants, a 150 percent increase over the 173,000 participants a year earlier. This observed growth reflects two factors: (1) more consortia enrolled students in key school-based activities that they called "Tech-Prep"; and (2) more consortia were able to document how many students were participating in these activities. Holding changes in reporting capacity constant yields a growth rate closer to 50 percent. Thus, the true growth in participation in school-to-work, school-based activities is undoubtedly lower than the 150 percent reported for the overall survey samples.