The school-to-work (STW) movement began in the mid-1980s in response to concerns about the U.S. education system's ability to prepare most students for the "new economy." Despite the fact that most of the STW programs and activities funded by the School-to-Work Opportunities Act of 1994 have only recently been established, a fairly extensive literature on the "process outcomes" of STW already exists. That literature has identified the following general principles for designing a successful STW program: (1) primary emphasis on academic achievement; (2) secondary emphasis on labor market success; (3) provision of general work skills and attitudes valued in the market and cultivation of a work ethic that will enable students to take advantage of those skills; (4) provision of specific job skills that are relevant to the local economy and jobs that pay above minimum wage and have promotion potential, as well as appropriate certification of mastery of those skills; (5) provision of computer and other technology skills; (6) mutually reinforcing school-based and work-based learning; (7) emphasis on self-determination and lifetime learning; (8) multiyear programming; (9) channels to immediate employment, additional training, and higher education; (10) job placement in the student's area of concentration; (11) staff commitment; and (12) creative short-run and long-run financing. (7 references) (MN)
School-to-Work: What Works in School

Spotlight on Student Success No. 310
Over the past decade schools and school districts across the country have established programs aimed at easing the school-to-work (STW) transition for their students. The ultimate origins of this movement lie in the changing structure of the U.S. economy. The "Old Economy" of earlier decades has been superseded by the more competitive, global, technology driven, and volatile "New Economy" of the 1990s. Most political, business, and education leaders now agree that to succeed in this changed environment young people entering the labor force must have broader and deeper skills than those possessed by earlier generations of new workers.

A series of national research reports beginning in the late 1980s raised serious doubts about the ability of the American education system to provide the required skills to the majority of its students without substantial reform (see, for example, Commission on the Skills of the American Workforce, 1990; William T. Grant Foundation Commission, 1988). According to these studies, too many students leave school without the academic knowledge, personal qualities, and/or job-specific know-how needed to establish themselves quickly in stable, full-time employment with reasonable earning potential. Many flounder for years before finding any career which suits them, and too often the careers chosen have limited long-run prospects. This lack of fit between the world of school and the world of work jeopardizes not only the economic future of many of our young people but also that of the nation as a whole. The school-to-work movement is best understood as the education sector's response to these concerns.

THE SCHOOL-TO-WORK MOVEMENT

The school-to-work movement is made up of individuals and organizations in the public and private sectors who are working together to bring about a fundamental change in the way the nation educates its young people and prepares them for the world of work. The beginnings of the movement can be traced back to the mid-1980s when educators and policymakers began to develop alternative models of secondary education based on nontraditional pedagogy, contextual learning, and direct connections between school and work such as those found in other countries. By the early 1990s, a variety of reform efforts had been launched based on these models. These efforts included funding of tech-prep as part of the Carl A. Perkins Vocational and Applied Technology Education Act of 1990, U.S. Department of

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Labor support for youth apprenticeship programs, and a broad range of state and local initiatives.

The movement culminated in the passage of the School-to-Work Opportunities Act of 1994 (STWOA). Under this legislation, states can receive five-year grants if they establish a statewide STW partnership, which includes representatives from the governor's office, relevant state agencies, business firms, organized labor, nonprofit human service organizations, and the education sector. The statewide partnerships distribute funds to local partnerships which typically include among their members educators, employers, government officials, and labor union leaders. Local partnerships then work to establish STW systems in individual schools and districts. These systems may include pre-existing programs, but must be more comprehensive and coherent than earlier STW efforts so that participating students can choose among a structured series of linked school- and work-based learning opportunities, all of which lead to defined postsecondary education or employment opportunities. To provide overall structure, the STWOA specifies that local systems, when they take their final form, must have three components: school-based learning activities, work-based learning activities, and connecting activities.

**STATUS OF CURRENT RESEARCH**

Research on STW programming is currently in transition, mainly because most of the programs and activities funded by the STWOA have only recently been established. It will therefore be several years before solid evidence is available concerning the impact of STW programming on educational achievement and labor market success. A major research grant has been awarded to Mathematica Policy Research, Inc., an economics consulting firm, to assess these outcomes for a nationwide sample of students.

A fairly extensive literature exists, however, on what might be called "process" outcomes. This literature focuses for the most part on local STW systems and programs and seeks to identify the elements that "work" in the sense that they have significantly engaged participating students, teachers, and employers. Much of this literature is necessarily anecdotal. Nonetheless, some fairly clear recommendations for STW programming design emerge from it. In addition, certain findings from an older literature on the effectiveness of vocational and cooperative education are applicable in this new setting. The list of recommended programming components presented below is drawn substantially from these two bodies of work. The most important sources are given in the final section.

**KEY COMPONENTS OF EFFECTIVE STW PROGRAMS**

Most school level STW systems planned or currently in place include one or more of the following elements: cooperative education, vocational education, school-based enterprises, tech-prep, youth apprenticeships, school-to-apprenticeship, mentorships, internships, entrepreneurship training, dual enrollment, career majors, and career academies. To keep the discussion as general as possible, differences among these alternative approaches will not be stressed. The focus instead is on general principles of program design.
- **Primary Emphasis on Academic Achievement**
  The fundamental emphasis in a STW program must be on increased learning in the traditional academic subjects. Participating students must achieve substantially more in these areas than they would have in the absence of the program. This will increase their chances both for successful attainment of a postsecondary degree and for ultimate success in the labor market. This academic focus is consistent with the 1990 Perkins Act, which requires that federal vocational education subsidies be given only to programs that integrate vocational and academic curricula. These requirements were, in turn, the result of increased business concern that traditional vocational education was no longer providing sufficient intellectual preparation for the emerging American workplace. Finally, keeping STW programs focused on academic achievement is consistent with trends showing that high school students have been shifting from vocational to academic subjects since the early 1980s.

- **Secondary Emphasis on Labor Market Success**
  Although the main focus in STW programming must be on traditional academic achievement, it is essential that it also contribute to students' future labor market success through the provision of general and specific job skills. For most students, engaged participation in STW activities will be based on the expectation that these activities will meaningfully enhance future employment prospects. If STW programming is to be successful in the long run, such expectations must be fulfilled. Schools may legitimately differ in the extent to which they choose to emphasize economic as opposed to educational goals. They must be clear at the outset, however, about the relative emphasis they give to these two alternatives.

- **Provision of General Work Skills and Attitudes**
  In addition to increased academic learning, a successful STW program must provide its students with general work skills valued in the market and with a work ethic that will enable them to take advantage of those skills. Research suggests that programs that focus only on the provision of general skills without attempting to motivate students to acquire and use them are unlikely to be successful. The SCANS report (Secretary's Commission on Achieving Necessary Skills, 1991) provides a useful catalog of the general competencies, skills, and personal qualities that such a program should seek to inculcate in its students.

- **Provision of Relevant Specific Job Skills with Appropriate Certification**
  To the extent that students receive specific job training in a STW program, it should be relevant to the jobs available in the local economy since most nonbaccalaureate students do not seek employment outside the region where they attended school. Also, the training should be for jobs that pay above the minimum wage and have promotion potential. Programs that attempt to train for low-quality jobs have not been very successful. If possible, the training should be formally recognized with a certificate that has value in the eyes of prospective employers. Research on cooperative education suggests that the absence of skill certification limits the ability of co-op students to capitalize on their education in the marketplace.
• **Provision of Computer and Other Technology Skills**
  Research has shown that computer skills contribute substantially to earnings. The SCANS report includes technology, defined more generally than just computer proficiency, in its list of five competencies necessary for success in all work settings. Ideally, these skills and competencies should be taught and applied in both the school and the workplace.

• **Mutually Reinforcing School-based and Work-based Learning**
  Substantial student learning should take place in both the school and the workplace and what is learned in the two venues must be mutually reinforcing. This implies that there must be "multiple points of contact" between a school’s curriculum and the work experiences of its students.

• **Emphasis on Self-Determination and Lifetime Learning**
  Virtually all commentators on the future of the American economy emphasize the need for workers to continually upgrade their skills in order to remain productive and to earn pay increases. This means that all young people, not just those who graduate from college, must adopt a personal philosophy of self-determination and lifetime learning. STW programs should therefore be organized around the principal that every student must be taught the necessity of taking control of one’s own life through rational decision making and ongoing education, both formal and informal, throughout his or her career.

• **Multiyear Programming**
  STW programming should begin in the freshman year of high school (if not sooner) and build progressively through the senior year. This program structure encourages students who might otherwise drop out to stay in school. It also prepares students to take advantage of program opportunities in the eleventh and twelfth grades which are explicitly transitional. STW programming in some local partnerships also targets elementary and middle school students, but this is more the exception than the rule in most participating school districts.

• **Channels to Immediate Employment, Additional Training, and Higher Education**
  A successful program should provide channels to immediate employment, postsecondary training opportunities, and higher education. It should also allow students to change their minds about their long term education and career goals without penalty. A number of writers attach particular significance to links to community and junior colleges. Connections to noncollege training programs are emphasized by others. Some disagreement exists about whether STW programs should provide links to four-year institutions of higher learning. The emerging consensus seems to be that such links are crucial for program success. If a STW program does not explicitly include a prebaccalaureate option, it risks being stigmatized as a "dumping ground" for the less able, making it difficult to attract talented students and appropriate funding. In addition, a well-designed STW program has much to offer students who are bound for a four-year college or university.

• **Job Placement in Student’s Area of Concentration**
Recent research on vocational and cooperative education has tended to show that these programs only provide economic gains to students whose subsequent employment is in the area of their high school occupational concentration. In addition, some evidence suggests that these positive effects are increasing over time. Unfortunately, most vocational and cooperative education graduates do not find placements in their concentration area. These results suggest strongly that successful STW programs will have to make a special effort to place program graduates in jobs that will utilize the specific skills they learned in school.

- **Staff Commitment**
  Establishing a successful STW program requires an enormous commitment of time and energy from a school’s administrators, teachers, and counselors. In addition to sheer hours of effort, it requires school staff to be creative, flexible, and willing to experiment with entirely new approaches to the education of high school students. Finally, STW programming obliges school staff to work cooperatively with each other and with partners in business, postsecondary education, and government. Obtaining this commitment is a major challenge for local educational leaders and will not be easy to achieve in many schools. Preliminary research on the determinants of school participation in STW programming emphasizes the importance of administrative leadership in achieving these goals.

- **Creative Short-run and Long-run Financing**
  STW funds from state and federal sources are limited in size and duration. In addition, local school boards do not always attach a high priority to STW activities. Most successful programs therefore have had to obtain supplementary financial support from a variety of sources, including foundations and local businesses. Whatever the sources, if a local STW system is going to have long-run viability, it must secure a stable flow of funds that extends beyond the life of current state and federal grant programs. Building such a funding base should be part of the STW planning process from the outset.

**CONCLUSION**

The STW movement is still very much in a state of evolution. Research findings in future years about programmatic benefits, particularly those pertaining to student outcomes, are likely to reshape and redirect it in ways that cannot yet be appreciated. In addition, more information is needed about the costs of STW programming. The policy recommendations contained in this document are therefore likely to be modified as knowledge about and experience with STW systems, programs, and activities accumulates.

**REFERENCES AND RELATED PUBLICATIONS**


http://www.temple.edu/lss/htmlpublications/spotlights/300/spot310.htm

12/30/2002
High skills or low wages. Washington, DC: National Center on Education and the Economy.


Spotlight on Student Success is an occasional series of articles highlighting findings from the Laboratory for Student Success (LSS) that have significant implications for improving the academic success of students in the mid-Atlantic region. For more information on LSS and other LSS publications, contact the Laboratory for Student Success, 9th Floor, Ritter Annex, 13th Street and Cecil B. Moore Avenue, Philadelphia, PA, 19122; telephone: (800) 892-5550; E-mail: <LSS@vm.temple.edu>.
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