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ABSTRACT

Although development and implementation of tech prep education programs have been in progress since the Carl D. Perkins Act Amendments of 1990, several misconceptions about tech prep still exist. One such myth is that tech prep is an integration of academic and vocational education. In truth, although integration of academic and vocational education offers one strategy for developing students' academic and vocational competence, tech prep requires a new approach that gives consideration to the existence of different learning styles and the contextual learning as a way of enabling students to transfer knowledge from academic content to vocational applications and from school to the workplace. A second myth is that tech prep is an articulation agreement between high schools and colleges. Although articulation agreements between secondary and postsecondary schools are necessary to facilitate students' smooth transitions between high school and college, articulation between education and business is also crucial to facilitate transition from school to work in technical occupations. A third myth is that tech prep is a 2 + 2 program than cannot include formal apprenticeship training. Several successful examples of community colleges providing the essential components of traditional apprenticeships may be cited to refute this myth. Contains 5 references. (MN)

Tech Prep
Myths and Realities

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Myths and REALITIES

by Bettina A Lankard 1995

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TECH PREP

Although the development and implementation of tech prep education programs have been in process since the initiation of the Carl D. Perkins Act Amendments of 1990, misconceptions about tech prep education still exist. As defined in provisions authorizing Perkins funds for tech prep, a tech prep education program is a combined secondary and postsecondary program that—

- leads to an associate degree or two-year certificate;
- provides technical preparation in at least one field of engineering technology; applied science, mechanical, industrial, or practical art or trade; or agriculture, health or business;
- builds student competence in mathematics, science, and communications (including applied academics) through a sequential course of study; and
- leads to placement in employment.

Tech prep programs are designed to accomplish this agenda through strategies described as "integration," "articulation," and "work-based learning." Although these strategies are reflective of the various tech prep program components, they are diversely interpreted according to the background, education, and experience of those involved in the tech prep initiative. This publication examines some of the myths that have evolved about tech prep and presents the realities of tech prep implementation.

Myth: Tech Prep Is an Integration of Academic and Vocational Education

Although tech prep is based on the premise that academic and vocational skills cannot be learned in isolation from each other, integration of the two disciplines extends beyond the merging of existing academic and vocational education curriculum. It requires the introduction of new courses, sequenced in an entire program of core curriculum that leads students to develop advanced skills for technical occupations and such higher-order thinking skills as creative thinking, reasoning, and communication, as well as math and science.

Although the integration of academic and vocational education offers one strategy for developing the academic and technical competence of students, it does not constitute tech prep. Tech prep requires not only new courses and a sequenced core curriculum, but courses that take into account the learning styles of the majority of students, incorporating concepts like that of contextual learning. According to Hull (1993), contextual learning "occurs only when students process new information or knowledge in such a way that it makes sense to them in their frame of reference (their own inner world of memory, experience, and response)" (p. 41). Thus, the applied academics approach to learning, which involves the teaching of solid academic content by means of hands-on and vocational applications, follows the contextual learning concept in that it provides for learning in the context of life experiences—building on what the students already know and applying learning in the context of how the knowledge/information can be used in the context of exploration, discovery, and invention (ibid.). One of the goals of applied academic curriculum is that it should enable students to transfer knowledge from academic content to vocational applications and from school to the workplace.

To ensure a curriculum that will prepare students with the knowledge, skills, and competencies necessary for work in a technologically advanced society requires systemic change at both the secondary and postsecondary level. A mere integration of academic and vocational course delivery will not satisfy the demands of the tech prep initiative.

Myth: Tech Prep Is an Articulation Agreement between High Schools and Colleges

Articulation between secondary and postsecondary institutions is essential to any tech prep program to ensure systematic and coordinated curricula across institutions that will lead students to a two-year associate degree, a two-year certificate, or a four-year bachelor's degree without duplication of effort or loss of credit. However, if employment is the desired outcome of tech prep education, secondary and postsecondary educators must articulate and form partnerships with business, industry, and labor to ensure that what is being taught in school is relevant in the workplace.

In a northwest Chicago suburb, 75 businesses joined together to work in partnership with the Northwest Suburban Career Cooperative, an education-for-employment system of 12 large high schools and William Rainey Harper Community College. In a joint effort with the educational community, these firms became actively involved in the development and implementation of 14 tech prep degree programs. "In addition to helping create the tech prep curriculum, the participating companies make presentations on job training opportunities for parents and students at open houses and career days at industry sites. And, in the summer, these businesses host counselors and teachers for briefings on workforce trends in their industries" (Block and Jedlinski 1992, p. 30).

Because technological advances have brought many changes to the workplace, input from employers regarding their performance standards and their expectations for the technical as well as academic skills of those they hire is essential. The DACUM (Developing a Curriculum) process for job analysis is one strategy used to involve business and industry in the identification of competencies required for employment in a given job or occupational area. DACUM relies on a committee of 8 to 10 expert workers in a given occupational area who work together to identify the duties, tasks, knowledge, skills, and attitudes required for work in their job or occupation (Norton 1993). Another strategy used to enhance the

restructuring of curriculum is to couple the DACUM analysis with the DACUM Enhanced Literacy Task Analysis (DELTA). The DELTA process results in the identification of the literacy skills (including reading, writing, speaking, listening, computation) needed for each task as well as the nature of the problem solving and decision making required. Profiles resulting from these types of analyses (DACUM and DELTA) serve as excellent resource for articulation among secondary education, postsecondary education and business/ industry. In Ohio, tech prep consortia composed of secondary and postsecondary teachers and occupational workers are using the Ohio Competency Analysis Profiles (which are based on the DACUM process) and other task lists as they work together to determine curriculum content and plan a coordinated step-by-step progression of courses across secondary and postsecondary institutions, thus ensuring that the skills taught in school are those required for successful employment.

Although articulation agreements between secondary and postsecondary institutions are necessary to facilitate students' smooth transition between high school and college, articulation between education and business is also crucial to facilitate student transition between school and work in technical occupations.

Myth: Tech Prep Is a 2 + 2 Program that Cannot Include Formal Apprenticeship Training

Under Title III, tech prep programs are described as 2 + 2 programs in that they link "two years of secondary school preceding graduation and two years of higher education or an apprenticeship program of at least two years following secondary instruction with a common core of required proficiency in mathematics, science, communications, and technologies designed to lead to an associate degree or certificate in a specific career field" (Boesel et al. 1994, p. 4). However, this 2 + 2 example is just one tech prep articulation option.

For many, the 2 + 2 plan has been expanded to a 4 + 2 approach that initiates tech prep education for students in the 9th and 10th grades, continues in grades 11 and 12, and links with two-year colleges for another 2 years. Another option for tech prep is the 4 + 2 + 2 articulation plan that adds on 2 years at a college or university culminating in a bachelor's degree. For this option to be possible, however, community colleges must give credit for appropriate secondary courses and must petition the four-year college or university to accept the community college's freshman and sophomore credits toward a baccalaureate degree (Hull 1993).

According to Hull (1993), one of the greatest strengths of tech prep is its flexibility—its ability to coexist peacefully with a number of different but compatible initiatives, including youth apprenticeships. To begin with, many of the elements of youth apprenticeship (as summarized by Jobs for the Future) are consistent with those of tech prep:

- Schools integrate vocational and academic learning.
- Programs articulate high school and postsecondary learning and are at least two years in duration.
- Completers receive widely recognized credentials of both occupational and academic skill mastery.
- Programs are governed by coalitions of institutional partners.
- School and workplace learning are coordinated and integrated.
- Employers provide paid work experience and guided worksite learning. (Stern et al. 1994, p. 24)

This concept of youth apprenticeship reflects an extension of the tech prep model in that it requires work-based learning opportunities.

Recently, community colleges have provided the essential components of traditional apprenticeships by offering the theoretical components of apprenticeship training in their institutions while business provides the job-specific training at the work site. Most successful models include the establishment of a three-way partnership between a corporation, the relevant trade unions, and the community college. In such an instance, the state and federal apprenticeship agencies and the state department of education must approve the apprenticeship program and the coursework provided (Boesel et al. 1994, p. 68).

An example of private sector apprenticeship training within the community college is reflected in the partnership model established between Newport News Shipbuilding and Drydock Company and Thomas Nelson Community College. For this program, the college provides on-site trade theory classes, advanced technical training, and general education courses as part of the company's prestigious four-year apprenticeship program (Stern et al. 1994). In another occupational area, the International Brotherhood of Electrical Workers, Local #3 in Flushing, New York and the International Union of Operating Engineers—two construction industry unions—are working with contractors and area community colleges to offer three- and four-year apprenticeship programs leading to associate degrees (ibid.).

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