SCHOOL-TO-WORK TRANSITION

Improving High School Career Programs

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Executive Summary

There is considerable interest at the local, state, and federal levels in making high school programs more attuned to the needs of students who do not plan on attending college. Vocational education, which has long provided occupational skills to high school students, plays only a small role in the lives of most high school students. "School-to-work" programs are intended to strengthen high school career programs by blending academic and vocational material with the needs of employers in order to increase student academic and work skills.

School-to-work programs appear to offer schools a promising avenue for improving academic achievement, helping students find better jobs, and assisting business to develop potential employees with the skills and knowlege needed in today's work place. School-to-work programs build on previous school reform efforts to raise academic achievement, but they are designed to focus on the needs of lower-performing students—students who now may drop out of school or graduate but do not seek additional education or training.

Research has identified six elements that characterize effective school-to-work programs (see box). Counseling and integrated academic and vocational courses ensure that each student's high school program reflects his or her career goals. A focus on higher-skill occupations encourages students to pursue higher long-term academic and work goals. Work-based education gives students a chance to apply school lessons in a practical work setting.

- ☑ Early career counseling and exploration
- ☑ High-quality, integrated, academic and vocational education
- ☑ Focus on higher-skill occupations
- ☑ Work-based education
- ☑ Certification of occupational and academic skills
- ☑ Collaboration among high schools, employers, and postsecondary institutions

Certification of skills and collaboration with employers and postsecondary institutions help ensure that high school programs meet real-world needs of employers and students.

Most existing state vocational education programs do not contain the elements that are needed for effective school-to-work programs. Vocational courses are often uncoordinated with academic material and focused on entry-level employment rather than higher-level jobs. In addition, most students do not receive adequate counseling to develop a career program for themselves.

Yet, school-to-work programs are not a panacea. Little is known about the cost-effectiveness of different program models and services. In addition, many educators have only scant experience in addressing the needs of business and helping students find jobs. Furthermore, altering high school curricula to meet the needs of one group of students risks making the curricula *less* effective for other groups of students.

It appears likely that Congress will pass the proposed School-to-Work Opportunites Program, which will provide additional federal resources for developing and implementing school-to-work programs. Even if the federal program fails to pass, we believe the Legislature should act to encourage and support local efforts to create effective programs. This does not necessarily mean the creation of a new categorical program, but providing a career focus to existing programs.

In this report, we recommend the Legislature take various actions to help high schools create effective school-to-work programs (see box). The recommendations fall into three general categories. First, the Legislature should create a program structure that guides

- ☑ Create a program structure to encourage effective programs
- ☑ Make program changes to ease implementation of school-to-work programs
- ☑ Realign state activities to support local school-to-work efforts

the development of high-quality local programs. We do not require the creation of local programs but, instead, suggest a state structure that encourages effective programs.

Second, we recommend the Legislature make program changes to tailor existing programs and policies to meet the needs of high schools attempting to create school-to-work programs. Many of our recommendations center on increasing the amount of resources available to support local career programs.

Third, we recommend the Legislature require the State Department of Education to make a number of changes to increase state administrative support of local initiatives. The recommendations involve reviewing administative structures and data requirements to ensure they are consistent with the Legislature's strategy for encouraging the development of local school-to-work programs.

Introduction

There is considerable interest at the local, state, and federal levels in making high school programs more attuned to the needs of students who do not plan on attending college. Most high school programs currently are designed around the needs of college-bound students. Yet, approximately 40 percent of high school graduates in California do not seek any post-graduate college or vocational education. In addition, almost a quarter of all students drop out of high school before graduation. Thus, work is the immediate focus upon leaving high school for the majority of students.

"School-to-work" transition programs have become the focus of an effort to change high school programs to meet the needs of these students. The thrust of these programs is to integrate academic courses, vocational education, and the needs of employers. They are designed to build on the school reform efforts of the 1980s and on the existing system of vocational education. The goals of school-to-work reforms are to improve academic performance and enable students to secure better jobs upon leaving school. If successful in these goals, these programs could also improve California's economic competitiveness.

The Legislature will likely be asked to establish new—and expand and improve existing—school-to-work programs in the near future. In addition, the federal budget for the year ending September 30, 1994, assumes the enactment of a new program that provides states new funding and program flexibility to implement comprehensive school-to-work programs.

In this report, we discuss the major issues policymakers will confront in establishing or improving school-to-work programs for high school students. (Postsecondary institutions also should be concerned with the employability of their students. Issues related to postsecondary education, however, fall outside the scope of this report.)

Introduction

First, we provide some basic background information on vocational education and school-to-work programs. Second, we review the current status of vocational education in K-12 programs. Third, we discuss the goals of the current school-to-work reform effort. Fourth, we review the elements of a good school-to-work program and identify six models that embody some of the desired features. Fifth, we estimate the resource requirements for implementing school-to-work programs statewide and compare those requirements with available funding. Finally, we make a number of recommendations regarding the design and funding of a school-to-work system.

This report was prepared by Paul Warren under the supervision of Carol Bingham. Kelly Zavas prepared the report for publication.

Chapter 1

Background on Vocational Education and School-to-Work Programs

In this chapter, we provide background on vocational education and school-to-work programs.

VOCATIONAL EDUCATION

Existing Vocational Programs

Vocational education courses typically are divided into five major categories:

- *Agricultural programs* involve the science and practice of raising animals and growing plants or crops.
- *Office and marketing* describes a range of courses from clerical and secretarial skills to more advanced business accounting and marketing courses.
- *Health programs* target professions in the health industry—from orderlies to nurses.
- *Industrial and technical* covers a wide range of courses including automobile mechanics and skilled machine operators.

- *Home economics* covers such areas as cooking, baking, and textile design and manufacture.

Most vocational courses are offered at a high school or at a regional vocational facility administered by a Regional Occupational Center or Program (ROC/P). ROC/Ps tend to provide more occupationally specific vocational instruction, which often requires a heavier investment in equipment or other instructional aids. There are currently about 70 ROC/Ps in California.

Classes can be funded from any of three sources: state and local general-purpose funding, federal vocational education funds, or state ROC/P appropriations. Total funding for vocational education of high school students from the three major vocational programs totaled $265 million in 1993-94. Of this amount, state ROC/P appropriations provided $120 million, general-purpose funding provided $90 million, and federal vocational education funds provided $54 million.

The Benefits of Vocational Education

Vocational education has been a part of junior high and high school curricula throughout the 20th century. In its current role, vocational education is often seen as distinct from "academic" education in such subjects as mathematics, science, and English. Yet vocational education provides a range of benefits, including benefits that are academic in nature. The benefits of vocational education include:

- *Applied Academics.* Vocational education can be used to teach, reteach, and practice academic skills, such as mathematics, writing, and science.

- *Occupational Exploration.* Vocational education allows students to experience a variety of different occupational areas, thereby helping students make more informed choices during college or on the job market.

- ***Broad Industry Background.*** Vocational education can provide workers an understanding of how specific occupational skills fit into a larger production or industry process.

- ***Entry-Level Job Training.*** Vocational education can provide the skills needed to obtain an entry-level job in a large number of occupational areas.

- ***High-Skill Job Preparation.*** With a coordinated series of academic and vocational courses, high school programs can assist students in reaching more advanced levels of career preparation.

SCHOOL-TO-WORK PROGRAMS

"School-to-work," or "career," programs seek to integrate high school academic courses, vocational courses, and the world of work as a means of improving the achievement of students along several dimensions. The programs are designed to overcome a tendency of the existing education system to minimize the value of one or more of these elements or treat each element separately without exploring the important interconnections between each element.

These programs are different from vocational education in three ways. First, school-to-work programs include both vocational and academic instruction. Indeed, school-to-work programs blur the distinction between the two instructional areas. Second, they involve businesses in the ongoing design and operation of programs. This grounds the program in the real-world needs of business and creates the work connections needed to give students on-site experience. Third, school-to-work programs focus on higher-skill occupations rather than the entry-level jobs that are the goal of many vocational education courses.

School-to-Work Programs in California

The development of school-to-work programs in California is in its early stages. In California, the Partnership Academy Program is the most well-developed school-to-work program. Currently, there are 48 partnership academies funded by the state, at an annual cost of $3.3 million. A partnership academy is a school within a high school, which combines academic instruction with preparation for work in specific careers and professions. On average, academies involve about 50 students. Usually, academy courses are integrated: academic and vocational skills are taught and used together.

Partnership academies also have a strong work component that is intimately linked to the students' course of study. Internships—paid and unpaid—are a standard component of academies. Internships allow students to apply what they have learned in school to real work situations. Some academy programs also provide vocational mentors from the local business community and summer employment opportunities. To create these work connections, local employers are involved in every aspect of the development of the academies.

Each partnership academy focuses on one industry area. Industry areas of existing academies include health, industrial technology, finance, computers, graphic arts, and space technology.

In addition to partnership academies, the state has two other types of school-to-work programs in progress: (1) apprenticeship programs (eight now operating on a pilot basis) and "tech-prep" programs (83 currently under development). In 1993-94 the apprenticeship pilot programs received about $200,000 in federal vocational education funds from the State Department of Education (SDE). Development of tech-prep programs in California is supported by $10 million in federal vocational education funds. Apprenticeship and tech-prep programs offer a similar mix of integrated academic and vocational instruction, combined with a strong work component designed to prepare students for specific occupational careers. We discuss these programs in more detail in Chapter 4.

In addition to these state initiatives, many school districts are developing or operating school-to-work programs as well. No comprehensive data exist on the number or design of local efforts, however.

Chapter 2

Current Status of Vocational Education

In this chapter, we discuss the current status of vocational education in California's high schools.

Vocational Education Before the 1980s

Vocational education began in the 1890s and early 20th century as "manual arts"—where students would learn the theory and practice of wood and metal work as an extension of a basic liberal arts education. Beginning in 1917, a series of federal programs encouraged states to develop occupational training programs that involved both vocational and academic instruction. While federal policy and funding stimulated the growth of vocational education, it had other effects as well. According to one source, the emphasis of federal policy on job-specific skills "led inexorably to vocational programs in high schools that were separate and distinct from other education programs . . . ".[1]

Senate Bill 813 Reduced the Relative Importance of Vocational Education

The last wave of school reform in California, enacted primarily in SB 813 (Ch 498/83, Hart), aimed to improve academic performance and college attendance. As a consequence, vocational education—indeed, the notion of pursuing a vocational skill as a means of securing a good job upon graduation—was de-emphasized in most California schools. For example, a 1984 Gallup poll revealed that

[1] United States Department of Education, 1993, page 15.

only 6 percent of public schoolteachers listed "help[ing] students get good/high-paying jobs" as their highest goal for education. In contrast, 46 percent of the general public believed this should be the highest goal for education.

From a vocational education perspective, SB 813 contained three important changes. First, SB 813 enacted into state law high school graduation standards—specific course requirements that must be completed by students as a condition of high school graduation. When SB 813 was enacted, the state did not impose specific academic requirements. Second, SB 813 created a tenth-grade counseling program, designed to ensure that each student has "a systematic review of his or her academic progress" during the tenth grade. The review is focused on ensuring that students have sufficient credits to graduate by the end of the 12th grade. Third, SB 813 required ROC/Ps to give service priority to 11th- and 12th-grade students—instead of younger students. The purpose of this requirement was to encourage an academic focus in the earlier grades. Subsequently, then-Governor Deukmejian vetoed $15.2 million from the 1983-84 ROC/P appropriation to eliminate funding for services to ninth and tenth graders.

The purpose of the high school graduation requirements was to encourage school districts to create academically rigorous programs or, in the words of the state board, "to raise their sights and to recognize what is necessary to achieve excellence in education."[2] This was part of a movement to raise academic standards. Figure 1 shows the close relationship between high school graduation requirements contained in SB 813, the model graduation requirements recommended by the State Board of Education in 1984, and the University of California admission requirements adopted in 1986 (the California State University adopted almost identical standards in 1988).

[2] As quoted in Hayward, 1987, page 7.

Figure 1

High School Graduation Standards and University of California Admission Requirements Years of Course Work

Subject	Required by SB 813	Recommended by the State Board of Education	University of California Admissions
English	3	4	4
Mathematics	2	3	3
Science	2	2	1
Social science	3	3	1
Foreign language	1[a]	2	2
Fine arts	1[a]	1	—
Physical education	2	—	—
Electives/other	—	1	4
Totals	**13[a]**	**16**	**15**

[a] Senate Bill 813 required one year of foreign language *or* fine arts.

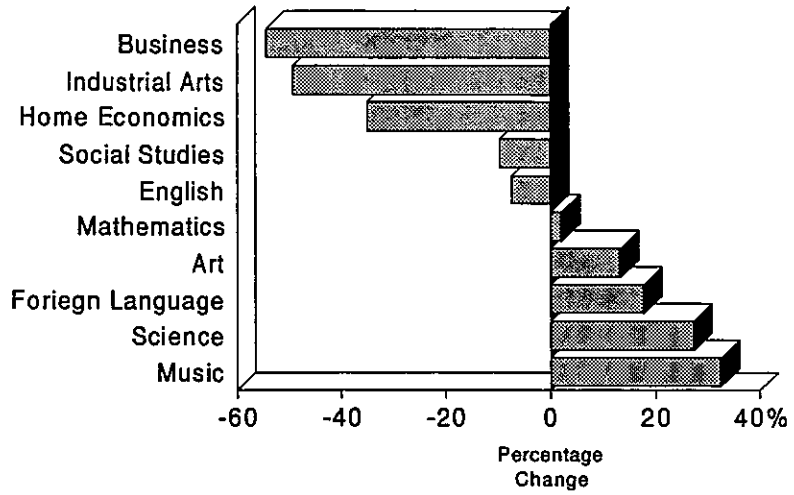
Reductions in Vocational Course Enrollments

The SB 813 reforms aimed at improving academic achievement in high school resulted in an increase in academic course enrollments and a reduction in vocational course enrollments. Figure 2 illustrates the changes in course enrollments that occurred between 1983-84 and 1992-93. These changes show large reductions in vocational education course enrollment and increases in mathematics, science, and foreign language enrollment. These changes were considered by researchers to be "consistent with the recent reform efforts."[3]

[3] Grossman, 1985, page 5.

Figure 2

Changes in High School Course Enrollments By Type of Course 1983-84 Through 1992-93



Reducing vocational course enrollment meant lower demand from high school students for ROC/Ps. During this same time, however, funding for vocational education courses provided by ROC/Ps continued to grow at a steady pace. As a result of these changes, ROC/Ps began to serve a smaller percentage of high school students and more adults. In 1982-83, for instance, 65 percent of ROC/P funding was dedicated to serving high school students; by 1992-93, 50 percent of ROC/P funding was dedicated to serving this population. (These figures are adjusted to exclude ninth and tenth graders from the calculation.)

Most Students Report Little Involvement With Vocational Education

Reduced vocational enrollments has resulted in vocational education playing a small role in the lives of most high school students. This conclusion is based on data collected in a 1992 State Department of Education (SDE) survey of California high school seniors. The data reveal the following:

- ***Although many students take vocational education courses, most students do not see themselves as vocational education students.*** The SDE survey showed that 42 percent of high school seniors have taken a vocational course. However, only 3.4 percent of seniors identified their program as "vocational, technical, or commercial."

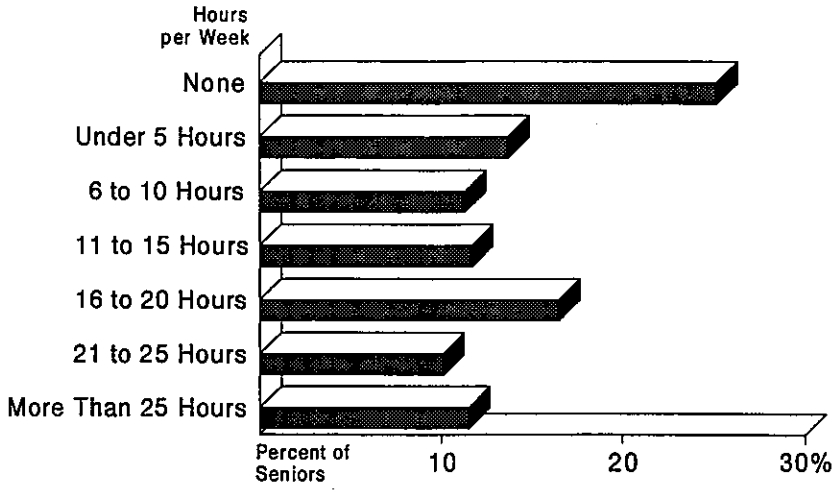
- ***Most students never go further than vocational exploration.*** Fewer than half of the seniors who have taken a vocational education course took more than two courses in the same subject area. Most took one or two courses.

- ***Many students do not receive the guidance and counseling in high school needed to make career decisions.*** Half of high school seniors who have taken a vocational course received no career counseling during high school. Of those who received counseling, about one-third received sufficient counseling to choose an organized sequence of courses in a career field.

The survey also revealed that a large percentage of students work. Approximately 75 percent of high school seniors reported working at a paid or unpaid job during the school year. As Figure 3 illustrates, 22 percent of seniors reported working more than 20 hours and 30 percent work 11 to 20 hours per week.

Figure 3

Employment of High School Seniors During the School Year 1992



Unfortunately, this work rarely is connected to a student's course of study. According to one report: "The school and work lives of these students are almost completely divorced. Their work usually has nothing to do with what they learn in school and what they learn in school has little to do with what is required of them at work."[4]

[4] Jobs for the Future, Inc., 1991.

Chapter 3

The Goals of School-to-Work Reforms

In this chapter, we discuss the goals of school-to-work programs. There are two main groups that seek improved career programs: educators and employers. We discuss the perspectives these two groups bring to school-to-work programs and how they affect the goals of these programs. Finally, we discuss potential pitfalls school-to-work programs may encounter.

Current Reforms Seeking to Join Education and Employer Needs

Senate Bill 813 was not crafted out of ignorance of its impact on vocational education. Indeed, legislators were responding to research showing that employers preferred entry-level workers who possessed basic academic skills (mathematics, reading, communication) over individuals with job-specific vocational skills. Higher academic standards were imposed as a means of improving both academic achievement *and* the performance of entry-level workers.

Current efforts to improve the school-to-work transition also seek to improve both academic and job performance. The current efforts build on the efforts of the SB 813 strategy in two respects. First, the current effort seeks to extend academic gains over a broader group of students. Raising the academic hurdles in high school has not improved the achievement of many lower-performing students; in fact, higher standards may have reduced the relevance of school to a large proportion of students. Second, both educators and employers emphasize the importance of "higher-order skills," that is, skills that go beyond strictly academic subjects such as

mathematics and reading to include broader, more analytical, skills than many high school graduates currently possess.

The long-term goals of school-to-work transition programs from the education and employer perspectives are quite similar: both focus on higher-order skills, such as analysis, problem-solving, and communicating. This has a different emphasis than the immediate goal that is usually identified with school-to-work programs: getting students jobs.

Perspective of Educators

In the current reform proposals, educators propose to integrate academic and vocational education primarily to increase learning at the high school level particularly for lower-performing students. For instance, the SDE's *Second to None* report[5] describes the department's vision of high school reform as strengthening the curriculum with the primary objective of bringing students to a higher level of academic skills. According to the report, by integrating academic and vocational subject matter, schools would present academic material in a way that is more accessible and less abstract to many students. Reforms would stress the ability to understand a problem, analyze available data, and communicate the result of that analysis.

Educators hope that the reforms would benefit both lower- and higher-achieving students. First, educators hope to keep lower-achieving students more engaged in learning, thereby increasing the number of these students who graduate and continue on into postsecondary education. According to the SDE statistics, almost a quarter of California students drop out of school before graduating—for African-Americans and Hispanics, the rate is above 30 percent. Educators hope that emphasizing careers promotes an understanding of why mastering academic subject matter is important to future job prospects.

[5] State Department of Education, 1992.

Second, educators hope that higher-performing students, including those who intend to attend college upon graduation, would benefit from hands-on learning promoted by school-to-work programs, increased relevance of school to the "real world", and improved understanding of the demands of work. Educators see school-to-work programs resulting in better-prepared college students—and students who can complete college more quickly. By extending career programs broadly to almost all high school students, educators also hope to eliminate the negative image of vocational education in the minds of parents and students.

Perspective of Employers

Changes in the world and United States economy are leading businesses to call for an improved occupational training system. To stay competitive in world markets, according to researchers, firms must increase productivity. Achieving greater productivity will require better communication, analytical, and problem-solving skills of employees. For these observers, the objective of school-to-work programs is to focus schools on these skill needs of employers.

California high school graduates receive low ratings from employers in these skill areas. In a 1993 survey of employers, the SDE found that California employers rated high school graduates relatively high in mathematics and reading compared to other skills. Students were rated the lowest in communication, leadership, and problem-solving skills—exactly the types of skills required by high-productivity work places.[6]

The types of skills that result in increased productivity are also associated with advancement opportunities. Researchers believe that changes in the skill requirements of jobs are reducing the advancement opportunities for employees without these higher-order skills. Researchers argue that, as high-skill jobs change, employers promote individuals from entry-level positions that involve these higher-level

[6] SDE, 1993; Berryman, 1988.

skills. What once were promotional positions accessible to most high school graduates are now dead-end jobs with little opportunity for advancement.

Bank tellers, for instance, used to be the first rung on the management ladder of banks. Automation, however, has routinized the teller job to the extent that, "tellers are essentially isolated from promotion opportunities in the bank." What skills are valued at banks?

> "The desk jobs, previously the clerk/typist jobs, are still the jobs that deal with customers' service needs. However, individuals in these jobs now must be able to analyze a much wider array of the customer's financial needs, understand the array of the bank's financial services, and, if possible, produce a match—in other words, make a sale . . . . Banks find they need people who can analyze and deal systematically with an array of data. Promotions now come out of the desk jobs . . . ."[7]

PITFALLS AND POTENTIAL PROBLEMS OF SCHOOL-TO-WORK PROGRAMS

Despite the high expectations for school-to-work programs, the experience with SB 813 suggests that career programs may not be as broadly successful as hoped or may have unintended consequences. Some of the problems and some pitfalls are discussed below.

Avoid Diluting the Curriculum for Higher-Achieving Students

Both SB 813 reforms and the school-to-work reforms are aimed at improving high school curricula *for all students*. While this is a laudable goal, one educational strategy does not necessarily meet the

[7] Berryman, 1988.

needs of all students. As we discussed above, SB 813 reforms may have had the unintended effect of reducing the relevance of school to work-bound students.

School-to-work reforms run a similar risk, except that those at risk are the higher-achieving students. For lower-achieving students and dropouts, the benefits from integrated and more relevant rigorous curricula seem clear. For higher-achieving students, however, schools risk diluting the curricula, resulting in lower achievement. Can integration of curricula occur without watering down the program for higher-achieving students? What courses (and skills) will these students forego to take vocational courses?

Policymakers need to monitor the development and outcomes of these programs to ensure that all participating students are benefiting. There are important benefits to involving a substantial proportion of students in career programs. Yet it is unknown how substantial that involvement must be for career programs to meet the goals of educators and businesses. Perhaps these benefits can be gained with the involvement of half of the school population rather than all students, for instance. Most importantly, however, educators and policymakers should not ignore the possibility that school-to-work reforms might reduce achievement for some groups of students.

Obtain Support of All Educators

School-to-work programs seek to reform both vocational and academic education. Vocational courses alone cannot teach students higher-order skills required by employers. The success of career programs will hinge on the extent to which all educators participate enthusiastically in the reforms.

Engaging the academic faculty of high schools as a full partner in the development of career programs will prove challenging. To implement a successful school-to-work program, teachers of academic subjects must (1) learn new methods of teaching, (2) learn

about various occupational and industry areas, and (3) work with employers and vocational teachers to restructure course curricula.

Define Outcome Measures Carefully

Employment program operators have found that short-term program outcomes are often poor indicators of the long-term value of services. As a consequence, program statistics—such as the percentage of participants placed in employment—show little connection to how well services help individuals find better jobs.

Outcome measures for school-to-work programs could have the same problems. The existing vocational education and job training system is structured to succeed at short-term outcomes (for example, placement in entry-level employment). School-to-work programs must reorient the existing training system to focus on the long-term goals of students (for example, helping students find jobs that provide opportunities to advance). A clear statement of program goals, an understanding of the shortcomings of outcome data, and providing for a good evaluation is the best way for the Legislature to assure attention to appropriate outcomes.

Fulfill Program Promises

Schools should beware of overselling their ability to help students find jobs, in order to avoid unrealistic expectations. Training programs have learned that many factors affect their success in placing participants in jobs. Economic conditions and employer attitudes are two factors that programs find difficult to overcome. Changing skill requirements for specific occupations and changing demand for those occupations also play an important role in program success.

This will require educators to walk a narrow path. On one hand, school-to-work programs are based on the idea that the payoff of better jobs will keep lower-performing students in school and engaged in their studies. On the other hand, increasing student expectations without the ability to deliver better jobs will damage

the program's credibility—and the power of promised jobs to attract students. For these reasons, educators need to (1) be cautious in selling the program to students and (2) make sure any promises of better jobs can be fulfilled.

Chapter 4

Elements of a Good School-to-Work Program

In this chapter, we discuss the features of effective school-to-work programs. First, we review the outlines of the proposed federal school-to-work legislation. Then, we examine six elements that characterize effective career programs. Third, we examine programs operating in California that contain some or all of these elements.

Federal School-to-Work Legislation Would Provide State and Local Flexibility

The Clinton Administration recently submitted to Congress the School-to-Work Opportunities Act of 1993, which would provide planning and implementation funding to states and school districts to create comprehensive career preparation programs. The federal government has already set aside funds for grants to states to begin planning school-to-work programs, using existing authority under the Job Training Partnership Act (JTPA) and the federal Carl D. Perkins Vocational Education Act. California is expected to receive $750,000 in planning funds during 1993-94.

The proposed federal school-to-work legislation would direct participating states and districts to create a three-part career preparation system consisting of:

- School components, including career exploration and counseling.

- Work components, including job training and paid work experience.

- "Connecting" components, including work-place learning opportunities, teacher training, and job search assistance.

The bill does not provide detailed direction regarding the design of state or local programs. For example, it does not specify how these components would work or which agency or agencies would administer services.

Implementation grants would be available to states or school districts after the new legislation is enacted. These grants would support execution of the state's plan and would be available for a five-year period. Operating costs would come from existing local, state, and federal sources. To give states and localities more flexibility over the use of existing federal funding, the proposed legislation would give greater authority to the federal Secretaries of Labor and Education to waive provisions of the JTPA and the Perkins Act that impede state implementation of a school-to-work system. The most recently enacted federal budget earmarks $85 million for implementation grants in 1994-95, contingent upon passage of the proposed new legislation. If the new legislation does not pass by April 1994, the funds will be redirected for other purposes.

WHAT ARE THE ELEMENTS OF A GOOD SCHOOL-TO-WORK SYSTEM?

There is a considerable body of research aimed at identifying the attributes of a comprehensive school-to-work transition system. This research suggests there are six critical elements of successful career preparation programs. These are summarized in Figure 4.

Elements of a Good School-to-Work Program

Figure 4

Six Elements of a Comprehensive Career Preparation System

EARLY CAREER COUNSELING AND EXPLORATION	Informs students of their career options and helps them choose an initial program direction.
HIGH-QUALITY, INTEGRATED, ACADEMIC AND VOCATIONAL EDUCATION	Ensures that career curricula are equivalent to academic classes offered to other students.
FOCUS ON HIGHER-SKILL OCCUPATIONS	Encourages students to seek higher-level academic and vocational preparation. For instance, higher-skill occupations usually require a least one year of postsecondary education.
WORK-BASED EDUCATION	Gives students on-the-job experience in a particular occupation. This element also gives students an opportunity to use academic and vocational skills learned in the classroom in a real work context.
CERTIFICATION OF OCCUPATIONAL AND ACADEMIC SKILLS	Informs employers of the skills and competencies developed by students.
COLLABORATION AMONG HIGH SCHOOLS, POSTSECONDARY INSTITUTIONS, AND EMPLOYERS	Creates the relationships needed to design, implement, and administer a career preparation system.

WHAT TYPES OF PROGRAMS ADDRESS THESE CRITERIA?

School districts in California have already established programs that meet some or all of the criteria for comprehensive school-to-work programs. These programs, which are described in more detail in Figure 5, include:

Elements of a Good School-to-Work Program

- *Occupational clusters* organize existing courses into academic and vocational several career pathways, each one tied to an industry or occupation. The SDE could not estimate the number of occupational cluster programs operating in the state.

- *"2+2" programs* coordinate high school and community college vocational courses so that students can get college credit for high school vocational courses. Several hundred 2+2 programs operate in the state.

- *Cooperative programs* provide classroom and paid and unpaid work-based learning opportunities in specific occupational areas. Teachers and employers rate students on the extent to which they develop specific occupational skills. Most of the 70 ROC/Ps administer cooperative programs.

- *"Tech-prep" programs* prepare students for postsecondary technical training programs by involving employers, high schools, and community colleges in creating academic and vocational sequences that result in specific occupations in demand locally. There are 83 tech-prep programs currently operating or under development.

- *Partnership academies* provide a three-year program of vocational and academic courses that revolve around the study of an industry and the careers of people who work in it. There are at least 48 partnership academies operating in California.

- *Youth apprenticeship programs* use the work place as a learning environment to teach technical skills and related academic subject matter. Work-place instruction is supplemented with classroom instruction. Students receive a recognized occupational credential upon successful completion of the program. Currently, the SDE funds eight pilot high school apprenticeship programs using discretionary federal Perkins Act funds.

Figure 5

Characteristics of School-to-Work Programs Operating in California, 1993

Program	Program Goal	Key School Features	Key Work-Site Features	Types of Students Served	Typical Size of Program
Occupational clusters	Increased learning; reduced dropout rate; provide a career focus to student high school experiences	Restructures existing course offerings into organized sequences; students declare program or occupational major	Job shadowing; work experience to explore potential careers	Open to all students	No limit
"2+2" programs	Increased graduation rate; increased college attendance	Coordinates high school and community college vocational courses	None	Open to all students	No limit
Cooperative programs	Meet employer need for entry-level employees; work-based learning	Short classroom component provides basic academic and vocational material needed in job	Employer and teacher work with student to develop specific skills	Open to all students	No limit
Tech-prep programs	Increased graduation rate; increased college attendance; meet employer needs for skilled workers	Ensure that high school vocational and academic course content meets community college standards	Work component not well-developed at this time	Open to all students	No limit
Partnership academies	Increased learning; reduced dropout rate; immediate employment or continued education; meet employer needs for skilled workers	School-within-a-school (house format) or magnet school; integrated academic and vocational courses	Mentors, job shadowing, work experience, and summer internships provided by local employers	Targeted at students at risk of dropping out; some academies include wider range of students	About 50 students
Apprenticeship programs	Immediate employment in high-skill vocation; meet employer needs for skilled workers	Academic and vocational instruction at high school, community college, and work setting; curriculum focused on earning high-skill vocational credential	Students at work site for at least half of school hours; work-based instruction in specific occupational skills	Students usually screened based on grades, test scores, attendance, and recommendations	5 to 20 students

Program Models Do Not Meet All Effectiveness Criteria

Figure 6 compares the six school-to-work transition programs identified in Figure 5 with the six elements for effective career programs discussed above. A program is shown to meet a criterion if the element is almost always incorporated as a component of the program in practice. It is important to note that a school could implement any of these program models to meet more of the six criteria than commonly occurs.

Figure 6

Important Features of Six School-to-Work Transition Programs

Program	Counseling and Exploration	Integrated Academic/ Vocational Courses	Higher-Skill Occupations	Work-Based Education	Certification of Skills	Collaboration with Postsecondary Schools and Employers
Occupational Clusters	●	○	○	○	○	○
2+2 Programs	○	○	●	○	●	◑
Cooperative Programs	○	○	○	●	◑	◑
Tech-Prep Programs	●	●	●	○	●	●
Partnership Academies	●	●	●	●	●	◑
Apprenticeship Programs	●	○	●	●	●	●

YES ● NO ○ PARTIAL ◑

As the figure indicates, tech-prep programs, partnership academies, and apprenticeship programs each meet five of the six criteria. Tech-prep programs generally do not contain a strong work component. While work-based education is part of the tech-prep model, programs have generally not included this component in practice.

Partnership academies meet all criteria except for collaboration with postsecondary institutions. The legislation establishing partnership academies does not mandate collaboration with ROC/Ps or community colleges. While a few academies routinely involve these schools, most academies do not.

Apprenticeship programs meet all criteria except for the integration of academic and vocational material. Typically, apprenticeship programs use existing course designs to provide instruction in both academic and vocational subjects. Apprenticeship programs are still developing, however; and further refinement may result in the integration of academic and vocational material as part of the program.

Occupational clusters, 2+2 programs, and cooperative programs meet fewer effectiveness criteria. Occupational clusters provide counseling and encourage career exploration but meet none of the remaining five criteria. The 2+2 programs emphasize certification of skills, high-skill occupations, and collaboration with postsecondary institutions but do not focus on the other three criteria.

Cooperative programs provide work-based learning and skill certification. It should be pointed out that this certification usually is based on local employer needs rather than state- or nationally recognized standards. Cooperative programs also maintain close ties with local employers.

Program Models Can Be Used in Combination With Each Other

To create programs that contain all or most of the effectiveness elements, schools can use a number of different strategies. A high school could develop its entire program around one particular program model, or it could use three or four models to provide a comprehensive program. Similarly, schools could choose to implement comprehensive programs from the start or to begin with less complex elements and add more difficult elements over time.

At least one school in California is attempting to create a sufficient number of partnership academies to allow participation of all students at the school. The school initially implemented comprehensive programs for a limited number of students and then expanded the number of academies over time. Given the administrative intensity and cost of the academy model, more experience is needed to determine whether this strategy can be fully developed and sustained.

A more common short-term approach may be that schools will adapt the existing course structure to create school-to-work programs. As a consequence, initial involvement in school-to-work transition programs probably would be focused around occupational clusters and 2+2 programs. Schools can identify occupational clusters, or career paths, and coordinate with community colleges without a great change in existing programs. By combining these two programs, schools would incorporate three of the effectiveness elements.

Using partnership academies or apprenticeship programs in conjunction with occupational clusters and tech-prep programs could help keep schools focused on the other three effectiveness criteria—integration of academic and vocational material, work-based learning, or collaboration with employers. Tech-prep, academies, and apprenticeships would help to ensure collaboration with employers and create direct paths to jobs for small subsets of the high school population.

Integrating academic and vocational material may prove the greatest challenge, for it requires a restructuring of existing courses and cannot merely be "added on" as can the other programs. It may be that integration occurring with the development of more intensive occupational programs, such as academies, would provide the experience schools need to integrate the curriculum in other areas. Integration of academic and vocational curriculum is part of partnership academy requirements.

Chapter 5

Funding School-to-Work Programs

This chapter discusses the financing of school-to-work programs. First, we calculate the potential cost of a hypothetical statewide school-to-work program. Second, we identify the level of existing resources that are available to local programs. As was the case for high school graduation standards required under SB 813, much of what would be required to operate career programs could be accomplished by restructuring existing courses and programs.

The Potential Cost of Career Programs

To develop a rough estimate of the possible cost high schools would incur to develop and operate school-to-work programs, we assumed that each high school decided to create fairly comprehensive programs that involved most students. Using this scenario, we assumed that a small percentage of students would attend an intensive career program like those provided by the partnership academies. Most of the rest of the students would attend a less intensive program structured around occupational clusters and 2+2 programs. In addition, we assumed that development and full implementation of these programs would occur over a five-year period.

Development Costs

Based on the cost experience for existing programs, we calculate that the development costs of this hypothetical statewide program would be in the range of $100 million, spread over a five-year period. These costs include creating new counseling programs; restructuring course curricula to integrate academic and vocational material; working

with community colleges, ROC/Ps, and local private industry councils to coordinate curricula and resources; and reaching out to employers for financial resources and help in developing curricula that respond to the long-term needs of employers. The $100 million figure would provide an average of roughly $25,000 per school per year.

Operational Costs

We estimate that after the five-year implementation period, there would be annual operational costs of about $750 million. This program estimate assumes:

- Each student receives career and academic counseling twice during his or her high school career ($50 million).
- Two-thirds of all high school students take an average of four vocational courses as part of an occupational cluster ($600 million).
- An additional 10 percent of high school students would be involved in an intensive career program such as a partnership academy, tech-prep, or apprenticeship program ($100 million).

In many aspects, this hypothetical program describes a fairly modest school-to-work program. First, we assume most students take four vocational courses during high school, which is not an especially rich menu of vocational courses—it assumes one course per semester per student for the junior and senior years. This is not enough to support both a series of vocational courses in a specific occupational area and vocational exploration for all of these students.

Second, the estimate adds no costs for activities such as providing work mentors for students, wage subsidies that might be necessary to encourage employers to provide paid work experience to students,

job search assistance for high school graduates, and other services that schools may determine are necessary for the success of school-to-work programs.

What Level of Statewide Costs Are Likely?

The actual costs of developing and operating the program outlined above would depend on the number of schools that choose to develop school-to-work programs and the specific design of those programs. Our estimate of costs represents one possible scenario—one that assumes that *all* high schools would participate and that there would be widespread student involvement. We have no way to predict what level of services and participation districts might choose. Given the tight financial times most districts are currently experiencing, local choices may depend primarily on the level of resources that are available to support school-to-work activities, rather than an assessment of the program that best meets student needs.

WHAT RESOURCES ARE AVAILABLE TO SUPPORT SCHOOL-TO-WORK PROGRAMS?

As we discussed above, the proposed federal school-to-work transition legislation does not envision providing substantial new funding to states and school districts for program operation. Some new federal funds may be available, primarily for development and initial implementation. Generally, the proposed federal legislation anticipates that schools would fund operating costs from existing resources.

Schools do in fact currently have access—directly and indirectly—to substantial resources through seven local, state, and federal programs, as shown in Figure 7. In total, we identified $641 million in resources dedicated to vocational education and school-to-work programs in 1993-94. Approximately $178 million of this amount is

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currently allocated to services for adults. The remaining $463 million is used for services to high school students.

Figure 7

Existing Funds Available to Support High School School-to-Work Transition Programs 1993-94

(Dollars in Millions)

Program	Fund Source	Funds Available	Targeting
Regional occupational centers and programs:	State/local	$241.0	Youth and adults
High school students		(121.0)	
Adults		(120.0)	
Job Training Partnership Act:	Federal	132.2	Economically disadvantaged
Youth training		(45.4)	youths (through local private
Summer employment		(86.8)	industry councils)
Carl D. Perkins Vocational Education Act:	Federal	109.3	Program improvement and disadvantaged students
High school students		(53.5)	(funds are shared with
Adults		(55.8)	community colleges)
General purpose	State/local	90.0	None
Vocational rehabilitation—workability	State/federal	45.8	Students with disabilities
Tenth-grade counseling	State	8.0	Ninth and tenth graders
Partnership academies	State	3.3	Youths at risk of dropping out
Subtotal		($641.0)	
Funds currently allocated for adults		-177.8	
Net total		**$463.2**	

Regional Occupational Centers/Programs. In 1993-94, $241 million in vocational education and training resources were available through ROC/Ps, although much of this resource is directed to adult trainees. For most districts, ROC/P resources are not under the direct control of the school district. With the exception of a small number of larger school districts that operate ROC/Ps, most district ROC/P courses are administered by a county or joint-powers agency; thus, school districts have no direct control over the use of

resources. Each ROC/P, through its local governing process, determines the amount of services that goes to youth versus adults.

Job Training Partnership Act. Figure 7 indicates that there is a total of $132 million available through the federal JTPA Program. Of these funds, $86.8 million is available through the summer youth program, which employs disadvantaged youth in public or private nonprofit agencies during the summer. Another $45.4 million supports training programs for in-school youth. School districts have no direct control over the use of JTPA resources for school-to-work transition programs. Local JTPA programs are administered by service delivery areas (SDAs) under the guidance of local private industry councils (PICs). In California, 53 SDAs and PICs, most of which are part of city or county government, provide these youth training and summer employment programs.

Federal Vocational Education (Perkins Act). Figure 7 identifies $109.3 million in federal vocational education funds in 1993-94. These funds could be used for virtually any school-to-work activity. The Perkins Act is a federal program that supplements state vocational education programs with the goal of improving the quality of local programs and ensuring that disadvantaged students have equal access to vocational education. Under federal law, certain funds are set aside for specific uses, such as tech-prep, funding for community-based organizations, and other specific groups.

Program funds support both adult and youth vocational education programs. Youth funds are distributed primarily to high schools; adult funds go to community colleges and ROC/Ps. The state determines the proportion of funds that are distributed for youth and adult services. Currently, the state Board of Education and the Community College Board of Governors negotiate the division of Perkins Act funds.

General-Purpose Funds. We calculate that approximately $90 million in high school general-purpose funds are spent each year on high school administered vocational education courses. These funds

would be available to support the vocational costs of school-to-work programs. In addition, an unknown amount of high school resources are used to review and improve course curricula, coordinate with community colleges and ROC/Ps, and conduct other improvement activities that could be available to support the development of career programs.

Federal Vocational Rehabilitation. About $46 million in federal vocational rehabilitation funds are provided through the state Department of Rehabilitation to support a variety of counseling, vocational, and supportive services to students with disabilities. Not included in the $46 million are the 20 percent matching funds that schools provide as required under federal law.

Tenth-Grade Counseling. Tenth-grade counseling provides $8 million in state funds for a review of each student's academic progress. The review, which can take place during ninth or tenth grade, focuses on student progress toward graduation rather than toward career goals. These funds, however, could be redirected as partial funding for the operational costs of academic and career counseling needed in a school-to-work transition program.

Partnership Academies. The state provides $3.3 million in planning and operational funding for partnership academies. Operational subsidies permit academies to reduce class sizes, coordinate student internships, and match students with mentors from the business community. Current law authorizes the SDE to provide academies up to $1,400 per student each year to pay for these and other costs.

Other Existing Funding Sources. Other educational categorical programs could potentially provide resources for the planning and operation of school-to-work programs. Funds made available under the federal Chapters 1 and 2 programs, federal and state funds for services to disabled students, state Economic Impact Aid, the state School Improvement Program, and dropout prevention programs could contribute to the development and execution of career program plans. Because these programs are not directly linked to

vocational education or career preparation, we did not include them in our inventory of available resources contained in Figure 7.

New Federal School-to-Work Funds. If the proposed federal law is enacted, funded at the proposed level, and California receives its proportional share of these funds, the state could expect as much as $30 million to $35 million each year for five years. These federal dollars would be available for program planning and development costs. Because the new federal law is not yet enacted, these funds are not shown on Figure 7.

How Much Program Can Schools Afford?

It appears that *development costs* for our hypothetical program could be covered by allocations from the new federal legislation. We estimate these costs could be $100 million over a five-year period. If these federal funds are not available or are insufficient, very little existing vocational program money would be available for planning and development costs. Federal Perkins Act vocational education funding is the only categorical source that could support these costs. These funds, however, are not evenly distributed across districts and are already dedicated to adult students and specific high school services.

For *operational costs,* around $463 million would be available from current resources if all the funding identified in Figure 7 that currently support high school programs could be used to support school-to-work programs. This is $287 million short of the estimated annual operating cost of the hypothetical program we have outlined. An additional $178 million would be available if resources currently supporting services for adults were redirected to high school services.

There are other program features which suggest that the $468 million estimate of available resources is optimistic. This is because existing

program requirements create barriers to redirecting existing funding for career programs. Some of the barriers are as follows:

Restrictive Program Rules Limit the Flexibility Over the Use of Funds. Some programs restrict the types of services that may be funded with program resources or require schools to target resources at particular groups of students. For instance, federal JTPA funds must be spent on students who qualify as "economically disadvantaged." The federal vocational education act also creates set-asides that require specific expenditures for specific groups. While the barriers created by these rules often can be surmounted, the rules discourage more creative uses of federal funds. The new federal school-to-work act, by permitting waivers of most relevant federal laws, could provide more flexibility to states and school districts.

The Distribution of Program Funds Is Uneven Among Districts. As a consequence, some districts have almost no vocational education resources, while others have substantial resources. For example, the Los Angeles Unified School District receives 14 percent of all ROC/P funding, even though it has about 10 percent of the state's high school students. Because the Perkins Act uses Chapter 1 funding formulas, Los Angeles—which has relatively large amounts of Chapter 1 funding—also receives a large share of these federal vocational education funds.

Options for Additional Funding

Districts that need additional resources beyond what currently is available have three basic options. First, high schools could look into their use of state and local funding received for basic programs, as well as categorical programs, for resources to support school-to-work programs. For example, additional operating funds could be generated by reducing adult services or restructuring school improvement, dropout, and compensatory programs to work in concert with school-to-work programs. Schools could also alter the composition of course offerings—that is, reducing the number of elective courses in favor of additional vocational courses.

Second, schools could look for resources that are available in the community. Career programs will require schools to collaborate with employers and other vocational education and training agencies in an unprecedented way. Employers have much to offer—for example, work sites that could be used for on-site education classes, financial resources, and employees who could mentor students. Public vocational and training agencies also have significant resources, employer contacts, and experience to offer.

Finally, the state could provide additional resources. In the near term, the state's fiscal condition probably would prevent the state from providing much new funding to meet the additional development and operation costs of career programs unless it was redirected from other activities. Most high schools are not likely to exhaust existing resources for a number of years, however, given the phase-in of operational costs and the significant amount of existing funding. This would give the Legislature time to monitor local school-to-work programs and gauge the local need for additional vocational resources.

Implementing Programs With Less-Than-Ideal Funding

In the event a school found resources to be inadequate, choices regarding the intensity of services and/or student participation would have to be made. Few data are available to indicate the relative costs and benefits of different choices. The six elements of effective programs suggest, however, that targeting services to groups of students may be a better strategy than providing a minimal level of services to a larger student population.

Chapter 6

What Can the Legislature Do To Help Create Local School-to-Work Programs?

School-to-work programs appear to offer schools a promising avenue for improving academic achievement, helping students find better jobs, and assisting business to develop potential employees with the skills and knowledge needed in today's work place. School-to-work programs build on previous school reform efforts to raise academic achievement. These programs aim to raise the achievement of all students, with special focus on the needs of lower-performing students—students who now may drop out of school or graduate but not seek additional education or training.

Most existing state vocational education programs do not contain the program elements research indicates are needed for effective school-to-work programs. Vocational courses are often uncoordinated with academic material and focused on entry-level employment rather than higher-level jobs. In addition, most students do not receive adequate counseling to develop a career program for themselves.

Developing effective programs would take time, for school-to-work programs are in the early stages of implementation. Little is known about the cost-effectiveness of different program models and services. In addition, many educators have only scant experience in addressing the needs of business and helping students find jobs. Making career awareness a part of the education of most high school students means changing the orientation of many educators.

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It appears likely that Congress will pass the School-to-Work Opportunities Program, which provides additional federal resources for developing and implementing school-to-work programs. Even if the federal program fails to pass, we believe the Legislature should act to encourage and support local efforts to create effective career programs. This does not necessarily mean the creation of a new categorical program, but providing a career focus to existing programs. With a few changes, existing vocational programs can offer much in the way of resources and experience.

In the remainder of this chapter, we describe our recommendations regarding ways the Legislature can help high schools create effective career programs. First, the Legislature should create a program structure that guides development of high-quality local programs. Second, the Legislature should revise existing programs to meet the needs of high schools attempting to create career programs. Third, the Legislature should require the SDE to make program and administrative changes to increase support of local program initiatives. Our recommendations are summarized in Figure 8.

CREATE A PROGRAM STRUCTURE TO GUIDE LOCAL EFFORTS

We recommend enactment of legislation in advance of receiving federal development and implementation funds that creates a statewide program structure which identifies the state's goals in creating a school-to-work program but provides local flexibility over how program services are delivered.

According to the SDE, the state will receive $750,000 in federal funds in 1993-94 to develop a comprehensive statewide school-to-work program plan. Once a state plan is developed, additional federal development and implementation funds of an unknown amount may be available to both the state and school districts to carry out the state plan. We recommend that the Legislature enact a program structure that would guide school districts in planning school-to-

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work programs. We are not suggesting the Legislature mandate all high schools to create school-to-work programs. That decision is best left to each district to resolve. Instead, we believe the Legislature should help guide interested districts in creating effective local programs.

Figure 8

Legislative Analyst's Office Recommendations Creating Effective School-to-Work Programs

☑ **Create a program structure to encourage effective programs**

- Maximize local control
- Clearly identify program goals
- Coordinate funding sources
- Reward schools for good performance
- Foster a learning environment

☑ **Make program changes to ease implementation of school-to-work programs**

- Transform "seat-time" standards into skill and content standards
- Revise ROC/P mission
- Develop tech-prep standards
- Maximize funding from existing programs

☑ **Realign state activities to support local school-to-work efforts**

- Reorganize the State Department of Education's internal structure
- Review the federal vocational education plan
- Ensure timely occupational information available to high school students.

What Can the Legislature Do to Help Create Local School-to-Work Programs?

In our report *Reform of Categorical Education Programs: Principles and Recommendations,* we outlined five program design features common to effective programs. We believe any school-to-work program should be based on these five principles, as discussed below.

Maximize Local Control Over Program Design Whenever Possible

We recommend that legislation require schools to review the need for program components that address the six elements of successful career programs: early career counseling and exploration; high-quality, integrated curricula; a focus on high-skill occupations; work-based education; certification of skills; and collaboration with postsecondary institutions and employers. The legislation should give districts flexibility over how and when to implement the different elements during the implementation phase. We recommend the Legislature not attempt to define how each local program should be designed and operated.

Clearly Identify Program Goals

In this case, we believe the primary goal of school-to-work programs is to improve the achievement of high school students, particularly those types of students who currently do not graduate with the analytical or communication skills needed by employers. Other major goals of the program should include helping students (1) obtain jobs that pay more and provide advancement opportunities and (2) continue education or training after high school graduation.

Consolidate and Simplify Funding Sources

As Figure 7 illustrates, seven programs provide funding for the vocational education and job training needs of high school students. Consolidating these programs at the high school level, however, would require significant statutory changes (at both the state and federal levels) and institutional changes because high schools lack direct control over three of the four larger programs. We believe the state has two different options for consolidating existing resources.

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The first option is to take steps to give high schools greater control over resources currently administered by ROC/Ps, the Department of Rehabilitation, and private industry councils. This would require allowing funds to pass through high schools before allocation to the various training agencies or giving high schools more voice in the decision-making process of the different programs.

The primary benefit of this option is that greater control would permit high schools to determine what mix of vocational education courses and providers best meets the needs of students. This option also could introduce an element of competition into the provision of vocational resources. The problems associated with this option are twofold. First, by reducing the authority of local training agencies, the Legislature also would risk losing the cooperation and expertise of these agencies. Second, high school administrators generally are inexperienced in dealing with these programs and may do a less competent job than current program administrators, at least in the near term.

The second option would treat existing programs and administrators as a consortium and give each provider a role in the operation of school-to-work programs. This option would coordinate resources, rather than consolidate them.

The strength of this approach is that high schools would be able to take advantage of the expertise and employer contacts developed by these agencies as well as program resources. This option also would protect these program resources against the potential desire to redirect or supplant them at a high school. The weakness of this approach is that cooperation takes a lot of time to achieve and does not always work. Agencies may resist and frustrate a high school's ability to use resources from a particular program.

In our judgment, the Legislature should begin with the second option because it would coordinate resources with the least disruption to local program operators, who can make important contributions to the development of local programs. In recommenda-

tions discussed later in this chapter, we offer some ways to begin creating local consortia by strengthening each program's connection to high school programs. As these changes are implemented, the Legislature should monitor the performance of these consortia and the extent to which resources and support are shared. If it determines that the cooperative approach is not working, the Legislature may want to reconsider the first option.

Reward Schools for Good Performance

We envision two types of rewards. First, schools that dramatically improve the achievement of students (based on specific performance measures) should receive recognition and financial awards. Similar to the JTPA Program, these awards would be funded by setting aside a small percentage of program funds.

Second, schools and consortia of providers (if the second option is chosen) that are successful at identifying and using greater-than-average amounts of funds through existing programs also should receive financial awards. For instance, any new funding could be based, in part, on the fiscal effort made by high schools and the consortia of provider programs.

Foster a Learning Environment

The Legislature can help improve the quality of local programs in three ways.

Reasonable Implementation Period. First, any legislation creating a comprehensive school-to-work program should allow a reasonable implementation period—at least five years. Sufficient time will permit schools to learn about, plan, and implement programs that have worked elsewhere. Unrealistically short time frames result in wasted resources, less effective programs, and disillusioned teachers and students.

Technical Assistance. Second, schools need information and technical assistance to take advantage of other effective programs and to avoid

the pitfalls experienced by others. Sufficient funds for the SDE and/or county offices of education to provide technical assistance should be a part of a comprehensive reform effort.

Evaluation. Third, any legislation should include rigorous evaluation of different school-to-work models. Evaluations will provide data for long-term improvement of local programs and validate the administrative performance measures used to indicate program success. Three partnership academies in California are part of a national evaluation of this program model, for instance. Using a sophisticated evaluation design, this evaluation will provide unparalleled data on the educational and employment impacts of the academies on high school students.

Legislation should earmark state or federal funding for such evaluations. The legislation also should require the SDE to seek federal and other sources of evaluation funding that could reduce the cost to the state of the evaluations. While good evaluations may be costly, we believe they represent a long-term cost-effective use of taxpayer money.

MAKE PROGRAM CHANGES

Transform "Seat-Time" Standards Into "Skill and Content" Standards

We recommend transforming high school graduation and college admission requirements into skill- and content-based standards in order to facilitate the integration of academic and vocational curricula.

High school curricula are driven currently by two forces: state high school graduation requirements and minimum entrance requirements for the University of California (UC) and the California State University (CSU). (The UC requirements are known as the "A through F" requirements.) As we discussed above, changes in these

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requirements can result in significant curricular changes within high schools.

Graduation and college entrance requirements currently are described in terms of "seat time," or the number of years of classes students must take to satisfy the requirements. These requirements could, however, be posed in terms of skill and content standards, that is, the skills and content matter we expect graduates or college students to possess. For example, in lieu of three years of English, requirements would specify that the curriculum include writing a business letter, writing a three-page essay, reading Shakespeare, and so on.

The current seat-time requirements create a barrier to integrating academic and vocational material. The requirements promote traditionally structured courses rather than courses in which academic material is taught as part of a vocational course.

Creating skill- and content-based graduation standards rather than seat-time standards is a task that should not be too difficult to achieve. Detailed curriculum frameworks exist for every high school subject matter. Implicitly, these frameworks specify what we expect high school students to learn and can provide the basis for skill and content standards.

To transform high school graduation requirements into skill and content standards but leave college admission requirements unaffected would risk creating a two-tiered system—a seat-time system for "college-bound" students and a skill and content system for the remainder of students. A two-tier system would reduce the future options of students who did not explicitly meet college entrance requirements.

The Legislature could avoid this problem and increase the participation of college-bound students in career programs by requiring the SDE to work with the UC and the CSU on their

admission requirements to duplicate to the extent possible the skill- and content-based high school graduation requirements.

Update the ROC/P Mission Statement

We recommend adoption of legislation updating the mission of ROC/Ps to reflect the goals of school-to-work programs.

ROC/Ps constitute a major source of vocational education courses for high school students. Indeed, in some districts, high schools are almost entirely dependent on ROC/Ps for vocational education classes. The mission of ROC/Ps is dated, however, and limits the ability of local agencies to respond to the school-to-work transition needs of high schools. For example:

- ***ROC/Ps are required to prepare students for entry-level employment.*** The school-to-work reform effort focuses on helping students achieve higher levels of academic and vocational skills. For this reason, we believe the mission of ROC/Ps should be amended to focus on the long-term academic and vocational needs of students.

- ***ROC/Ps currently must show that every vocational course meets a documented labor market demand and results in the employment of students.*** These requirements place a heavy emphasis on fulfilling *short-term* training needs of employers rather than satisfying the long-term needs of both employers and students. Reducing the emphasis on immediate employment and requiring most courses to be part of a sequence of courses (or "majors") would give ROC/Ps more flexibility to integrate academic material into courses and promote higher-level skill development.

- ***ROC/Ps are prohibited from serving ninth and tenth graders.*** This rule hinders ROC/P participation in

academies and apprenticeships that begin during the ninth or tenth grades. This restriction should be eased for these programs.

- *Current law does not require ROC/Ps to coordinate courses with high schools or community colleges.* Existing law prohibits ROC/Ps from unnecessarily duplicating other manpower training programs, but is silent on the question of coordinating with other education agencies. While such coordination is moving forward in some cases through the implementation of tech-prep programs, codifying the requirement will emphasize its importance.

We envision three roles for ROC/Ps in an environment where career programs are common:

- ROC/Ps would provide some or all of the vocational education needs of occupational clusters and academy or apprenticeship programs.

- They would provide vocational education in specific occupational areas that are not part of an occupational cluster, 2+2 program, or more-rigorous academy or apprenticeship program.

- ROC/Ps would provide technical assistance and resources to high schools in creating school-to-work programs, integrating academic and vocational courses, linking with local employers, and coordinating with community colleges.

Develop Tech-Prep Standards

We recommend the Legislature direct the SDE and the Chancellor's Office of the California Community Colleges to jointly establish standards that high school, ROC/P, and community college courses

must meet in order to facilitate local development of coordinated sequences of vocational education courses.

In tech-prep programs, high schools and ROC/Ps coordinate academic and vocational education courses with community colleges to promote student transition from high school to community college. When the coordination is complete, the colleges give college credit for high-level work done while a student is in high school.

Currently, no widely accepted standards are available to guide the local coordination process. Secondary schools must coordinate separately with each community college, state college, and university. We view this as an unnecessarily burdensome, time-consuming, and expensive process.

The development of state standards describing the minimum requirements for high school and community college course content could greatly accelerate the development of tech-prep programs across the state. Like the existing academic frameworks, these standards would not be required of schools. Instead, the standards would give high school, ROC/P, and community college educators a guideline for developing local course sequences. For example, these guidelines could identify the role of secondary and postsecondary institutions in providing sequential courses in different occupational areas, and the content of the various courses. Rather than requiring each school and college in the state to individually negotiate these sequences, state frameworks for these sequences could hasten the implementation of tech-prep programs and help ensure a minimum level of quality to the coordinated programs.

Maximize Funding From Existing Programs

We recommend adoption of legislation to enable schools to redirect existing funding for school-to-work transition programs.

While substantial amounts of funding are available through existing vocational education and job training programs, policy and practice

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often limit the amount of resources that may be available or erect barriers to the smooth coordination of resources.

We identified several instances where funds could be redirected or processes changed to obtain additional resources. Specifically, we recommend the following changes.

Create statutory limits on the percentage of ROC/P funds that may be used to support services to adults. As of 1992-93, 50 percent of these funds supported adult vocational education services. We recommend that half of the funds supporting adults, or $60 million, instead be used to support high school programs. This change would force a major change in some ROC/P operations and should be implemented over a period of years.

This recommendation also would reduce ROC/P services to adults. We view the change as returning the central mission of ROC/Ps to serving high school youth. Until the passage of SB 813, ROC/Ps' primary mission was serving high school youth. Our recommendation would establish the ratio of youth and adults served by ROC/Ps to its pre-SB 813 levels. Because ROC/Ps would serve fewer adults, this recommendation would increase the demand for adult job training that is provided by other agencies, such as community colleges, adult education, JTPA, and the Employment Development Department.

Assign a larger percentage of federal vocational education funds to secondary schools. If new federal school-to-work funds are not available to support development costs, the pace of local design and implementation of career programs would be slowed greatly. In that event, we recommend the Legislature redirect additional federal Perkins Act funds to high schools for three years. Currently, high school programs receive 47 percent of local Perkins Act funds, and adult programs (through ROC/Ps and community colleges) receive the remaining 53 percent. This split is based on a policy decision of the state Board of Education and the Community Colleges Board of Governors. By increasing the percentage going to high school

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programs to 67 percent, the Legislature could make $15 million in additional resources available each year for planning and implementing school-to-work programs. While community colleges and ROC/Ps have needs for these funds, we believe that providing planning funds needed to start school-to-work programs would have greater long-term benefits by giving high school students access to the education and training needed to get good jobs. This would be a small reduction in overall funding available to these agencies.

Mandate review of local JTPA spending plans for youth programs by school superintendents. Local JTPA funds are controlled by private industry councils (PICs). High schools and school districts have no formal role in the planning and expenditure of funds targeted for youth services. The Legislature can give school officials some leverage over the use of these funds by requiring PICs to obtain approval of each school superintendent for its plan to spend JTPA youth funds. In addition, the Legislature should require local JTPA plans to include a description of how the youth funds will support high school career programs. Together, these two changes will help increase the JTPA resources available to high school programs.

Limit partnership academy funding to providing three-year planning and startup grants. Currently, partnership academy funds provide ongoing support to 48 high school academies. These funds are used to reduce class sizes and provide needed vocational education services, mentors, etc. A number of high schools, however, have been able to operate academies without additional state subsidies. Instead, these schools depend on ROC/P, community college, and employer resources to support the additional cost of operating the academies. By phasing out permanent operating subsidies to existing academies, the Legislature could ultimately extend startup grants to 200 academies each year with existing partnership academy funding.

Refocus tenth-grade counseling to include vocational and career counseling. Under current law, tenth-grade counseling is limited primarily to ensuring that students will have sufficient high school

course credits to graduate by the end of twelfth grade. This change would explicitly allow schools to use the counseling funds for vocational and career counseling as well.

REALIGN SDE ACTIVITIES TO SUPPORT LOCAL SCHOOL-TO-WORK EFFORTS

We recommend the Legislature require the SDE to submit to the relevant fiscal and policy committees a plan for how the department intends to support school-to-work programs.

Just as school-to-work programs seek comprehensive change within high schools, the Legislature also should expect the SDE to alter its structure and programs to support local efforts. Yet, almost two years after the publication of *Second to None*, the department has done little to reorganize in support of the report's vision. Below we describe three ways the department could improve its ability to support local programs.

Reorganize the SDE's Internal Structure

The department's current organization should be reexamined to determine whether bringing together different program areas affecting high schools would increase its ability to support local school-to-work efforts. Academic and vocational interests are divided within the SDE, for instance, just as they are in high schools.

Within one branch of the department, there are three different divisions with major responsibilities for school-to-work programs: a curriculum division with responsibility over "academic" programs, a separate vocational education division, and an instructional support division containing a high school reform unit. In addition, within a second branch of the department, the Alternative Education Division is responsible for JTPA-funded programs, opportunity programs, dropout programs, and working with state agencies responsible for the collection and use of occupational information.

We believe the department should reexamine its internal structure with an eye toward creating an organization that facilitates the support of local school-to-work programs. At a minimum, the department should consider moving the Alternative Education Division into the same branch as the other divisions with major school-to-work responsibilities. Beyond that, the SDE should weigh the costs and benefits of merging portions of all four divisions into one high school reform unit. By confronting the same issues that *Second to None* asks high schools to solve, the department would be able to play a more supportive role in the reform process.

Review the Federal Vocational Education Plan

The state's plan for expenditure of the federal vocational education funds should be reviewed to ensure that it is consistent with the six elements of effective school-to-work programs. Such a review is required in any case due to recent changes in the Perkins Act that address school-to-work program goals.

Two examples are illustrative. First, these changes establish the integration of academic and vocational material as one of the act's major program goals. Second, the changes require the state to develop a system of core standards and measures, which would be used annually to assess program effectiveness. Local programs that consistently cannot meet these standards and measures must work with the appropriate state agency to develop an improvement plan. The SDE is required to monitor the effectiveness of local high school plans.

Currently, the department's implementation plan does little to stress the importance of two program components of the federal act. For instance, the state's plan includes integrating academic and vocational material only as one of 14 priorities that are contained in federal law. In addition, until recently, the SDE had not taken any steps to determine the extent to which integration was occurring locally or what barriers were preventing further integration of academic and vocational material. Yet, as discussed earlier, integrating these curricula is a central, and difficult, element of

effective career programs. We believe the state plan should stress this priority above the other federal priorities.

A similar problem exists with the state's standards and measures. We identified the following shortcomings:

- *Data System Not Implemented.* While the state complied with the federal requirement to develop standards and measures, the SDE did not implement the system. Some of the data required to compute the measures have never been identified or collected.

- *Inadequate Range of Measures.* Our review indicates that the standards and measures identified by the SDE will not adequately measure the impact of career programs. The measures ignore program impacts on subgroups of students (such as low-performing students), for instance, and concentrate only on state- or district-wide averages.

- *Program Goals Not Specified.* The standards and measures also do little to communicate the state's program goals. For instance, they do not provide information on the status of the six elements of effective school-to-work programs. More important, the measures do not communicate to local districts the state's interest in developing programs around these elements.

- *No Local Monitoring.* The state department has never monitored local performance based on any specific criteria, as required under federal law. The SDE advises that monitoring of local plans was considered a low-priority activity, due to the relatively small amount of federal support funds that are available for state-level activities.

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The federal vocational education program can provide an important tool for the state in shaping local efforts to create effective school-to-work programs. While the department has been making a good attempt at recrafting the state plan to encourage more effective program design and operation, we believe the Legislature should require the department to provide information on its progress in these two areas. This would assure that the state obtains the maximum value from the federal vocational education funds.

Ensure Timely Occupational Information Available to High School Students

The department should initiate an expanded effort to understand the occupational information needs of high school students and work with the Employment Development Department (EDD) and the California Occupational Information Coordinating Committee (COICC) to develop sources for this information. The SDE currently participates as one of the nine members on the federally mandated COICC, which is required to coordinate the development of occupational information systems for use in planning, counseling, and economic development.

Occupational information constitutes an important component of any high school career guidance effort. Currently, however, the data made available by the state do not meet many of the needs of high school students. The EDD collects occupational data through a number of state and local programs. Data on occupational demand are published periodically in the form of ten-year forecasts of employer demand for specific occupations in specific regions. The EDD also publishes state and regional unemployment statistics by industry and reports of employment prospects in specific occupations.

While the EDD data are valuable, the needs of high school students call for somewhat different information. Specifically, we have identified three areas in which EDD data do not meet the career needs of high school students:

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- *Job Definitions.* While the EDD data provide long-term estimates of the demand for many occupations, they do not recognize how jobs are being affected by computerization and the changing needs of business. As students make long-term career decisions, this type of data on occupational areas would prove valuable.

- *Economic Conditions.* The EDD occupational employment projections are based on simple straight-line projections of relatively short-term employer needs. The EDD does not alter these projections to reflect expected changes in the economy that would affect demand for specific occupations. These data, too, would be valuable to high school students.

- *Adaptability for Use in School-to-Work Programs.* School-to-work programs try to focus students on long-term career decisions—that is, decisions that often require additional education or training to achieve. The EDD data are not structured around career paths; in fact, we found the data rather difficult to use when trying to compare the employment prospects for a variety of career options.

High schools need good occupational data to help high school students make good career decisions. The EDD recognizes that its data need to be modified to meet the needs of high school students. Because the EDD operates the data collection system and the COICC coordinates the various needs of state and local agencies for occupational information, we believe the SDE should work with the two agencies to improve the applicability of data available to high school students.

CONCLUSION

In this chapter, we presented our recommendations for actions the Legislature should take to help school districts create effective school-to-work programs. The recommendations revolve around three themes. First, the Legislature should create a program and planning structure that promotes the creation of effective local programs. Second, we recommend certain refinements to existing education programs in a manner consistent with school-to-work programs. These recommendations also suggest changes that can help schools maximize existing funding for career programs. Third, we recommend changes to a number of state activities that should be structured to support local school-to-work efforts. Together, these recommendations would allow the Legislature to pave the way for the development and implementation of effective local programs.

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