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ABSTRACT

A study compared student participation and program features in high school vocational education programs in school year 1993-94 (after enactment of Perkins amendments) with 1990-91 (before enactment). Questionnaires were mailed to a nationally representative sample of public secondary schools and their associated central district offices in two surveys, one for 1990-91 and another for 1993-94. Changes that had taken place among students from special populations and in vocational education programs were identified. Four school districts were visited. Findings indicated that removal of the set-aside requirement for students from special population groups did not inhibit their participation, limit the availability of services, or affect their postgraduation status. Participation in vocational education was virtually unchanged. Availability of support services increased for all students, including students from special populations. College attendance and employment were generally unchanged. Efforts to improve quality showed progress, but recommended approaches had yet to reach many classrooms. Schools and districts increased use of quality approaches, but relatively few students were served. School districts reported an increase in the use of various measures in their self-assessment process. (Appendixes include scope and methodology, supplementary tables, aggregated responses to surveys, and Department of Education comments.) (YLB)

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GAO

United States General Accounting Office
Report to Congressional Committees

July 1995

VOCATIONAL
EDUCATION

Changes at High
School Level After
Amendments to
Perkins Act

ED 384 790



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**Health, Education, and
Human Services Division**

B-255714

July 12, 1995

The Honorable Nancy Landon Kassebaum
Chairman
The Honorable Edward M. Kennedy
Ranking Minority Member
Committee on Labor and Human Resources
United States Senate

The Honorable William F. Goodling
Chairman
The Honorable William L. Clay
Ranking Minority Member
Committee on Economic and
Educational Opportunities
House of Representatives

Several changes affecting the U.S. economy over the past two decades—the decline in prominence of the manufacturing sector, the strength of international competition, and the accelerating improvements in information technology—have heightened the importance of a skilled labor force. In this context, vocational education remains an especially important tool for ensuring that entry-level workers are fully prepared for the labor market.

The Carl D. Perkins Vocational Education Act of 1984 (P.L. 98-524) provides federal support for vocational education at both the secondary (high school) and postsecondary levels. In 1990, the Congress amended the Perkins Act to realign national priorities for vocational education. In these amendments, the Congress encouraged several types of vocational education approaches that are designed to provide students with a better understanding of how schoolwork relates to job requirements. In addition, the amendments removed a requirement that 57 percent of Perkins funding be set aside for services to students from special populations—including students with disabilities, economically disadvantaged students, and students with limited English proficiency.¹ The amendments do require that states' vocational education plans provide special population students with equal access to vocational

¹The amendments define "special population students" to include three groups of students who may require special assistance to succeed in a vocational education program—students with disabilities due to certain physical or mental conditions; students disadvantaged because of economic or academic disadvantages; and students with limited English proficiency, that is, difficulty speaking, reading, writing, or understanding English because of the predominance of another language in their environment.

education programs and services; in addition, the amendments direct districts to allocate Perkins funds so as to give priority to sites or programs that have higher concentrations of special population students. Nonetheless, some individuals were concerned that removal of the set-aside requirement would reduce special population students' access to vocational education.

In response to a mandate in the amendments, we compared student participation and program features in high school (secondary level) vocational education programs in school year 1993-94² (after enactment of the amendments) with 1990-91 (before enactment of the amendments). A companion report will address changes at the postsecondary level.^{3,4} Specifically, this report addresses the following questions:

- For students from special population groups, what changes have taken place in (1) participation in vocational education, including participation in innovative programs; (2) availability of support services; and (3) college attendance and employment following graduation?
- For vocational education programs, to what extent have schools and school districts adopted recommended approaches to enhance quality—such as (1) school-to-work transition activities, (2) integration of academic and vocational learning, (3) development of competency standards for students, and (4) increased use of quality indicators for program assessment?⁵

We collected information for this study through two surveys. To obtain information for 1990-91, and again for 1993-94, we mailed questionnaires to a nationally representative sample of public secondary schools and their associated central district offices. For the schools and districts that responded to both surveys, we determined what changes had taken place (1) among students from special populations and (2) in vocational education programs. To supplement our survey data, we visited four school districts. (Details on our scope and methodology are in app. I, and

²In this report, all hyphenated years are school years.

³See Vocational Education: 2-Year Colleges Improve Programs, Maintain Access for Special Populations (GAO/HEHS-95-163).

⁴This report updates the preliminary findings of our study, which we reported in 1993. See Vocational Education: Status in School Year 1990-91 and Early Signs of Change at Secondary Level (GAO/HRD-93-71, July 13, 1993) and Vocational Education: Status in 2-Year Colleges in 1990-91 and Early Signs of Change (GAO/HRD-93-89, Aug. 16, 1993).

⁵In our previous study, we also examined the concentration of Perkins funds across schools. The data were insufficient to allow us to address that issue in this report.

detailed information about our results is in app. II. Apps. III and IV contain the aggregate responses to the two surveys.)

Results in Brief

The initial concerns about the effects of the Perkins amendments did not materialize. Removal of the set-aside requirement for students from special population groups did not inhibit their participation, limit the availability of services, or affect their postgraduation status. Between 40 and 50 percent of these students participated in vocational education in 1993-94—percentages that remained virtually unchanged from 1990-91. These students also continued to participate in the full range of vocational education, including school-to-work activities. Schools continued to offer all students—including those from special populations—access to support services at the same or greater levels in 1993-94 than in 1990-91. Student activities following graduation were also generally unchanged between 1993-94 and 1990-91. In all student groups, we observed no significant changes in the proportion of students who attended college, went directly to work, or were unemployed.

There are both signs of progress and room for improvement as secondary schools and school districts have acted to modernize and enhance their vocational education programs. Schools have moved aggressively to apply some approaches, but have been slower to adopt other changes. For example, the percentage of schools offering tech-prep programs⁶ increased significantly (from 27 to 45 percent) between 1990-91 and 1993-94, and the percentage of students participating in tech-prep rose from 9 to 16 percent. However, more traditional school-to-work transition programs like work-study and apprenticeships have shown no significant change.⁷ Teacher training in integrating vocational and academic instruction also increased, but the majority of schools in our survey did not employ several practices (team teaching, for example) that bring integrated learning concepts into the classroom. School districts also reported increased use of quality indicators (such as placement data) in their self-assessment processes, despite the difficulties many of them encounter in gathering this kind of information.⁸ However, the number of vocational education programs that require graduates to meet competency

⁶Tech-prep programs use a coordinated curriculum, typically with 2 years in high school and 2 years in community college, to prepare students for technical careers.

⁷Work-study and apprenticeship programs provide a structured learning experience in a workplace setting.

⁸For example, schools may have difficulty gathering reliable placement information because of insufficient student response.

standards has remained virtually unchanged. Moreover, many of the program features associated with high-quality vocational education still affect a relatively small percentage of students. For example, although 74 percent of schools offer work-study programs, only about 16 percent of vocational education students participated in work study in 1993-94. Many more students will need to be exposed to these approaches before they become a standard part of vocational education.

Background

Vocational education prepares students for an increasingly demanding labor market through an organized sequence of courses that are directly related to preparing students for employment in jobs that do not require a bachelor's degree.⁹ For example, one school district offers high school students the opportunity to acquire the technical skills needed for careers in fields like automobile repair, medical assisting, or electronics.

Vocational education programs are funded at the federal, state, and local levels. Funding provided under the 1984 Perkins Act is the federal government's primary form of assistance for vocational education. Although federal financing accounts for only a small percentage of expenditures on vocational education, the Perkins Act provided about \$1.4 billion in 1993-94, compared with approximately \$1 billion in 1990-91.

In addition to eliminating the set-aside requirement for special populations, the Perkins Act amendments included several provisions intended to improve the quality of vocational education. To help ensure that programs are of sufficient size and scope to be effective, the amendments set minimum funding thresholds at the secondary school level. School districts that would have received funding allocations of less than \$15,000 under the original Perkins Act are now generally ineligible for funds unless they join other districts in a consortium in which the total funding meets the \$15,000 minimum.¹⁰

The amendments also encourage several approaches to vocational education that smooth the transition from school to work. In 1993-94, Perkins funding included \$104 million for tech-prep programs, which link secondary vocational education programs to postsecondary institutions in a coordinated program leading to an associate's degree or certificate. For example, one school district operates a tech-prep program in allied health

⁹This definition of vocational education can be found in the Perkins Act. Researchers and education experts have used a variety of different definitions for vocational education.

¹⁰A similar funding threshold is set at \$50,000 for the postsecondary level.

services that prepares students for a career as a Medical Assistant, Emergency Medical Technician, or Surgical Technologist.¹¹

The Perkins amendments also encourage schools and districts to integrate vocational and academic instruction, so that vocational students can develop a better appreciation of how academic learning is related to job requirements. In addition, the amendments require recipients (schools and districts) to evaluate the effectiveness of their vocational education programs and in particular to evaluate the progress of special population students. For example, placement data on high school graduates can indicate whether students have continued their education or obtained employment in their field.

Removal of Set-Aside Requirement Does Not Appear to Have Hurt Special Population Students

Despite widespread concern, removal of the set-aside requirement has apparently had no adverse impact on special population students. Specifically, neither student participation nor the availability of support services has declined following the implementation of the Perkins amendments. Furthermore, employment and educational outcomes for special population students—relative to vocational education students as a whole—were unchanged.

Participation in Vocational Education Was Virtually Unchanged

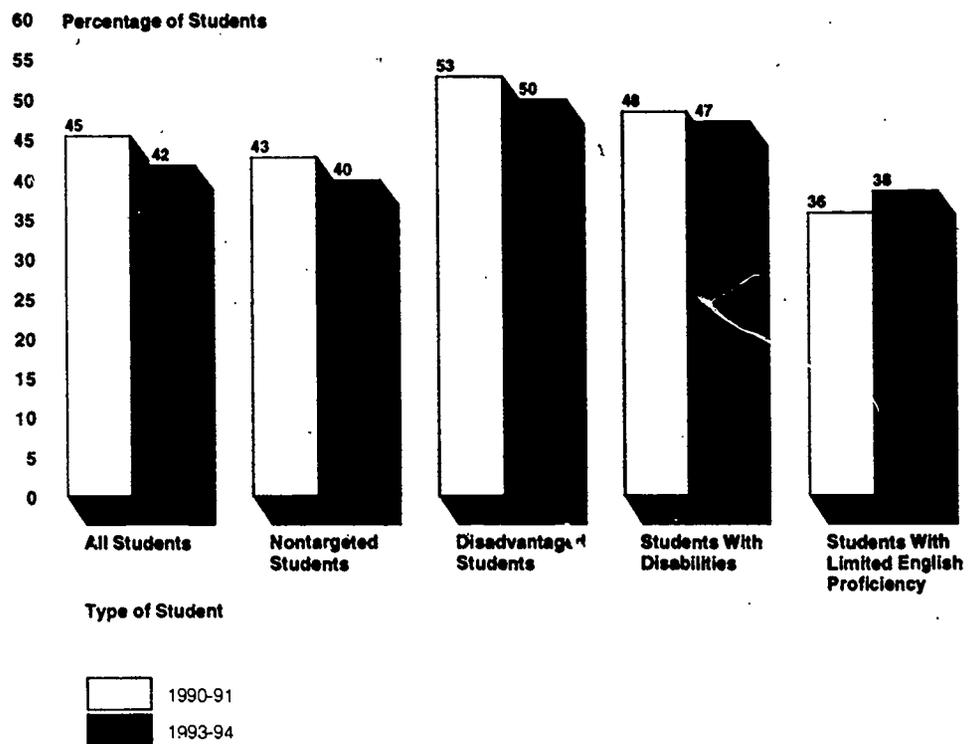
We found no significant changes in the rate at which special population students participated in vocational education. In 1993-94, 42 percent of all students participated in vocational education, compared with 45 percent in 1990-91.¹² This decline in overall participation was reflected in small, statistically insignificant¹³ declines in participation among students with disabilities (from 48 to 47 percent) and among students who were disadvantaged (from 53 to 50 percent). (See fig. 1.)

¹¹Tech-prep programs may require that students meet certain competency standards for completion, but many schools impose competency standards on programs other than tech-prep. For example, one of the schools we visited required its auto technology students to demonstrate specific skills like testing engine coolant, disassembling an engine, and replacing an alternator.

¹²This finding is consistent with results reported by the National Assessment of Vocational Education (NAVE). Using four different definitions of vocational education, NAVE's researchers found that between 1982 and 1992 there was a steady decline in the percentage of high school graduates who could be considered vocational education students. See NAVE, *Final Report to Congress, Vol. II, Participation in and Quality of Vocational Education* (Washington, D.C.: U.S. Department of Education, 1994), p. 12.

¹³Because the figures in this report are estimates derived from a survey, they may differ from the values that we would have obtained had we been able to get information from all the schools in the United States. The difference between two estimates—such as the difference between estimated enrollment in 1990-91 and in 1993-94—is said to be statistically significant if we can be 95 percent sure that the difference is not merely due to chance or coincidence. If the estimates are close enough that we cannot be sure the difference is meaningful, the difference is said to be statistically insignificant.

Figure 1: Percentage of Vocational Education Students, by Type of Student, 1990-91 and 1993-94



Note: Students from special population groups may be included in more than one category.

Not only did students from special populations continue to participate in vocational education, but these students could be found in the full range of vocational education activities, including school-to-work transition activities. Since the implementation of the amendments, more schools have offered tech-prep programs; schools have also continued to offer work-study and apprenticeship opportunities. When comparing students from special populations with other students, we observed no significant differences in participation in these activities either before or after the amendments. For example, in 1993-94, 16.8 percent of disadvantaged students—and 16 percent of students who did not belong to special population groups—participated in tech-prep. However, because many schools were unable to provide this information, our estimates of participation in these activities are somewhat imprecise. (For more

information about participation in vocational education programs, see app. II.)

Availability of Support Services Increased for All Students, Including Students From Special Populations

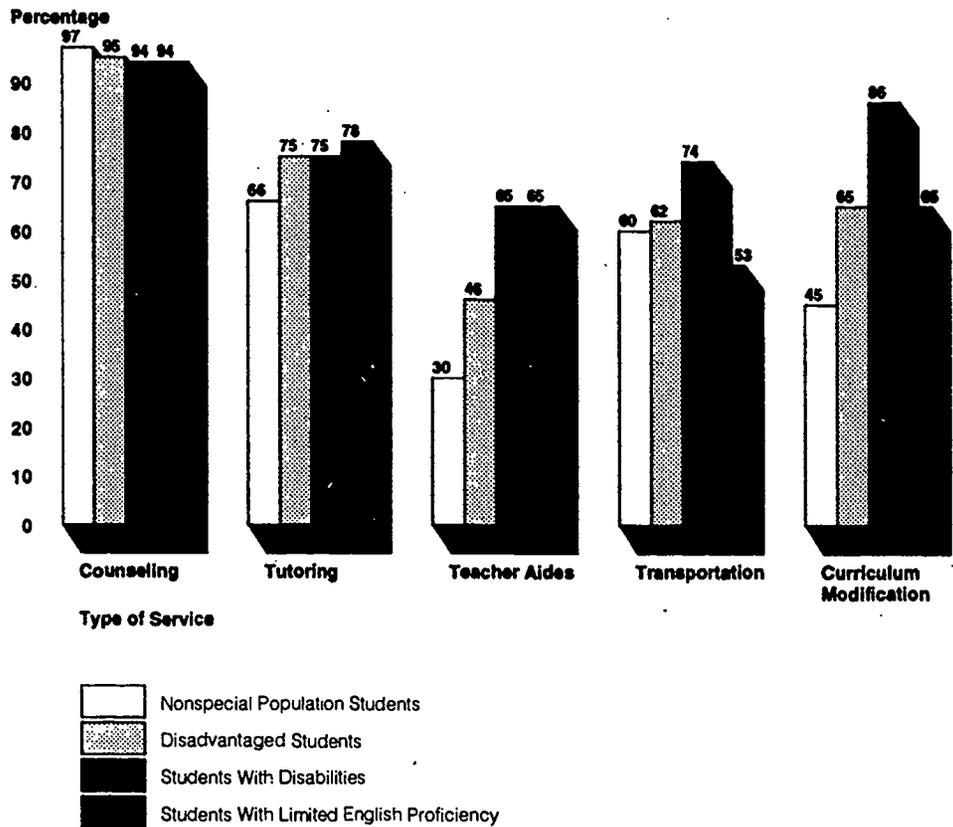
From 1990-91 to 1993-94, the percentage of schools that offered support services to students, including those from special population groups, generally increased.¹⁴ For example, the percentage of schools that offered transportation services to students with disabilities increased dramatically (from 59 to 74 percent). These students' access to teacher aides, tutoring, and life skills training also rose significantly. For students not in special population groups, there was a significant increase in the percentage of schools offering tutoring (from 52 to 66 percent).

In some support areas, special population students were more likely to be offered additional services than students who did not belong to these groups (see fig. 2). For example, in 1993-94 students from any of the three special population groups were significantly more likely to be offered teacher aides than students who did not come from any of these groups. However, for many of the remaining support services, the differences between the various groups of students were small and statistically insignificant.¹⁵ Across all student groups, in 1993-94 schools were most likely to offer counseling or guidance, tutoring, evaluation or assessment, life skills training, and special recruitment; over two-thirds of schools offered these services. Day care was offered less frequently (by less than one-sixth of schools). (For more detailed information on the percentage of schools offering support services, see app. II.)

¹⁴We asked schools about the availability of 15 distinct support services for students. (See table II.5 for more information on these services.)

¹⁵Fewer schools reported whether they offered services to students with limited English proficiency. Therefore, estimates of services for these students are less precise.

Figure 2: Percentage of Schools Offering Selected Support Services, by Group, 1993-94



Note: Students from special population groups may be included in more than one category.

College Attendance and Employment Were Generally Unchanged

Historically, vocational education graduates who have disabilities or are economically disadvantaged have been less likely to attend college and more likely to go directly to work than other students.¹⁶ This pattern is evident in both our 1990-91 and 1993-94 surveys. In general, these differences neither widened nor narrowed over time. For example, the proportion of disadvantaged vocational students who expected to attend a 4-year college was 14 percent in 1990-91 and 13 percent in 1993-94—a statistically insignificant change. However, many schools were unable to

¹⁶Sixty-three percent of all graduating seniors in our survey expected to attend either a 4- or 2-year college. This is consistent with Bureau of Labor Statistics reports that indicate about 62 percent of recent high school graduates enrolled in colleges or universities in the fall of 1992. See *Proportion of 1992 High School Graduates Enrolled in College*, U.S. Department of Labor, Publication No. 93-153 (Washington, D.C.: June 22, 1993).

provide placement information, and this low response rate limited our ability to observe changes in postgraduation status. (For more information about changes in outcomes for vocational students who are members of special populations, see app. II.)

Efforts to Improve Quality Showed Progress, but Recommended Approaches Have Yet to Reach Many Classrooms

The Perkins amendments directed recipients to adopt a number of strategies to enhance the quality of vocational education—most specifically, tech-prep programs, integrated learning approaches, and the development of standards by which schools and districts can better evaluate their vocational programs. The sponsors of the Perkins amendments believed that these approaches would improve the quality of vocational education by easing the transition from school to work and by ensuring that students apply cognitive skills in a vocational education environment. For similar reasons, vocational education experts have advised schools and districts to emphasize school-to-work transition activities. We observed many schools and districts moving aggressively to implement several of these approaches. However, other recommendations (such as using academic teachers in vocational classes) have been slower to gain acceptance. Many of the attributes associated with quality programs still affect only a small percentage of vocational education students. Similarly, although districts have increased their use of quality indicators for self-assessment, many districts have not yet developed standards to guide these assessments.

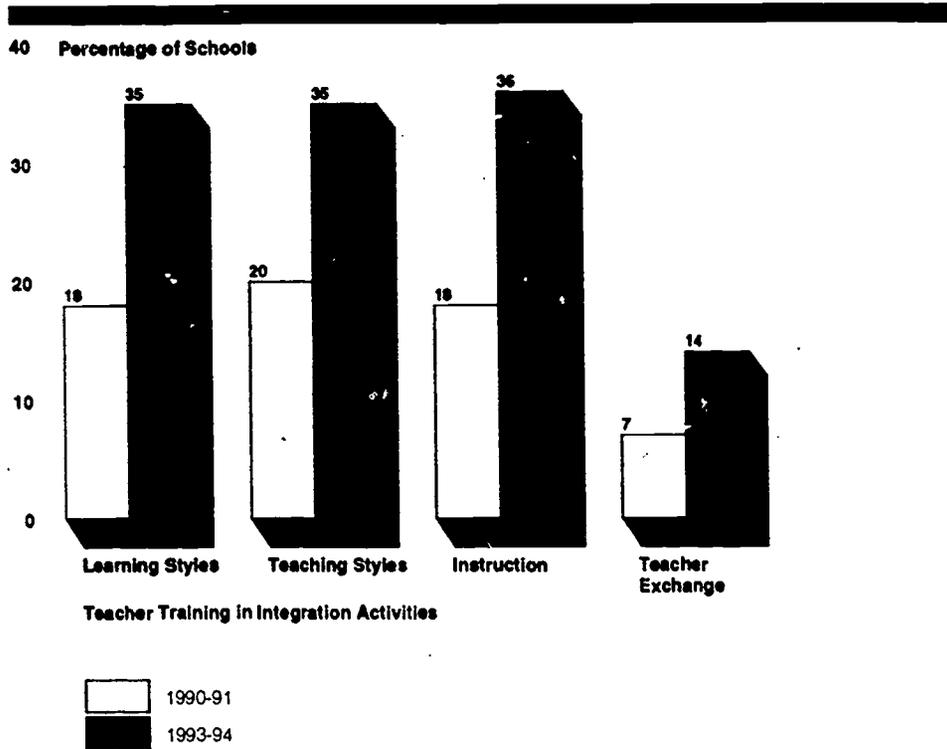
Schools and Districts Increased Use of Quality Approaches, but Relatively Few Students Were Served

Schools have moved aggressively to increase several of the approaches to vocational education associated with quality—such as integrated learning and tech-prep programs. For example, in 1993-94 35 percent of all schools reported that to a “great” or “very great” extent they were participating in teacher training activities designed to integrate academics into vocational education, compared with 20 percent or less in 1990-91 (see fig. 3). Even more dramatically, the percentage of schools offering tech-prep programs increased significantly in just 2 years: in 1990-91 only 27 percent of schools offered tech-prep, but by 1993-94 that figure had jumped to 45 percent (see fig. 4).¹⁷ For example, when we visited one district in 1990, officials were planning their tech-prep program. In 1991-92, they formed a tech-prep

¹⁷The growth in tech-prep programs masks the fact that tech-prep programs across the country are still in transition. Because tech-prep programs are still quite new, relatively few students have made the transition from high school to college. In addition, among many schools there is lack of agreement about what constitutes tech-prep. Because our survey data are based on schools' reports and on their interpretations of what constitutes a tech-prep program, the survey information may not adequately characterize the enormous variation in the size and strength of tech-prep programs nationwide.

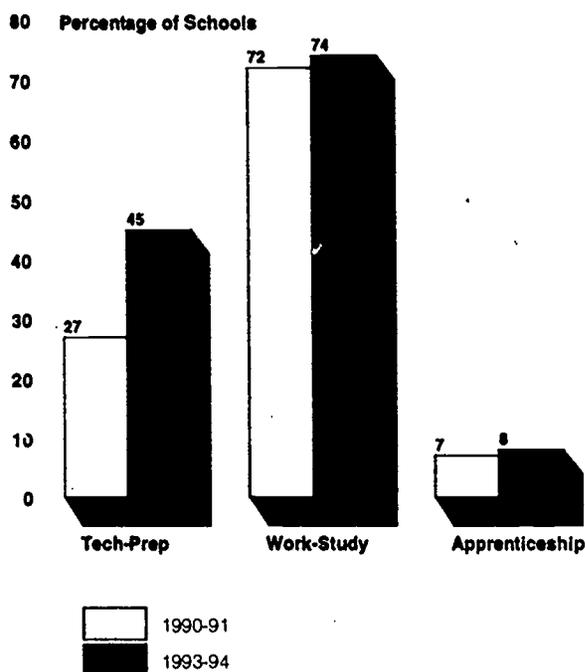
consortium, including 10 school districts. When we visited again in 1993-94, two more districts had joined the consortium and the first tech-prep program was under way. The consortium hopes to have 200 tech-prep students entering affiliated postsecondary institutions by September 1996.

Figure 3: Teacher Training in Academic and Vocational Education Integration, 1990-91 and 1993-94



Note: Percentages indicate schools reporting that "To a great extent" or "To a very great extent" they are participating in these teacher training activities designed to integrate academics with vocational education.

Figure 4: Percentage of Schools With Certain School-To-Work Transition Activities, 1990-91 and 1993-94



Acceptance of the integrated learning and tech-prep concepts has grown substantially. However, many more students will need to be exposed to these approaches before they become a standard part of vocational education. Less than half of the schools we surveyed employed several practices, such as team teaching, that bring integrated learning into the classroom.¹⁸ In one school we visited, informal cooperation among teachers facilitated integration—for example, the teacher of a course in computer-aided design invited the physics teacher into his classroom to explain some of the physics elements in computer-aided design. However, another district we visited was unable to implement the integrated learning concept to the extent that its administrators would have liked. These officials told us that teacher credentialing requirements at the state level prevented vocational teachers from teaching academic subjects, and contracting arrangements limited teachers' incentives to participate in summer training.

¹⁸These activities include team teaching, programs in which academic teachers teach their subjects in vocational classes, and programs in which each course within the vocational education program concentrates on academics.

Similarly, despite sizable increases in the number of schools and students participating in tech-prep programs, only 16 percent of vocational students in 1993-94 were participating in tech-prep. In addition, other methods for improving the school-to-work transition—such as work study and apprenticeships—have not grown significantly since the Perkins amendments were implemented (see fig. 4). These programs also reach only a small number of students; only 16 percent of vocational students participated in work-study programs in 1993-94, although 74 percent of schools reported that they offer a work-study program.

In addition to integrated learning and school-to-work activities, experts in vocational education have urged schools to develop certificates of competency and to require students to meet minimum standards or competencies to complete the program. These initiatives have been slow to develop since the Perkins amendments; both the percentage of schools that reported issuing certificates and the number of programs that required competencies remained roughly constant between 1990-91 and 1993-94.¹⁹

Districts Report Using More Quality Indicators for Self-Assessment

School districts reported an increase in the use of various measures in their self-assessment process. For example, we observed substantial increases in the proportion of school districts that reported using graduation rates (from 72 to 83 percent) and placement rates (from 77 to 86 percent) as part of their self-assessments. The schools we visited, however, reported that it was difficult and time consuming to gather this type of information. For example, one school district attempted to contact recent graduates by mail but received only a 25-percent response rate. In addition, despite this increased use of information for self-assessment, many schools have yet to develop standards to guide these assessments. For example, 71 percent of schools used measures of students' academic gains as an input into their assessment process. However, only 69 percent of the schools that used this measure had developed standards that would allow them to determine if students' academic progress was satisfactory. (For more information about school progress in quality, assessment, and standards development, see app. II.)

¹⁹In 1990-91 schools reported an average of 5.11 vocational programs in which such standards or competencies applied. In 1993-94 the average number of programs for which standards or competencies applied was 5.35; the difference between the 2 years is statistically insignificant. Similarly, the difference between the percentage of schools issuing certificates in 1990-91 (25 percent) and in 1993-94 (33 percent) is statistically insignificant.

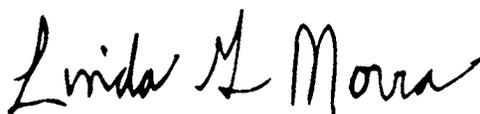
Agency Comments

The Department of Education commented on a draft of this report. The Department believed that the draft did not make clear that the Perkins amendments contained a new requirement for local recipients to give priority in the use of title II funds to the special populations. However, the law requires only that recipients give priority to sites or programs that serve higher concentrations of special population students; there is no legislative requirement that special population students as a group be given priority over other students.²⁰ We revised the report to more strongly emphasize that the amendments required such priority.

The Department also believed that it would help to see a comparison of the extent to which the special populations are participating in educational improvements and services compared with the general student population. These comparisons are in table II.4 for programs and in table II.5 for support services. Department officials also made technical comments, which we discussed with them, and we made clarifications to the report as appropriate. The Department's comments appear in full in appendix V.

We did our work between November 1993 and May 1995 in accordance with generally accepted government auditing standards.

Please call me on (202) 512-7014 if you or your staffs have any questions. GAO contacts and staff acknowledgments for this report are listed in appendix VI.



Linda G. Morra
Director, Education and
Employment Issues

²⁰The law specifies that 75 percent of the within state allocations shall be available for basic programs under Part C of title II. The general authority for the use of funds in Part C, section 235, requires that recipients give priority in assistance to sites or programs that serve the highest concentrations of the special populations.

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Abbreviations

NAVE National Assessment of Vocational Education

Scope and Methodology

The Congress mandated that we conduct a 3-year study, using representative samples, to determine the effects of the amendments to the Perkins Act on access to and participation in vocational education for students who are disadvantaged, have disabilities, or have limited proficiency in English. The act specified that Perkins funds were to be used to improve vocational education programs and that the state was to provide assurance that members of special populations would have continued access to these programs. Consequently, we compared the status of special population students and vocational education programs before the amendments with their status after the amendments. Specifically, we measured the extent to which changes have occurred

- for students, in participation in vocational education, including participation in innovative programs; availability of special services; and college attendance and employment following graduation;
- for vocational education programs, in schools' and districts' use of formal coordination of high school and college courses; integration of academic and vocational learning; and development of competency standards for students.

Average Differences Across Schools Were Used to Measure Changes

To address these objectives, we used panel data²¹ from two surveys administered to a nationally representative, stratified, randomly selected set of schools and their associated districts. The eight strata represent the major groups of secondary schools.²² After we adjusted the sample to remove inappropriate schools (for example, schools with no grades higher than 9), our sample included 1,938 schools in the first (or baseline) survey, and 1,844 schools in the second (or follow-up) survey. One thousand two hundred thirty-three schools responded to both surveys (for a 67-percent overall response rate). The item response rate varied with each item.

The data from the two surveys were pooled—that is, we created a file consisting of those schools that had answered both questionnaires. For our analysis, we made direct comparisons of the reported status (such as the percentage of students who were in vocational education or the number of tech-prep programs) using data only when the school had

²¹A panel is a fixed, cross-section sample of subjects that is measured more than once and permits direct comparisons of the subjects over two or more time periods. The data covered the status of students and programs for the school year 1990-91, before the amendments went into effect, and the school year 1993-94, after the amendments.

²²These strata include comprehensive urban, comprehensive suburban, comprehensive rural, vocational urban, vocational suburban, and vocational rural schools, as well as schools for the disabled and alternative schools.

answered the specific item in both surveys. The findings were then averaged across all schools that had responded to that item. The advantage of this approach is that small changes in the variables of interest are more easily identified than if separate studies were made using two or more independent samples.²³ In addition, by comparing the data for just those schools that responded, we are able to report the average responses without concern that the averages are contaminated by changes in the composition of the respondents.

The major disadvantage of the panel approach is that when nonresponse occurs, the data are no longer representative of national averages. The requirement that a school must have answered both surveys gives us a smaller response rate than had we used the mean values from both surveys independently.²⁴ What we are reporting on are the estimated population means for those schools that would have answered both surveys, and the specific item in each survey, had they been given the chance. As a result, we cannot say that the responses represent all schools in the population from which the samples were drawn.

Weights Were Used for the School but Not the District Data

Each observation from the school surveys was weighted (1) to adjust for the probability of being selected in the strata from which the sample was drawn and (2) to account for the pooled response rate from both surveys. Item response varied according to item, but the data were not weighted for item response. Because we used data only when the school responded to an item in both the baseline and follow-up surveys, the number responding may vary for each separate comparison. District data were not weighted, as it was not possible to adequately account for the probability of being selected from a pooled sample. The universe from which the samples were drawn, the sample sizes, and the number responding to the secondary school surveys are reported in table I.1.

²³See Gilbert A. Churchill, *Marketing Research Methodological Foundations*, 5th ed., (Chicago: Dryden Press, 1991), p. 162, and William H. Green, *Econometric Analysis*, 2nd ed., (New York: Macmillan Press, 1993), pp. 464-470.

²⁴Incomplete data from a sample survey (nonresponse) are assumed to be biased (nonrepresentative) unless there is strong evidence that this is not true. Statistical functions, such as means, variances, and covariances, are likely to be biased and have distributions affected by nonresponse. Therefore, the use of a pooled sample is another type of nonrepresentativeness of the population parameters.

Appendix I
Scope and Methodology

Table I.1: Universe, Samples, and Responses of Secondary Schools

Type/ location of school	Universe size		Sample size		Number responding		
	Baseline adjusted	Follow-up adjusted	Baseline adjusted	Follow-up adjusted	Baseline survey	Follow-up survey	Both surveys
Comprehensive urban	2,135	2,061	346	334	325	283	259
Comprehensive suburban	2,826	2,796	284	281	244	229	204
Comprehensive rural	10,617	10,427	336	330	277	242	208
Vocational urban	246	239	177	172	168	150	131
Vocational suburban	184	171	144	134	135	106	94
Vocational rural	526	519	237	234	226	190	172
School for disabled	591	491	130	108	83	52	42
Alternative	942	846	284	255	180	140	123
Total	18,067	17,550	1,938	1,848	1,638	1,392	1,233

Several Comparisons Were Made

As part of our analysis of the survey data, we compared schools' responses for different types of students and over time (see fig. I.1):

Figure I.1: Comparisons Used in
GAO's Analysis

- School Year 1990-91 vs. School Year 1993-94
- Special Population Students vs. All Students in the School
- Special Population Students vs. Nonspecial Population Students
- Vocational Education Program Students vs. All Students in the School

- School year comparisons. We compared data from each school for 1990-91 with the same data item in 1993-94. These values were then averaged across schools that responded to the item. School year comparisons were made throughout and directly address whether or not changes have occurred over time.
- Special population and all students. For some analyses, we compared the mean values for the special population students with the mean values for all students, including the special populations. This comparison permits determination of whether mean values for the special populations differ from those for all students. For example, we compared the percentage of vocational education students in the overall student body with the percentage of vocational education students from among the special populations to get information on the overall participation rate in vocational education.
- Special population and nonspecial population students. For some analyses, we compared the special populations with students who were not part of the special populations. This comparison permits assessment of whether special population students are participating in services and programs in proportion to their enrollment in vocational education and at levels comparable to the nonspecial population students.
- Vocational students and all students. For some analyses, it is useful to know how vocational students compare with all students in the school. For example, we used this comparison to determine the general direction of average school attendance. We found that although the average number of vocational students was rising, the average number of all students was

rising faster. This puts the increase in vocational students in proper perspective.

**Site Visits Supplemented
Survey Data**

To supplement the information obtained from our follow-up survey, during 1993-94 we visited four school districts in Oakland, Michigan; San Francisco, California; Delaware County, Pennsylvania; and New Castle County, Delaware. During these visits, we interviewed school and district officials to obtain information on vocational education programs, services to special populations, and assessment and improvement efforts.

Supplementary Tables

This appendix contains supplementary tables and more detailed information about changes in student participation, the availability of support services, student placement outcomes, and vocational education programs between 1990-91 and 1993-94. The data presented in the following sections compare changes in student and program characteristics only for those schools that responded to both surveys (that is, for 1990-91 and 1993-94). Thus, the numbers and percentages cited differ somewhat from those in our 1993 interim report, which reported on all schools that responded to our first survey.

Participation in Vocational-Technical Programs

Overall Secondary School Enrollment

For the schools we surveyed, the average number of students per high school increased by about 6 percent between 1990-91 and 1993-94 (from 603 to 640 students per school). For the average school, the percentage increases were greatest for students from special population groups; however, the number of these students was often small. The proportion of students who were not part of special population groups remained constant at about 65 percent, while some of the special population groups grew. This may be accounted for, in part, by more students being defined as belonging to special populations. In addition, our definition permitted students to be classified in more than one special population category. (See table II.1.)

**Appendix II
Supplementary Tables**

Table II.1: Estimated Number of Students Per School, by Student Group, 1990-91 and 1993-94

Category	No. of students (percentage of student body)		Percentage change
	1990-91	1993-94	
Total	603	640	6.1
Nonspecial population	397 (65.4%)	417 (65.8%)	5.0
Disabled	43 (9.0)	53 (10.1)	23.3
Disadvantaged	158 (30.3)	189 (31.6)	19.6
Limited English proficiency	23 (2.5)	33 (3.1)	43.5

Notes: The changes from 1990-91 to 1993-94 in the percentage of students were not statistically significant at the 0.05 level.

The sum of the percentages in each school year exceeds 100 because students may be included in more than one special population category. Similarly, the sum of the number of students in each population group will exceed the total number of students.

The percentages of the student body represent the average percentages reported by the schools responding to both surveys; they are not, for example, the average number of disabled students divided by the average number of total students.

Vocational-Technical Enrollment

Vocational-technical enrollment also increased, but more slowly than overall enrollment. On average, there were 330 vocational students per school in 1990-91, and this number did not increase significantly. Again, the increase for students in special population groups was larger than for other students, but for many schools there were few students in some of these categories. (See table II.2.)

**Appendix II
Supplementary Tables**

Table II.2: Estimated Number of Vocational-Technical Education Students Per School, by Student Group, 1990-91 and 1993-94

Category	No. of students (percentage of student body)		Percentage change
	1990-91	1993-94	
Total	330	336	1.8
Nonspecial population	186 (59.5%)	190 (58.1%)	2.2
Disabled	28 (10.0)	32 (11.8)	14.3
Disadvantaged	108 (31.9)	120 (35.6)	11.1
Limited English proficiency	11 (2.0)	13 (2.7)	18.2

Notes: The changes from 1990-91 to 1993-94 in the percentages of students were not statistically significant at the 0.05 level.

The sum of the percentages in each school year exceeds 100 because students may be included in more than one special population category. Similarly, the sum of the number of students in each population group exceeds the total number of students.

The percentages of the student body represent the average percentages reported by the schools responding to both surveys; they are not, for example, the average number of disabled students divided by the average number of total students.

Because average per-school vocational-technical enrollment grew only 1.8 percent over this period (compared with 6.1 percent growth in the overall student population), the percentage of students participating in vocational-technical education declined relative to overall enrollments. Across all groups, except for those with limited English proficiency, a smaller percentage of students participated in vocational education. Although the rate of decline for students in special population groups was less than for other students, the changes were not statistically significant for any group. (See table II.3.)

Appendix II
Supplementary Tables

Table II.3: Estimated Students Participating in Vocational-Technical Education, by Student Group, 1990-91 and 1993-94

Numbers in percent			
Category	1990-91	1993-94	Percentage change
Total	45.3	41.7	-7.9
Nonspecial population	42.6	39.7	-6.8
Disabled	48.2	47.0	-2.5
Disadvantaged	52.6	49.8	-5.3
Limited English proficiency	35.6	38.3	7.6

Note: The changes from 1990-91 to 1993-94 in the percentages of students were not statistically significant at the 0.05 level.

Access to School-To-Work Activities

As shown in figure 4 (see p.11), the percentage of schools reporting that they have tech-prep programs increased dramatically (from 27 to 45 percent) between 1990-91 and 1993-94, while the percentage of schools reporting the use of work-study and apprenticeship programs remained about the same (at roughly 75 and 7 percent, respectively). Participation in such programs by students from special population groups over the 3-year period generally mirrored changes (or the lack of change) that occurred at the school level. There were no statistically significant differences in participation among student groups. However, because many schools were unable to report this information, our participation estimates are somewhat less precise. (See table II.4.)

Table II.4: Mean Percentage of Vocational Students in Each School That Are Participating in Specific School-To-Work Activities, by Student Group, 1990-91 and 1993-94

	1990-91	1993-94
Tech-Prep		
All students	8.9	15.6
Nonspecial population	9.2	16.0
Disabled	6.3	13.0
Disadvantaged	9.5	16.8
Limited English proficiency	11.0	12.8
Work-Study		
All students	16.5	16.4
Nonspecial population	15.9	16.1
Disabled	15.8	17.4
Disadvantaged	18.2	15.3
Limited English proficiency	16.1	16.6
Apprenticeship		
All students	0.6	0.4
Nonspecial population	0.5	0.3
Disabled	0.1	0.3
Disadvantaged	0.8	0.2
Limited English proficiency	1.8	0.2

Note: The changes from 1990-91 to 1993-94 in the percentages of students were not statistically significant at the 0.05 level.

Availability of Support Services

In both 1990-91 and 1993-94, schools offered a wide variety of services to their vocational-technical education students. Generally, the percentage of schools offering each service remained about the same or increased over the 3-year period for both special population students and students who did not belong to these groups.

Most schools offered general services which were available to special population students about as often as to other students. For example, about 90 percent of schools offered counseling/guidance to all student groups in 1990-91, increasing to about 95 percent in 1993-94. In addition, schools often provided more specialized support services at higher rates to special population students than to other students. For example, about 54 percent of schools in 1993-94 reported offering special or modified equipment to students with disabilities; only about 18 percent of schools offered this service to students who were not members of special populations. (See table II.5.)

Appendix II
Supplementary Tables

Table II.5: Schools Offering Support Services, by Group and Type of Service, 1990-91 and 1993-94

Numbers in percent

	Nonspecial population		Disabled		Disadvantaged		Limited English proficiency	
	1990-91	1993-94	1990-91	1993-94	1990-91	1993-94	1990-91	1993-94
Teacher aide	27.6	29.7	49.9	64.5 ^a	43.8	45.6	54.8	65.3
Interpreter service	5.2	11.0	16.2	21.1	7.9	10.5	45.6	54.4
Reader service	3.7	5.4	11.5	19.4	3.8	5.3	8.7	3.4
Counseling/guidance	93.1	96.8	88.5	94.4	90.6	94.9	90.1	93.9
Tutoring	51.5	66.1 ^a	62.0	75.2 ^a	59.3	74.9 ^a	63.2	78.2
Day care	8.8	12.0	10.5	13.8	12.8	16.2	16.0	17.7
Curriculum modification	40.8	45.3	70.7	87.7 ^a	58.8	65.3	59.1	65.0
Exposure to paid jobs	71.1	73.4	67.5	73.0	70.5	70.2	72.7	76.3
Exposure to unpaid or subsidized jobs	42.0	49.9	49.5	61.9	47.1	52.4	50.1	56.5
Life skills training	65.5	73.1	73.0	87.1 ^a	72.9	76.6	71.0	78.0
Evaluation/assessment	73.7	83.4 ^a	84.1	90.6	81.6	86.5	80.5	87.9
Special recruitment	63.0	69.6	69.3	75.3	66.8	70.7	71.2	73.2
Transportation services	50.6	60.0	59.2	73.6 ^a	53.8	61.8	46.3	52.6
Special or modified equipment	17.5	15.2	48.1	53.5	26.3	27.9	27.2	22.6
Waiver of tuition/fees	15.7	17.5	18.9	21.4	25.5	30.3	23.8	22.2

^aThe change from 1990-91 to 1993-94 was statistically significant at the 0.05 level.

Student Placement Outcomes

We asked the schools we surveyed to estimate the postgraduation status of the most recent senior class for which they had employment or education information. Because many of the schools we surveyed did not gather placement information at this level of detail, our estimates are less precise. We observed no significant differences in employment or education outcomes for special population students before and after the Perkins amendments.²⁵ (See table II.6.)

²⁵There was one exception to this pattern: a very small, but statistically significant, increase in the number of students with limited English proficiency who joined the military.

Table II.6: Postgraduation Status of Vocational Education Students, by Student Group

Numbers in percent					
	All students	Nonspecial populations	Disadvantaged	Disabled	Limited English proficiency
Outcomes reported in baseline survey					
Attending 4-year college	24.1	29.2	14.3	14.5	33.5
Attending 2-year college	27.5	28.9	29.9	30.9	36.2
Working	31.0	26.4	36.5	37.6	19.8
In military	5.5	4.3	6.1	2.1	0.2
Unemployed	5.1	5.1	5.6	9.5	2.1
Unknown	7.0	6.1	7.6	5.6	8.2
Outcomes reported in follow-up survey					
Attending 4-year college	22.4	26.7	13.2	11.1	20.0
Attending 2-year college	28.2	30.6	26.8	22.1	36.8
Working	29.4	28.0	33.6	46.3	25.8
In military	7.0	5.8	6.0	3.0	3.4 ^a
Unemployed	5.8	3.7	8.8	9.4	4.6
Unknown	7.4	5.3	11.6	8.2	9.2

Notes: Data represent the most recently graduated senior class for which information was available.

Percentages may not add up to 100 because of rounding.

^aThe change from 1990-91 to 1993-94 was statistically significant at the 0.05 level.

Schools' Efforts to Improve Vocational Education Programs

We found signs that many of the schools we surveyed were making considerable efforts to improve the quality of their vocational education programs, although many of these efforts have yet to reach the majority of students. More schools are focusing on integrating academic and vocational instruction, creating or strengthening linkages to the business community, and gathering and using more information for self-assessment.

Integrating Vocational and Academic Instruction

As shown in figure 3 (see p.10), we observed an increase in the percentage of schools that reported participating to a "great" or "very great" extent in teacher training activities to integrate vocational and academic learning. Although schools appear to be moving toward integrating academic and

vocational learning, many of the schools we surveyed had not yet applied integrated learning to one or more vocational programs. For example, less than 30 percent of the schools reported using team teaching in mathematics, English, or science. (See table II.7.)

Table II.7: Schools Reporting That They Conducted Integrated Learning Activities in One or More Vocational Education Programs, by Subject Matter, 1990-91 and 1993-94

	Numbers in percent					
	Math		English		Science	
	1990-91	1993-94	1990-91	1993-94	1990-91	1993-94
Team teaching (where academic and vocational education teachers work together)	11.7	26.2*	12.5	28.1*	10.1	26.1*
Programs in which academic teacher does academic teaching in vocational education class	9.3	19.7*	9.7	17.2	6.8	15.5*
Programs in which vocational education teacher does academic teaching in vocational education class	54.1	62.0	52.6	61.1	48.1	51.8
Programs in which each course within vocational program concentrates on academics	24.0	40.2*	23.4	39.8*	21.3	35.0*

*The change from 1990-91 to 1993-94 was statistically significant at the 0.05 level.

Strengthening Ties to Business and Community

We also found that the schools we surveyed were trying to improve their ties to the local community. Compared with 1990-91, in 1993-94 schools reported greater contributions from the local community in a number of areas. For example, 21 percent of schools reported that more industry people teach in the school, 19 percent reported that more teachers work in local industries for professional development, and 31 percent reported that more outside organizations provide mentor programs or job shadowing. (See table II.8.)

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Supplementary Tables**

Table II.8: Schools Reporting Changes in the Contributions of the Local Community in 1993-94 Compared With 1990-91, by Type of Contribution

Numbers in percent

Type of contribution by business or organization	"Much More" or "Somewhat More"	"About As Much"	"Somewhat Less" or "Much Less"	"Don't Know"
Teachers work in local industry for professional development	18.9	54.8	3.6	22.8
Industry people teach in the school	21.0	54.3	2.8	21.9
Helps to develop or modify curriculum	36.1	46.9	2.6	14.4
Consults with school about skills needed by students in workplace	50.0	36.1	2.5	11.5
Donates money to vocational education program	15.1	54.5	5.2	25.3
Donates material, supplies, or equipment to vocational education program	25.1	48.4	6.9	19.5
Makes facilities available to students (other than through co-ops)	20.7	53.1	2.7	23.5
Provides positions for work-study, co-ops, or apprenticeships	33.2	51.1	2.7	13.0
Helps evaluate students for competency attainment	24.7	53.7	1.3	20.2
Helps develop competency standards	32.2	47.7	2.0	18.1
Provides mentor programs or job shadowing	30.9	46.5	2.8	19.8

Schools Move to Use Additional Data in Quality Assessment

By amending the Perkins Act to require states and school districts to continuously assess the performance of vocational-technical education programs, the Congress sent a clear message that it places importance on accountability and outcomes. However, the ability to evaluate program improvement is heavily dependent on the availability of data. Of the districts we surveyed, more are taking steps to use various indicators to assess their vocational-technical education programs in 1993-94 than in 1990-91. For example, the percentage of districts that used occupational

competency standards in their program assessments increased from 68 percent to 85 percent. (See table II.9.)

Table II.9: Indicators Used by Districts We Surveyed to Assess Vocational Programs, 1990-91 and 1993-94

Possible quality indicator	Percentage of districts that used indicator	
	1990-91	1993-94
Number of students in vocational education programs	91.2	94.2
Number of "high technology" programs	59.9	68.3
Number of students participating in "high technology" programs	59.3	67.1
Use of occupational competency standards	68.2	84.8
Use of certificates of competency	49.2	62.4
Graduation rates	72.3	83.2
Placement rates (additional education, training, employment, or military service)	77.1	86.3
Program completion rates	82.1	91.4
Qualifications of vocational teachers	82.2	88.5
Career counseling or assistance	80.8	86.2
Linkage with postsecondary vocational education programs	66.8	85.1
Linkage with business or labor	78.7	85.7
Integration of academics with vocational curriculum	55.6	87.8
Coherent sequence of courses leading to an occupational skill	77.8	91.3
Location of program (e.g., local high school, area vocational school, community college)	62.5	58.0
Use of modern equipment/facilities	88.3	93.0
Participation in programs and services designed to eliminate sex bias and stereotyping in vocational education	85.4	90.4

Many District Officials Believed That Perkins Amendments Have Had Positive Impact

Many of the districts we surveyed believed that the Perkins amendments have had a positive impact on their ability to improve their vocational education programs and services. Others believed that the Perkins amendments made little difference one way or another, but few reported the amendments adversely affected their ability to improve programs and services. Table II.10 provides specific information on districts' views.

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Supplementary Tables

Table II.10: Views of the Districts We Surveyed on the Perkins Amendments' Effect on Their Ability to Produce Quality Programs

	"Greatly Increased" or "Increased"	"Neither Increased nor Decreased"	"Decreased" or "Greatly Decreased"	"Don't Know"
Your district's ability to purchase state-of-the-art equipment	52.6	30.7	14.8	2.0
Your district's ability to spend Perkins funds where needed most	54.7	19.1	23.8	2.3
Your district's ability to plan vocational programs and use Perkins funds	52.9	31.3	13.6	2.3
Equity with which Perkins funding is allocated among districts	31.1	37.1	15.9	15.9
Amount of record keeping required by state to meet Perkins requirements	67.3	21.3	4.0	7.4
Extent of services your district offered to vocational-technical students in special populations	66.6	27.6	4.2	1.5
Extent of services your district offered to vocational-technical students in general	52.5	36.6	9.1	1.8
Access special population students have to vocational-technical programs	56.4	40.7	1.4	1.4
Tutoring and remediation for vocational-technical students in general	43.7	50.9	2.7	2.7
Quality of vocational-technical programs	67.3	26.4	4.3	2.0
Your district's program improvement efforts	70.6	23.2	4.5	1.6
Technical education standards that students must achieve	50.3	45.3	1.2	3.2
Academic education standards that students must achieve	51.0	45.3	0.7	3.1
Use of applied curricula in vocational-technical courses	68.5	28.5	0.9	2.1
Use of integration of academic and vocational-technical courses	71.9	25.3	0.8	2.0

(continued)

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Supplementary Tables**

	"Greatly Increased" or "Increased"	"Neither Increased nor Decreased"	"Decreased" or "Greatly Decreased"	"Don't Know"
Application of measures and standards to evaluate the effectiveness of programs	59.9	36.8	0.6	2.7
Development of tech-prep programs	67.9	29.1	0.7	2.3
Professional development opportunities for instructors and administrators	63.4	32.2	2.5	1.8

Aggregated Responses to Survey of Public Secondary Schools

U.S. GENERAL ACCOUNTING OFFICE Survey of Public Secondary Schools

INTRODUCTION

With the enactment of The Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (PL 101-392), the Congress mandated that the U. S. General Accounting Office conduct a study of vocational education and the Perkins Act (see facing page). To do this we are surveying schools and school districts to gather information about vocational education participation and funding.

The purpose of this questionnaire is to examine your experiences with vocational education for the 1993-1994 school year. We will also be asking some questions about the 1990-1991 school year (the year before the Perkins Act Amendments of 1990). You may recall that we did a similar survey in 1991-1992. This survey is the second phase of GAO's mandated study of vocational education.

INSTRUCTIONS

This questionnaire focuses on vocational education at the secondary school level (generally, grades 10, 11, and 12, plus ungraded students of secondary age). It includes questions on the access to and participation in vocational education by students who are members of "special population" groups, that is, those with disabilities, the disadvantaged, and those with limited English proficiency. Your school district also received a separate questionnaire that asked about vocational education funding and programs.

You may find it helpful to consult with the staff from your school district's central office to answer some of the questions in this questionnaire, such as those on vocational education funding.

Because there are many schools and many different types of programs and courses offered under the general title of "vocational education," we are using the definition from the 1990 Perkins Act amendments.

We are defining vocational education as "organized educational programs offering a sequence of courses which are directly related to the preparation of

individuals in paid or unpaid employment."

We are excluding from consideration personal growth or exploratory courses that are not part of a sequence leading to an occupational skill. A glossary of other important terms appears at the end of this questionnaire.

We realize that your time is very limited, and that in order to answer all of the questions you may need to consult with other people. Please designate one person in this school to have overall responsibility for completing this questionnaire, and provide the following information so we can call that person to clarify information if necessary.

Name: _____

Title: _____

Telephone: _____

If you have any question about this questionnaire, please call Wanda Pearson at (202) 512-3669.

Please return the questionnaire in the accompanying postage paid envelope within **20 working days** of receipt to:

U.S. General Accounting Office
Attn: Amy Friedlander
NGB/Education and Employment
441 G Street, NW
Washington DC, 20548

Note: The responses presented here may differ from the information given in the text. The responses given in this appendix are the mean responses for all schools that responded to both surveys. The information presented in the text required not only that a school have answered both surveys, but that the school had answered the same item in both surveys. The weighted number of respondents is indicated for each item.

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**Appendix III
Aggregated Responses to Survey of Public
Secondary Schools**

Answer the following questions about the school listed on the cover of this questionnaire.

1. Which of the following best describes your secondary school as it operated during the 1993-1994 school year? (CHECK ONE)

- 1.[4.0%] Comprehensive high school with no vocational education programs (n=682)
 - 2.[75.1%] Comprehensive high school offering one or more vocational education programs (n=12,662)
 - 3.[3.9%] Comprehensive high school with attached shared time vocational-technical center on site (n=663)
 - 4.[3.5%] Shared time vocational-technical school (n=591)
 - 5.[2.1%] Full time vocational-technical school (n=360)
 - 6.[1.2%] School for students with disabilities only (n=205)
 - 7.[5.2%] School for "at-risk" students ("alternative school") only (n=871)
 - 8.[4.8%] Other. (PLEASE DESCRIBE) (n=817)
- _____
- _____
- _____

2. What grades does your school serve? (CHECK ALL THAT APPLY)

- 1.[12.8%] Grades 1-5 (n=2,227)
- 2.[16.2%] 6th grade (n=2,819)
- 3.[28.7%] 7th grade (n=5,014)
- 4.[31.8%] 8th grade (n=5,544)
- 5.[90.9%] 9th grade (n=15,855)
- 6.[96.9%] 10th grade (n=16,904)
- 7.[98.1%] 11th grade (n=17,116)
- 8.[98.5%] 12th grade (n=17,177)
- 9.[10.0%] Some ungraded students (n=1,735)
- 10.[0.6%] Ungraded students only (n=101)

3. In your school, what is the lowest grade at which students can start vocational education programs (i.e. sequenced courses)? (CHECK ONE)

- 1.[12.1%] Below 9th grade (n=2,093)
- 2.[62.8%] 9th grade (n=10,817)
- 3.[15.5%] 10th grade (n=2,678)
- 4.[5.7%] 11th grade (n=976)
- 5.[0.0%] 12th grade (n=7)
- 6.[3.8%] Not applicable (n=663)

**Appendix III
Aggregated Responses to Survey of Public
Secondary Schools**

4. For the two school years listed, consider **all** the 10th, 11th, and 12th grade students (or combination of grades 10, 11, and 12) registered in your school (that is, students for whom your school is their home school). In the table below, please estimate, for the 1992-1993 school year, and as of the "formal accounting day" for the 1993-1994 school year, (A) the total number of students, (B) the number of students who are not in special populations (that is, the number of students who are **not** disabled, disadvantaged, or limited English proficient), (C) the number of students with disabilities, (D) the number of students who are disadvantaged, and (E) the number of LEP students. If your school is a shared-time school, and is not the home school for any students, please mark the box below. If a student falls into more than one of the special population categories, count that student in each category. (ENTER NUMBER OF STUDENTS)

[4.9%] ----> Shared-Time school; this is not the home school
(n=856) for any students. ----> (GO TO QUESTION 19)

School Year	Number of 10th, 11th, and 12th Grade Students in This School				
	Total number of students (A)	Students not in special populations (B)	Students with disabilities (C)	Disadvantaged students (D)	LEP students (E)
1. 1992-1993	617.6 (n=14,249)	401.8 (n=13,102)	49.4 (n=13,327)	179.4 (n=12,961)	28.1 (n=11,801)
2. 1993-1994	624.2 (n=14,781)	409.3 (n=13,434)	52.4 (n=13,746)	184.2 (n=13,177)	30.4 (n=11,924)

5. During the 1993-1994 school year, how many of the 10th, 11th, and 12th grade students registered in your school are foster children? (ENTER NUMBERS)

Number of foster children----> 6.0
(n=5,865)

[53.9%] Don't know----> GO TO QUESTION 7
(n=9,465)

6. During the 1993-1994 school year, how many of the 10th, 11th, or 12th grade foster children are enrolled in vocational education programs (sequenced courses)? (ENTER NUMBER)

Number of foster children in vocational education -----> 3.1
(n=4,871)

[2.7%] Don't know
(n=470)

7. Some schools follow up on the progress of students who have graduated. Has your school ever tracked placement information on or concerning students after they graduate? (CHECK ONE)

1.[64.2%] Yes

2.[35.8%] No (GO TO QUESTION 16)
(n=16,143)

8. In tracking placement information, has your school ever specifically identified special population students? (CHECK "YES" OR "NO" FOR EACH SPECIAL POPULATION)

YES NO
[34.6%] [65.4%] Students with disabilities
(n=10,233)

[31.5%] [68.5%] Disadvantaged
(n=10,074)

[22.0%] [78.0%] Limited English proficient
(n=9,944) (LEP)

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9. What is the most recent graduating class for which you have post-graduation employment or education information? (ENTER YEAR)
- Graduating class of 1993 (74.4%)
1992 (19.0%)
(n=10,207)
10. How many graduates were in this class? (ENTER NUMBER)
- 157.8 graduates
(n=9,770)
11. How did your school track placement information on or concerning students after they graduated? (CHECK ALL THAT APPLY)
- 1.[73.3%] Students provided school with information on their plans before they graduated
- 2.[62.6%] School called/wrote to students sometime after graduation
- 3.[22.3%] Other (PLEASE SPECIFY) _____
(n=10,326)
12. Consider the most recent senior class for which you have employment or education information. In the table below, for each post-graduation status listed, please estimate (A) the total number of seniors in that status, (B) the number of seniors who were not members of special populations, (C) the number of seniors with disabilities, (D) the number of seniors who were disadvantaged, and (E) the number of seniors who were limited English proficient (LEP). If a student falls into more than one of the special population categories, count that student in each category. (ENTER NUMBER OF STUDENTS)

Post-Graduation Status	Total seniors in each status below	Seniors who were not members of special populations	Number of Special Population Seniors		
			Seniors with disabilities	Seniors who were disadvantaged	LEP seniors
	(A)	(B)	(C)	(D)	(E)
1. Number of seniors going to 4 year college	58.8 (n=9,589)	44.6 (n=7,405)	2.3 (n=6,995)	10.2 (n=6,998)	2.4 (n=6,218)
2. Number of seniors going to a community college or post secondary vocational training	43.5 (n=9,512)	25.6 (n=7,183)	3.0 (n=6,902)	13.2 (n=6,857)	2.2 (n=6,032)
3. Number of seniors going directly to work	27.8 (n=9,428)	15.0 (n=7,115)	3.5 (n=6,872)	9.3 (n=6,866)	1.5 (n=6,035)
4. Number of seniors going into the military	6.4 (n=9,393)	4.4 (n=7,049)	0.3 (n=6,673)	2.2 (n=6,628)	0.1 (n=5,977)
5. Number of seniors unemployed	5.7 (n=9,135)	2.8 (n=6,768)	1.0 (n=6,445)	2.5 (n=6,449)	0.3 (n=5,910)
6. Number of seniors whose status is unknown	13.0 (n=9,309)	6.3 (n=6,776)	1.0 (n=6,492)	3.0 (n=6,550)	0.4 (n=5,950)
7. Total number of seniors for each column	152.9 (n=9,067)	94.0 (n=6,769)	10.8 (n=6,658)	39.6 (n=6,811)	6.7 (n=6,114)

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13. Consider your answers to question 12. Of the graduating seniors, were any of them vocational education students (students enrolled in sequenced courses)? (CHECK ONE)

1.[91.1%] Yes

2.[8.9%] No ---> (GO TO QUESTION 16)
(n=10,090)

14. How many of them were vocational education students? (ENTER NUMBER; IF NONE, ENTER '0')

70.1 vocational education students
(n=7,691)

15. Consider the vocational education students (students in sequenced courses) of the most recent senior class for which you have employment or education information. In the table below, for each post-graduation status listed, please estimate (A) the total number of seniors in that status, (B) the number of seniors who were not members of special populations, (C) the number of seniors with disabilities, (D) the number of seniors who were disadvantaged, and (E) the number of seniors who were limited English proficient. If a student falls into more than one of the special population categories, count that student in each category. (ENTER NUMBER OF SENIORS)

Post-Graduation Status	Total number of vocational education seniors in each status	Vocational education seniors who were not members of special populations	Number of Vocational Education Special Population Seniors		
			Vocational education seniors with disabilities	Vocational education seniors who were disadvantaged	Vocational education LEP seniors
	(A)	(B)	(C)	(D)	(E)
1. Number of seniors going to 4 year college	16.3 (n=7,783)	11.4 (n=6,819)	0.7 (n=6,219)	4.2 (n=6,446)	0.7 (n=5,292)
2. Number of seniors going to a community college or post secondary vocational training	19.6 (n=7,868)	11.4 (n=6,723)	1.7 (n=6,280)	7.0 (n=6,479)	1.1 (n=5,260)
3. Number of seniors going directly to work	18.8 (n=7,921)	10.2 (n=6,768)	2.7 (n=6,405)	6.9 (n=6,562)	0.8 (n=5,209)
4. Number of seniors going into the military	3.6 (n=7,772)	2.1 (n=6,532)	0.3 (n=6,076)	1.4 (n=6,290)	0.1 (n=5,135)
5. Number of seniors unemployed	3.8 (n=7,599)	1.8 (n=6,401)	0.8 (n=6,064)	1.7 (n=6,183)	0.3 (n=5,124)
6. Number of seniors whose status is unknown	7.2 (n=7,695)	4.0 (n=6,481)	0.7 (n=6,084)	2.3 (n=6,273)	0.3 (n=5,138)
7. Total number of seniors for each column	68.9 (n=7,696)	40.2 (n=6,302)	6.2 (n=6,254)	22.6 (n=6,500)	2.9 (n=5,443)

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16. Did any of the students registered in your school (that is, your school is their home school) participate in any vocational education programs (that is, sequenced courses), in either the 1992-1993 or the 1993-1994 school years, either in your school or at some other location? Do not count non-occupational courses such as personal growth/elective courses, or individual practical arts courses required for all students. (CHECK ONE)

- 1.[87.3%] Yes, for both the 1992-1993 and 1993-1994 school years
- 2.[0.2%] Yes, for the 1992-1993 school year only
- 3.[1.7%] Yes, for the 1993-1994 school year only
- 4.[10.8%] No -----> (GO TO QUESTION 18)
(n=15,899)

17. For the two school years listed, consider the number of 10th, 11th and 12th grade students (as applicable) registered in your school (that is, your school is their home school), that are in vocational education programs either here or at other locations. In the table below please estimate, for the 1992-1993 school year, and as of the "formal accounting day" for the 1993-1994 school year, (A) the total number of vocational education students, (B) the number of vocational education students who are not members of special populations, (C) the number of vocational education students with disabilities, (D) the number of vocational students who are disadvantaged, and (E) the number of vocational education students who are limited English proficient (LEP) If a student falls into more than one of the special population categories, count that student in each category. (ENTER NUMBER OF STUDENTS)

School Year	Number of 10th, 11th, and 12th Grade Vocational Education Students				
	Total number of students (A)	Students not in special populations (B)	Students with disabilities (C)	Disadvantaged students (D)	LEP students (E)
1 1992-1993	295.3 (n=12,999)	176.7 (n=12,101)	26.5 (n=12,128)	107.5 (n=11,906)	13.1 (n=10,741)
2 1993-1994	314.6 (n=13,274)	184.4 (n=12,287)	28.2 (n=12,453)	113.6 (n=12,061)	13.4 (n=10,883)

18. Were any vocational education programs (sequenced courses) offered by your school in the 1992-1993 and 1993-1994 school years? (CHECK ONE)

- 1.[83.4%] Yes, both 1992-1993 and 1993-1994
- 2.[0.1%] Yes, 1992-1993 only
- 3.[0.9%] Yes, 1993-1994 only
- 4.[15.6%] No ----> (PLEASE GO TO QUESTION 48)
(n=15,867)

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19. We are interested in determining the number of 10th, 11th, and 12th grade students participating in vocational education programs (sequenced courses) offered by your school in the 1992-1993 and 1993-1994 school years. Among the students participating in vocational education programs offered at your school, we would like to distinguish between those students who participate in vocational education programs offered by your school, and who are registered in your school (that is, those for whom this is the home school), and those students who participate in vocational education programs offered by your school but are registered in a home school that is different from your school. Do not consider students registered at your school who do not participate in vocational education programs at your school.

In part I of the table below please consider only those students who participate in the vocational education programs offered by this school and are registered in your school. Please estimate for the 1992-1993 school year, and as of the "formal accounting day" for the 1993-1994 school year, (A) the total number of vocational education students, (B) the total number of such vocational education students who are not in special populations, (C) the number of such vocational education students with disabilities, (D) the number of such vocational education students who are disadvantaged, and (E) the number of such vocational education students who are limited English proficient (LEP). If a student falls into more than one of the special population categories, count that student in each category. (ENTER NUMBER OF STUDENTS)

In part II of the table below please consider only those students who participate in the vocational education programs offered by this school but are registered in a home school that is different from your school. For these students, please fill in part II of the table following the directions cited above.

School Year	Number of 10th, 11th, and 12th Grade Vocational Education Students Attending this School				
	Total number of students	Students not in special populations	Students with disabilities	Disadvantaged students	LEP students
	(A)	(B)	(C)	(D)	(E)
PART I Vocational education students that attend and are registered in this school					
1. 1992-1993	286.9 (n=12,793)	171.6 (n=11,953)	25.7 (n=11,896)	106.3 (n=11,391)	13.4 (n=10,559)
2. 1993-1994	305.3 (n=12,926)	181.8 (n=11,956)	27.1 (n=12,011)	111.8 (n=11,551)	13.3 (n=10,645)
PART II Vocational education students that attend but are registered in another school					
3. 1992-1993	30.7 (n=10,818)	20.0 (n=7,932)	6.8 (n=7,930)	14.5 (n=7,817)	1.4 (n=7,715)
4. 1993-1994	30.1 (n=10,827)	18.2 (n=8,000)	6.8 (n=7,968)	14.2 (n=7,862)	0.8 (n=7,759)

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20. Consider your school's vocational education programs (sequenced courses) in the 1993-1994 school year. How many programs did your school offer in this year? (ENTER NUMBER)

7.9 Programs in 1993-1994
(n=14,137)

21. During the 1993-1994 school year were any vocational education programs or services offered by your school supported, in full or in part, by Perkins Act funding? (CHECK ONE)

- 1.[74.0%] Yes
- 2.[21.8%] No----> GO TO QUESTION 24
- 3.[4.2%] Don't know-----> GO TO QUESTION 24
(n=14,438)

22. During the 1993-1994 school year were any vocational education programs offered by your school supported, in full or in part, by Perkins Act funding? (CHECK ONE)

- 1.[87.4%] Yes
- 2.[10.2%] No
- 3.[2.5%] Don't know
(n=10,681)

23. During the 1993-1994 school year were any vocational education services (e.g. career counseling) offered by your school supported, in full or in part, by Perkins Act funding? (CHECK ONE)

- 1.[73.7%] Yes
- 2.[22.7%] No
- 3.[3.5%] Don't know
(n=10,791)

24. During the 1990-1991 school year were any vocational education programs or services offered by your school supported, in full or in part, by Perkins Act funding? (CHECK ONE)

- 1.[61.4%] Yes
- 2.[27.0%] No---->GO TO QUESTION 27

3.[11.7%] Don't know-->GO TO QUESTION 27
(n=14,367)

25. During the 1990-1991 school year were any vocational education programs offered by your school supported, in full or in part, by Perkins Act funding? (CHECK ONE)

- 1.[87.9%] Yes
- 2.[11.0%] No
- 3.[1.1%] Don't know
(n=8,882)

26. During the 1990-1991 school year were any vocational education services (e.g. career counseling) offered by your school supported, in full or in part, by Perkins Act funding? (CHECK ONE)

- 1.[69.1%] Yes
- 2.[27.6%] No
- 3.[3.3%] Don't know
(n=8,830)

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27. Consider the vocational education programs that your school offered during the 1993-1994 school year. Listed below are kinds of school-to-work transition activities. Please estimate for each activity (A) the number of your school's programs, if any, that constitute that kind of activity, (B) the number of students who are in these vocational education programs, and (C, D, E, F) the number of students, if any, who were in each non-special and special population, whether these students are registered in your school or came from some other home school. If a student falls into more than one of the special population categories, count that student in each category. (ENTER NUMBERS; IF NONE ENTER '0')

School-to-Work Transition Activity	Number of programs (A)	Total number of 10th, 11th, and 12th grade students (B)	Number of 10th, 11th, and 12th grade students not in special populations (C)	Number of 10th, 11th, and 12th Grade Special Population Students		
				Students with disabilities (D)	Disadvantaged (E)	LEP (F)
1. Tech Prep (also called 1+2)	1.8 (n=12,067)	76.1 (n=8,177)	42.8 (n=7,554)	5.8 (n=7,361)	24.2 (n=7,367)	3.2 (n=7,176)
2. Work-study/co-operative education	2.4 (n=13,136)	54.5 (n=10,348)	33.7 (n=9,389)	6.6 (n=9,281)	19.1 (n=9,064)	1.5 (n=8,055)
3. Apprenticeship	0.2 (n=10,369)	5.3 (n=5,895)	3.7 (n=5,492)	0.9 (n=5,377)	2.3 (n=5,324)	0.2 (n=5,438)
4. Other (PLEASE SPECIFY)	2.5 (n=1,810)	86.5 (n=1,587)	55.2 (n=1,496)	7.9 (n=1,537)	17.1 (n=1,444)	1.4 (n=1,459)

28. Consider this school's vocational education programs (sequenced courses) in the 1993-1994 school year. Apart from a high school diploma, will this school grant certificates to students as an indication of competency attainment in any vocational education programs? (CHECK ONE)

1.[33.1%] Yes --> PLEASE ENTER
NUMBER OF PROGRAMS:
6.7
(n=4,633)

2.[66.9%] No
(n=13,630)

29. Consider your school's vocational education programs (sequenced courses) in the 1993-1994 school year. How many of your programs have a minimum set of "competencies" or "standards" to be demonstrated or to be met for completion? (ENTER NUMBER)

6.5 Programs in 1993-1994
(n=10,529)

[20.8%] None --> (GO TO
(n=3,643) QUESTION 32)

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30. Consider the "standards" and "competencies" your school currently uses. Listed below are possible sources for these. Please indicate (A) the number of programs, if any, for which that organization is the primary source for the standard, and (B) the total number of vocational education students covered by that standard in these programs. (ENTER THE NUMBER OF PROGRAMS PRIMARILY ASSOCIATED WITH A STANDARD SETTING SOURCE AND THE NUMBER OF STUDENTS COVERED BY SUCH STANDARDS; IF NONE, ENTER 0)

Source of Skill or Competency - Standard	Number of programs for which that organization is the primary source of the standard (A)	Total Number of 10th, 11th and 12th grade vocational education students in programs for which that organization is the primary source of the standard (B)
1. National or industry-wide	1.0 (n=7,479)	80.6 (n=3,260)
2. Commercial source or educational organization	0.5 (n=7,288)	39.7 (n=2,548)
3. State government	3.1 (n=8,341)	201.4 (n=4,925)
4. State-wide organization	1.2 (n=7,701)	116.0 (n=3,458)
5. Local (e.g., business community, labor organization)	1.3 (n=7,718)	133.3 (n=3,300)
6. School district	1.9 (n=7,881)	157.0 (n=3,716)
7. School	1.4 (n=7,623)	102.3 (n=3,005)
8. Don't know source	0.2 (n=6,908)	12.5 (n=1,544)
9. Other (PLEASE SPECIFY) _____	0.7 (n=6,800)	96.7 (n=1,626)
10. Total (Total in column A should equal total number of programs in question 29)	6.7 (n=6,982)	

31. For how many of your school's vocational education programs, if any, must a student master a detailed set of tasks before that student can be considered a completer? (ENTER NUMBER OF PROGRAMS; IF NONE, ENTER 0)

5.3 programs have a
(n=9,147) detailed set of tasks to be mastered by the student

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32. Listed below are types of contributions that community organizations, businesses, public or private agencies, or groups can make to schools. For the 1993-1994 school year, please estimate the number of your school's vocational education programs affected by each type of contribution. (PLACE THE NUMBER IN EACH BOX; IF NONE ENTER '0')

Contribution by Organization(s)	Number of vocational education programs affected
1. Teachers spend time working in local industry for professional development	1.5 (n=12,402)
2. Industry people teach in the school	1.5 (n=12,271)
3. Help to develop/modify curriculum	4.1 (n=12,765)
4. Consult about skills needed by students in work place	5.2 (n=13,520)
5. Donate money to a vocational education program	1.2 (n=12,568)
6. Donate material, supplies or equipment to a vocational education program	2.2 (n=12,865)
7. Make facilities available to students (other than through co-ops)	1.9 (n=12,444)
8. Provide positions for work-study, co-ops, or apprenticeships	5.0 (n=13,133)
9. Evaluate students for competency attainment	3.4 (n=12,371)
10. Help develop competency standards	3.3 (n=12,368)
11. Provide mentor programs or job shadowing	2.8 (n=12,659)
12. Other (PLEASE SPECIFY) _____	3.3 (n=504)

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33. Consider again the types of contributions that community organizations, businesses, public or private agencies, or groups can make to a school's vocational education programs. Compared with the ~~1990-~~ 1991 school year (the year before the Perkins Act Amendments were passed), to what extent was there more or less in outside contributions in the 1993-1994 school year? (CHECK ONE FOR EACH TYPE OF CONTRIBUTION)

Contribution by Organization(s)	Much more in 1993-1994	Somewhat more in 1993-1994	About as much in 1993-1994	Somewhat less in 1993-1994	Much less in 1993-1994	Don't know
1. Teachers spend time working in local industry for professional development (n=13,036)	5.8	13.1	54.8	2.2	1.4	22.8
2. Industry people teach in the school (n=12,824)	4.4	16.6	54.3	1.3	1.5	21.9
3. Help to develop/modify curriculum (n=13,376)	11.2	24.9	46.9	1.3	1.3	14.4
4. Consult about skills needed by students in work place (n=13,647)	16.5	33.5	36.1	1.9	0.6	11.5
5. Donate money to a vocational education program (n=13,019)	3.2	11.9	54.5	4.3	0.9	25.3
6. Donate material, supplies or equipment to a vocational education program (n=13,329)	5.9	19.2	48.4	6.1	0.8	19.5
7. Make facilities available to students (other than through co-ops) (n=13,137)	6.1	14.6	53.1	1.6	1.1	23.5
8. Provide positions for work-study, co-ops, or apprenticeships (n=13,496)	8.9	24.3	51.1	2.4	0.3	13.0
9. Evaluate students for competency attainment (n=13,190)	6.5	18.2	53.7	1.2	0.1	20.2
10. Help develop competency standards (n=13,147)	11.5	20.7	47.7	1.5	0.5	18.5
11. Provide mentor programs or job shadowing (n=13,338)	12.4	18.5	46.5	2.2	0.6	19.8
12. Other (PLEASE SPECIFY) (n=369)	20.4	16.2	29.4	0.0	0.0	33.9

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34. Overall, are there more, about as much, or less outside contributions in the 1993-1994 school year than there were in the 1990-1991 school year? (CHECK ONE)

- 1.[8.5%] Much more in the 1993-1994 school year
- 2.[26.0%] Somewhat more in the 1993-1994 school year
- 3.[44.0%] About as much in the 1993-1994 school year ----->GO TO QUESTION 36
- 4.[3.8%] Somewhat less in the 1993-1994 school year
- 5.[1.6%] Much less in the 1993-1994 school year
- 6.[16.2%] Don't know----->GO TO QUESTION 36
(n=14,465)

35. Overall, have changes in the level of contributions from the 1990-1991 school year (the year before the Perkins amendments were passed) to the 1993-1994 school year increased or decreased your school's vocational education program quality? (CHECK ONE)

- 1.[26.8%] Greatly increased program quality
- 2.[51.7%] Increased program quality somewhat
- 3.[10.2%] Neither increased nor decreased program quality
- 4.[4.0%] Decreased program quality somewhat
- 5.[3.1%] Greatly decreased program quality
- 6.[4.2%] Don't know
(n=5,819)

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36. Listed below are services that can be offered to students. For each service please indicate whether or not, during the 1993-1994 school year, that service is available in your school to (A) vocational education students not in special populations, (B, C, D) the special population vocational education students, or (E) if the service is not offered. (CHECK STUDENT GROUP RECEIVING EACH SERVICE)

Service	Special Population Students				N/A did not offer (E)
	Vocational education students not in special populations (A)	Vocational education students with disabilities (B)	Disadvantaged vocational education students (C)	LBP vocational education students (D)	
1. Teachers' aides (n=13,820)	28.8	60.4	42.9	28.1	34.3
2. Interpreter service (n=12,782)	10.2	19.5	10.2	22.8	67.6
3. Reader service to the blind (n=12,666)	5.1	19.3	6.3	4.4	79.6
4. Counseling/guidance (n=14,221)	92.8	88.3	88.7	51.4	5.1
5. Tutoring (n=13,343)	61.1	70.9	67.2	41.1	21.3
6. Day care for children of students (n=12,571)	13.0	11.9	15.0	7.9	83.1
7. Curriculum modification (n=13,884)	44.9	81.3	63.1	39.0	13.6
8. Exposure to paid jobs (n=13,354)	67.9	66.3	63.9	36.1	26.6
9. Exposure to unpaid or subsidized jobs (n=12,955)	47.8	53.9	49.6	27.1	39.9
10. Life skills training (n=13,674)	69.8	80.2	70.8	42.2	15.4
11. Evaluation/assessment (n=14,013)	77.2	82.6	78.9	45.1	12.8
12. Special recruitment for vocational education programs (n=13,358)	65.5	69.1	66.5	38.7	25.1
13. Transportation services (n=13,749)	53.8	67.6	56.8	30.6	28.9
14. Special or modified equipment (n=13,031)	15.3	49.9	26.2	14.9	48.0
15. Waiver of tuition/fee (n=12,480)	16.8	20.8	20.7	13.4	67.0
16. Other (PLEASE SPECIFY) (n=113)	83.2	97.3	83.2	64.0	2.7

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37. Consider again the services that might be offered to vocational education special population students. For each service, please indicate (A) whether, during the 1993-1994 school year, it is not available, available but not used, or available and used by special population students at your school, and (B) for the students who needed each service, the extent to which their needs are being met. (Note, even if your school has very few special population students, consider the extent to which the needs of those few students are met.) (ANSWER ONE FOR (A) AND ONE FOR (B))

Services	Service availability to special populations in the 1993-1994 school year (A)			For the special population students who needed each service, to what extent are their needs being met in the 1993-1994 school year? (B)			
	Not available	Available but not used	Available and used	Very great or great extent	Moderate extent	Some or little extent	N/A - not needed
1. Teachers' aides	29.0 (n=13,652)	6.2	64.8	38.9 (n=12,046)	30.4	9.7	21.1
2. Interpreter services	53.8 (n=12,366)	17.4	28.8	16.5 (n=10,743)	12.3	7.2	64.1
3. Reader service to the blind	56.4 (n=11,732)	30.2	13.4	7.9 (n=10,410)	4.9	5.8	81.4
4. Counseling/guidance	3.1 (n=14,162)	1.1	95.8	58.3 (n=13,614)	35.5	4.8	1.3
5. Tutoring	14.7 (n=13,305)	4.2	81.1	34.6 (n=12,481)	40.9	14.2	10.3
6. Day care for children of students	90.7 (n=12,085)	3.7	15.6	7.8 (n=9,573)	8.8	15.3	68.0
7. Curriculum modification	9.8 (n=13,726)	5.2	84.9	33.3 (n=12,926)	48.0	11.8	6.9
8. Exposure to paid jobs	23.6 (n=13,595)	4.0	72.4	27.7 (n=11,977)	43.7	14.8	13.8
9. Exposure to unpaid or subsidized jobs	33.8 (n=13,134)	6.6	59.6	19.5 (n=11,268)	38.2	17.6	24.8
10. Life skills training	12.2 (n=13,767)	2.1	85.7	39.2 (n=12,654)	42.9	12.3	5.6
11. Evaluation/assessment	8.8 (n=13,826)	2.2	89.0	50.3 (n=12,912)	39.6	5.4	4.7
12. Special recruitment for vocational education programs	20.7 (n=13,470)	5.1	74.1	35.9 (n=12,083)	37.9	9.7	16.5
13. Transportation services	23.3 (n=13,245)	4.8	71.9	44.9 (n=12,197)	23.7	8.1	23.3
14. Special or modified equipment	35.0 (n=12,693)	14.8	50.1	16.4 (n=11,546)	25.2	16.6	41.8
15. Waiver of tuition/fees	59.3 (n=11,700)	9.2	31.5	15.4 (n=10,376)	11.5	11.8	61.4
16. Other (PLEASE SPECIFY)	17.1 (n=82)	0.0	66.1	57.1 (n=110)	37.5	0.0	5.5

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38. Compared to the 1990-1991 school year (the year before the Perkins Act amendments were passed), is the overall extent to which these services generally are available to vocational education students with disabilities in the 1993-1994 school year greater, about the same, or less? (CHECK ONE)
- 1.[15.2%] Much greater in 1993-1994
 - 2.[34.4%] Somewhat greater in 1993-1994
 - 3.[36.3%] About the same
 - 4.[3.5%] Somewhat less in 1993-1994
 - 5.[1.4%] Much less in 1993-1994
 - 6.[6.4%] Don't know
 - 7.[2.7%] Not applicable -- no students with disabilities (n=14,440)
39. Compared to the 1990-1991 school year (the year before the Perkins Act amendments were passed), is the overall extent to which these services generally are available to disadvantaged vocational education students in the 1993-1994 school year greater, about the same, or less? (CHECK ONE)
- 1.[15.0%] Much greater in 1993-1994
 - 2.[35.8%] Somewhat greater in 1993-1994
 - 3.[36.0%] About the same
 - 4.[3.3%] Somewhat less in 1993-1994
 - 5.[1.2%] Much less in 1993-1994
 - 6.[6.6%] Don't know
 - 7.[2.0%] Not applicable -- no disadvantaged students (n=14,373)
40. Compared to the 1990-1991 school year (the year before the Perkins Act amendments were passed), is the overall extent to which these services generally are available to limited English proficient (LEP) vocational education students in the 1993-1994 school year greater, about the same, or less? (CHECK ONE)
- 1.[8.0%] Much greater in 1993-1994
 - 2.[17.6%] Somewhat greater in 1993-1994
 - 3.[28.5%] About the same
 - 4.[1.1%] Somewhat less in 1993-1994
 - 5.[0.5%] Much less in 1993-1994
 - 6.[6.7%] Don't know
 - 7.[37.6%] Not applicable -- no limited English proficient students (n=14,315)

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41. During the 1993-1994 school year to what extent, if at all, is staff from your school participating (or scheduled to participate) in each of the following activities to help integrate academics with vocational education? (CHECK ONE FOR EACH ACTIVITY)

Type of Activity	To a very great extent (1)	To a great extent (2)	To a moderate extent (3)	To some extent (4)	To little or no extent (5)
1. Participating in training on differing learning styles (n=14,116)	10.4	24.6	31.2	22.2	11.5
2. Participating in training on alternate teaching styles (n=14,165)	9.2	25.0	32.3	21.6	11.9
3. Participating in joint staff-development programs for academic and vocational teachers for integrating instruction (n=14,170)	10.1	24.8	30.5	17.8	16.8
4. Teacher exchange or cooperative teaching by vocational and academic teachers (n=14,016)	3.7	10.3	20.7	20.8	44.4
5. Other (PLEASE SPECIFY) (n=655) _____ _____	35.5	50.9	13.1	0.0	0.5

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42. For the 1993-1994 school year, please provide the number of vocational education programs (sequenced courses), if any, offered by your school which conduct each type of activity listed below to teach (A) math, (B) communications/English, and (C) science. (INDICATE THE NUMBER OF PROGRAMS IN THE APPROPRIATE BOX)

Type of Program Activity	Number of Programs Conducting Each Activity to Teach:		
	Math (A)	Communications/ English (B)	Science (C)
1. Programs where academic requirements are taught only in students' home high school	4.1 (n=8,852)	4.2 (n=8,758)	4.0 (n=8,587)
2. Programs where academic requirements are taught only in regular required academic classes	3.7 (n=9,107)	3.8 (n=8,994)	3.8 (n=8,893)
3. Programs where academic teacher and vocational education teacher work together (team teaching)	1.0 (n=8,722)	1.0 (n=8,659)	0.8 (n=8,552)
4. Programs where academic teacher does academic teaching in vocational education classes	0.7 (n=8,439)	0.6 (n=8,296)	0.5 (n=8,300)
5. Programs where additional academic training is provided to vocational education teachers	1.6 (n=8,390)	1.5 (n=8,204)	1.5 (n=8,212)
6. Programs where vocational education teacher does academic teaching in vocational education class	3.2 (n=10,133)	3.1 (n=9,850)	2.1 (n=9,654)
7. Programs where each course within that vocational program concentrates on academics	1.9 (n=8,764)	1.9 (n=8,539)	1.5 (n=8,549)
8. Programs that give academic credit in vocational education courses that have high academic content	1.2 (n=8,705)	1.1 (n=8,436)	1.0 (n=8,681)
9. Other (PLEASE SPECIFY) _____	4.4 (n=407)	4.7 (n=399)	3.8 (n=287)

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43. Now please consider the program activities, listed below, as they apply to the vocational education students in your school, whether they are registered at your school or came from some other home school. For the 1993-1994 school year, please estimate (A) the total number of vocational education students, (B) the number of vocational education students not in special populations, and (C, D, E) the number of special population students at your school who are in programs that are conducted in each of the following ways. (INDICATE THE NUMBER OF STUDENTS IN THE APPROPRIATE BOX)

Type of Program Activity	Total number of vocational education students (A)	Number of vocational education students not in special populations (B)	Number of Vocational Education Special Population Students		
			Students with disabilities (C)	Disadvantaged (D)	LEP (E)
1. Programs where academic requirements are taught only in students' home high school	252.2 (n=9,329)	150.2 (n=8,720)	24.8 (n=8,383)	96.6 (n=8,269)	10.5 (n=7,612)
2. Programs where academic requirements are taught only in regular required academic courses	231.5 (n=8,901)	144.5 (n=8,169)	23.5 (n=7,750)	84.8 (n=7,611)	8.5 (n=6,926)
3. Programs where academic teacher and vocational education teacher work together (team teaching)	37.1 (n=7,960)	23.0 (n=6,916)	6.0 (n=6,554)	18.0 (n=6,533)	2.2 (n=6,036)
4. Programs where academic teacher does academic teaching in vocational education classes	30.5 (n=7,577)	19.3 (n=6,480)	4.1 (n=6,299)	14.9 (n=6,188)	2.1 (n=5,875)
5. Programs where additional academic training is provided to vocational education teachers	74.7 (n=7,477)	43.1 (n=6,429)	8.4 (n=6,245)	37.7 (n=6,139)	3.6 (n=5,793)
6. Programs where vocational education teacher does academic teaching in vocational education class	156.8 (n=9,626)	90.4 (n=8,593)	15.2 (n=8,262)	65.4 (n=8,242)	6.7 (n=7,303)
7. Programs where each course within that vocational program concentrates on academics	84.4 (n=7,999)	49.3 (n=6,932)	9.4 (n=6,686)	36.6 (n=6,607)	5.9 (n=6,066)
8. Programs that give academic credit in vocational education courses that have high academic content	59.0 (n=8,315)	38.3 (n=7,149)	5.3 (n=6,979)	21.7 (n=6,892)	3.1 (n=6,447)
9. Other (PLEASE SPECIFY) _____	217.5 (n=310)	165.4 (n=254)	32.5 (n=219)	79.0 (n=263)	5.7 (n=206)

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44. Consider again the types of program activities available to a school's vocational education programs. Compared with the 1990-1991 school year (the year before the Perkins Act amendments were passed), are there more, about as many, or fewer programs that incorporate each type of activity in the 1993-1994 school year? (CHECK ONE FOR EACH)

Types of Program Activities	More or fewer programs that incorporate these activities since 1990-1991 school year					
	Many more in 1993-1994	Somewhat more in 1993-1994	About as many in 1993-1994	Somewhat fewer in 1993-1994	Many fewer in 1993-1994	Don't know
1. Programs where academic requirements are taught only in students' home high school (n=11,939)	2.7	11.4	70.0	2.9	0.7	12.3
2. Programs where academic requirements are taught only in regular required academic courses (n=12,264)	1.1	10.0	65.7	10.8	1.7	10.7
3. Programs where academic teacher and vocational education teacher work together (team teaching) (n=11,385)	4.6	24.4	51.5	1.1	1.1	17.3
4. Programs where academic teacher does academic teaching in vocational education classes (n=11,369)	2.0	14.4	60.3	1.5	1.7	20.2
5. Programs where additional academic training is provided to vocational education teachers (n=11,448)	5.8	19.6	53.4	1.5	1.0	18.7
6. Programs where vocational education teacher does academic teaching in vocational education class (n=11,947)	7.6	30.8	45.7	1.7	1.0	13.2
7. Programs where each course within that vocational program concentrates on academics (n=11,523)	4.5	23.2	53.3	1.8	0.9	16.1
8. Programs that give academic credit in vocational education courses that have high academic content (n=11,611)	4.8	14.4	61.6	1.4	1.0	16.8
9. Other (PLEASE SPECIFY) _____ (n=306)	24.9	47.6	7.6	0.0	0.0	19.9

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45. Overall, is there more, about as much, or less integration of academic and vocational instruction and curriculum in the 1993-1994 school year than there was in the 1990-1991 school year? (CHECK ONE)

- 1.[15.5%] Much more in the 1993-1994 school year
- 2.[45.7%] Somewhat more in the 1993-1994 school year
- 3.[32.4%] About as much in the 1993-1994 school year ----->GO TO QUESTION 47
- 4.[0.7%] Somewhat less in the 1993-1994 school year
- 5.[0.4%] Much less in the 1993-1994 school year
- 6.[5.3%] Don't know----->GO TO QUESTION 47
(n=14,428)

46. What effect, if any, has this change had on the quality of the vocational education programs in your school? (CHECK ONE)

- 1.[22.5%] Greatly improved program quality
- 2.[66.4%] Somewhat improved program quality
- 3.[6.6%] Neither improved nor worsened program quality
- 4.[1.3%] Somewhat worsened program quality
- 5.[0.8%] Greatly worsened program quality
- 6.[2.4%] Don't know
(n=8,984)

47. Consider those who are teaching courses in vocational education programs (sequenced courses) in your school during the 1993-1994 school year. Please indicate how many have achieved (or are expected to achieve by 1994) each listed education level. (ENTER THE NUMBER OF TEACHERS FOR EACH EDUCATION LEVEL)

Highest Degree Obtained	Number of teachers with listed degrees
1. High school diploma/some college	2.1 (n=12,701)
2. BA/BS degree	4.9 (n=13,668)
3. MA/MS degree or higher	4.5 (n=13,374)
4. Other degree (PLEASE SPECIFY)	0.2 (n=11,075)
5. Total number of teachers---->	10.4 (n=12,508)

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48. Thank you for taking part in this survey. If you have any comments about this questionnaire or about vocational education, please add them here.

(n=3,684)

HEHS/GS/1/11/94

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GLOSSARY

The definitions of the following terms used in this questionnaire were taken from the language in the Carl D. Perkins Vocational and Applied Technology Education Act or U.S. Department of Education regulations.

Disabled: Individuals who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multihandicapped, or have specific learning disabilities, who because of these impairments, need special education and related services and cannot succeed in the regular vocational education program without special education assistance.

Disadvantaged: Individuals (other than individuals with handicaps) who have economic or academic disadvantages and who require special services and assistance to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals of limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school.

High technology: State-of-the-art computer, microelectronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, and other technologies being used to enhance productivity in manufacturing, communication, transportation, agriculture, mining, energy, commercial, and similar economic activity, and to improve the provision of health care.

Limited English Proficient: Individuals who were not born in the United States or whose native language is other than English; who come from environments where a language other than English is dominant or has had a significant impact on their level of English language proficiency; and as a result, have sufficient difficulty speaking, reading, writing or understanding the English language to deny these individuals the opportunity to learn successfully in classrooms where English is the language used for instruction.

Sequential course of study: An integrated series of courses which are directly related to the educational and occupational skills preparation of individuals for jobs, or preparation for post-secondary education.

Special populations: Includes individuals with disabilities (handicaps), educationally and economically disadvantaged individuals, and individuals of limited English proficiency.

Vocational education: Organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree.

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Aggregated Responses to Survey of School Districts

U.S. GENERAL ACCOUNTING OFFICE
Survey of School District Vocational Education Programs

INTRODUCTION

With the enactment of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (PL 101-392), the Congress mandated that the U. S. General Accounting Office conduct a study of vocational education and the Perkins Act (see facing page). As part of this study, we are surveying schools and school districts to gather information about vocational education participation and funding.

The purpose of this questionnaire is to ascertain your district's experiences with vocational education and the participation of special populations for the 1993-1994 school year. We will also be asking some questions about the 1990-1991 school year (the year before the Perkins Act Amendments of 1990). You may recall that we conducted a similar survey in 1991-1992. This survey is the second phase of our mandated study of vocational education.

INSTRUCTIONS

This questionnaire focuses on vocational education funding and programs at the school district level. Your school district has also been sent one or more questionnaires for individual school(s) in our nationwide sample. We ask that you forward the school questionnaires to the schools that are listed on the labels on each of the school questionnaires. Your district may find it more convenient to answer some of the questions in the second questionnaire about the individual school(s), such as those on vocational education funding, rather than have the schools answer.

Because there are many schools, and many different types of programs and courses offered under the general title of "vocational education" we are using the definition written into the 1990 Perkins Act amendments. We are defining vocational education as "organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment." The term special populations includes students with disabilities, the disadvantaged, and those with limited English proficiency.

We are excluding from this questionnaire personal growth or exploratory courses that are not part of a sequence leading to an occupational skill. A glossary of other important terms appears at the end of this questionnaire (page 11).

We realize that your time is very limited, and that in order to answer all of the questions you may need to consult with other people. Please designate one person to have overall responsibility for completing this questionnaire, and provide the following information so we can call that person to clarify information if necessary.

Name: _____

Title: _____

Phone No. _____

If you have any questions about this survey, or GAO's overall study, please call Wanda Pearson at (202) 512-3669.

Please return this questionnaire in the accompanying postage paid envelope within 20 working days of receipt to:

U.S. General Accounting Office
Attn: Amy Friedlander
NGB/Education and Employment
441 G Street, NW
Washington DC, 20548

We appreciate your help in completing this questionnaire.

Note: The responses presented here may differ from the information given in the text. The responses given in this appendix are the mean responses for all schools that responded to both surveys. The information presented in the text required not only that a school have answered both surveys, but that the school had answered the same item in both surveys. The weighted number of respondents is indicated for each item.

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1. In total, how many (1) secondary schools containing at least grade 10, (2) secondary level schools for ungraded students, and (3) secondary level schools for "at risk" students are in your school district in the 1993-1994 school year? (ENTER NUMBER)

43 schools
(n=1,061)

2. Did your school district (A) receive a Perkins Act funding notice and (B) use (or plan to use) Perkins Act funding for vocational education for the 1993-1994 school year? (CHECK YES OR NO IN EACH COLUMN)

School Year	Receive funding notice? (n=1,056) (A)		Use funding? (n=1,058) (B)	
	Yes	No	Yes	No
1. 1993-1994	91.8%	8.2%	89.3%	10.7%

3. In total, how many schools that contained grades above the elementary level, but no higher than grade 9, were in your district in the 1993-1994, and 1990-1991 school years? (ENTER NUMBERS)

44 schools in the 1993
(n=1,068) 1994 school year

43 schools in the 1990-
(n=1,055) 1991 school year

4. Did any of these schools, or programs or services within these schools, receive Perkins funding for the 1993-1994 school year? (CHECK ONE)

1.[40.7%] Yes

2.[59.3%] No-->GO TO
(n=1,015) QUESTION 6

5. How many? (ENTER NUMBER)

41 schools
(n=406)

6. Did any of the schools, or programs or services within the schools referred to in question 3, receive Perkins funding for the 1990-1991 school year? (CHECK ONE)

1.[33.1%] Yes

2.[66.9%] No-->GO TO
(n=1,050) QUESTION 8

7. How many? (ENTER NUMBER)

43 schools
(n=345)

8. How many secondary schools in your district, if any, received (or expect to receive in 1993-1994) funds allocated by the Perkins Act (Perkins funds) during each of the following school years? (ENTER NUMBERS; IF NONE, ENTER '0')

1. 1993-1994 33 secondary
(n=1,062) schools

2. 1990-1991 33 secondary
(n=1,023) schools

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9. Approximately how much funding in total did your district receive from all sources to cover costs of vocational education, such as personnel, benefits, capital facilities, equipment, supplies, and other material in the 1993-1994 school year? (ENTER AMOUNTS; IF NONE, ENTER 0)

\$2,931,994.21 dollars in 1993-1994
(n=950)

10. Please provide your best estimate of the amount of funding your district received (or expects to receive) from each source listed below for the 1993-1994 school year. (ENTER AMOUNTS; IF NONE ENTER 0)

Source of Funding	1993-1994
1. Amount of Perkins <u>basic</u> and <u>competitive grant</u> Your district received	\$ 206,196.80 (n=1,043)
2. Amount of <u>other federal</u> government funding your district received for vocational education	\$ 58,046.75 (n=951)
3. Amount of <u>state</u> government funding your district received for vocational education	\$1,132,508.99 (n=988)
4. Amount of <u>local</u> government funding your district received for vocational education	\$1,337,742.81 (n=973)
5. Amount of funding received for vocational education from <u>other sources</u> (e.g. private grant, business contributions, etc.)	\$ 63,264.48 (n=927)

11. How many of the secondary level schools in your school district provided vocational education programs (that is, a sequence of courses) in the 1993-1994 school year? (ENTER NUMBER)

39 schools
(n=1,065)

12. Did any secondary school students from your school district participate in vocational education programs (that is, a sequence of courses) at other school districts in the 1993-1994 school year? (CHECK ONE)

1.[38.2%] Yes-----
(GO TO QUESTION 14)

2.[61.7%] No
(n=1,048)

13. Did you answer 0 to question 11? (CHECK ONE)

1.[53.8%] Yes-----> (STOP! PLEASE RETURN THIS QUESTIONNAIRE)

2.[46.2%] No-----> (GO TO QUESTION 14)
(n=93)

14. Did your district receive any Perkins funding for the 1993-1994 school year? (CHECK ONE)

1.[91.6%] Yes

2.[8.4%] No---> (GO TO QUESTION 28)
(n=1,018)

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Aggregated Responses to Survey of School
Districts**

- | | |
|--|--|
| <p>15. Did your district give all of its Perkins funds to a consortium? (CHECK ONE)</p> <p>1.[21.6%] Yes-->GO TO QUESTION 26</p> <p>2.[78.4%] No (n=915)</p> | <p>19. Which of the following did your district use as the primary factor in deciding which schools to allocate Perkins funding to during the 1993-1994 school year? (CHECK ONE)</p> <p>1.[7.1%] N/A--There was no primary factor</p> <p>2.[26.5%] Degree of need for improvement in a school's program</p> <p>3.[28.1%] Number of special population students in a school</p> <p>4.[22.1%] Proportion of special population students in a school</p> <p>5.[15.4%] Other. (PLEASE DESCRIBE)</p> <p>6.[0.7%] Don't Know (n=434)</p> |
| <p>16. Does your district have more than one secondary school? (CHECK ONE)</p> <p>1.[71.5%] Yes</p> <p>2.[28.5%] No-->GO TO QUESTION 20 (n=722)</p> | <p>20. Did your district allocate any Perkins funding directly to programs (sequenced courses) in your district during the 1993-1994 school year? (CHECK ONE)</p> <p>1.[80.8%] Yes</p> <p>2.[19.2%] No--> GO TO QUESTION 24 (n=712)</p> |
| <p>17. Did your district allocate its Perkins funds to one, to more than one but not all, or to all its secondary schools in the 1993-1994 school year? (CHECK ONE)</p> <p>1.[14.2%] One</p> <p>2.[41.6%] More than one, but not all</p> <p>3.[44.2%] All (n=514)</p> | <p>21. Did every vocational education program in your district receive Perkins funding in the 1993-1994 school year? (CHECK ONE)</p> <p>1.[23.0%] Yes-->GO TO QUESTION 24</p> <p>2.[77.0%] No (n=573)</p> |
| <p>18. Which of the following factors did your district take into account when it decided which schools to allocate Perkins funding to during the 1993-1994 school year? (CHECK ALL THAT APPLY)</p> <p>1.[64.4%] Degree of need for improvement in a school's program</p> <p>2.[71.4%] Number of special population students in a school</p> <p>3.[59.5%] Proportion of special population students in a school</p> <p>4.[21.9%] Other. (PLEASE DESCRIBE)</p> <p>5.[0.4%] Don't Know (n=511)</p> | <p>22. Which of the following factors did your district take into account when it determined which programs would receive Perkins funding during the 1993-1994 school year? (CHECK ALL THAT APPLY)</p> <p>1.[64.7%] Degree of need for improvement in the program</p> <p>2.[70.9%] Number of special population students in the program</p> <p>3.[58.2%] Proportion of special population students in the program</p> <p>4.[10.3%] Other (PLEASE DESCRIBE) (n=447)</p> |

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23. Which of the following did your district use as the primary factor to determine which programs would receive Perkins funding during the 1993-1994 school year? (CHECK ONE)

- 1.(6.1%) N/A-- There was no primary factor
- 2.(29.1%) Degree of need for improvement in the program
- 3.(31.2%) Number of special population students in the program
- 4.(25.6%) Proportion of special population students in the program
- 5.(7.5%) Other (PLEASE DESCRIBE)

- 6.(0.5%) Don't Know
(n=375)

24. For the 1993-1994 school year, which of the following did your district do (or plan to do), with regard to its Perkins allocation? (CHECK ALL THAT APPLY)

Action Taken	1993-1994 school year
1. No funding for this year	0.0%
2. Declined funding	0.8%
3. Used some or all of the funds	92.7%
4. Participated in a consortium or other formal arrangement with other school district(s) to provide vocational education	19.9%
5. Turned over some or all of the money to area vocational education school or community college	12.3%
6. Applied for and/or received a waiver from \$15,000 threshold	2.1%
7. Other (PLEASE SPECIFY) _____	3.0% (n=724)

25. Did your school district participate in a consortium or other formal arrangement for vocational education in the 1993-1994 school year? (CHECK ONE)

- 1.(36.5%) Yes
- 2.(63.5%) No----> (GO TO QUESTION 27)
(n=723)

26. Please indicate the total number of districts involved in that consortium or other formal arrangement for the 1993-1994 school year. (ENTER NUMBERS)

This district plus 7.9 other school districts in the 1993-1994 school year (n=448)

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27. For (A) the 1993-1994 school year, and (B) the 1990-1991 school year (the year before the Perkins Act amendments took effect), please estimate the percentage of your district's Perkins funding spent (or planned to be spent) for each of the following (if you belong to a consortium, estimate the percentage of your district's funds used for each of the following in the 1993-1994 and 1990-1991 school years). (ENTER PERCENTS; IF NONE ENTER 0)

Uses of Your District's Perkins Funds	Your district	
	1993-1994 (A)	1990-1991 (B)
1. Program(s) that existed in the prior year (excluding support services for special populations)	43.4% (n=881)	50.0% (n=822)
2. New program(s) (excluding support services for special populations)	13.7% (n=872)	8.1% (n=812)
3. Support services for special populations	39.6% (n=882)	34.6% (n=818)
4. Other (PLEASE SPECIFY) _____ _____	4.9% (n=842)	3.1% (n=766)
5. Total.....>	100%	100%

28. During the 1993-1994 school year, how many vocational education programs (sequenced courses) did your district offer? For this question, count the same set of sequenced courses, e.g. auto mechanics, etc., offered in more than one school as one program. (ENTER NUMBER)

153 vocational education programs offered in the 1993-1994 school year (n=1,002)

29. How many of these programs received Perkins funding during the 1993-1994 school year? If your funding went to a consortium, enter the number of programs that in some way benefited from your district's participation in this consortium. (ENTER NUMBER)

90 vocational education programs that received Perkins funding in the 1993-1994 school year.
(n=988)

30. During the 1990-1991 school year, the year before the Perkins Act Amendments went into effect, how many vocational education programs (sequenced courses) did your district offer? For this question, count the same set of sequenced courses, e.g. auto mechanics, etc., offered in more than one school as one program. (ENTER NUMBER)

149 vocational education programs offered in the 1990-1991 school year (n=964)

31. How many of these programs received Perkins funding during the 1990-1991 school year? If your Perkins funding went to a consortium, enter the number of programs that in some way benefited from your district's participation in this consortium. (ENTER NUMBER)

88 vocational education programs that received Perkins funding in the 1990-1991 school year (n=951)

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**Appendix IV
Aggregated Responses to Survey of School
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32. Listed below are a number of items that could be considered indicators of quality in vocational education programs. Please indicate whether or not your district uses each of these indicators in its local assessment of the quality of vocational education in the 1993-1994 local assessment of vocational education. (CHECK 'YES' OR 'NO' FOR EACH INDICATOR)

Possible Quality Indicators	Use in 93-94 local assessment	
	Yes	No
1. Number of students in vocational education programs	93.9% (n=1,010)	6.1%
2. Number of "high technology" programs	67.1% (n=986)	32.9
3. Number of students participating in "high technology" programs	66.5% (n=977)	33.5
4. Use of occupational competency standards	82.5% (n=992)	17.5
5. Use of certificates of competency	59.8% (n=976)	40.2
6. Graduation rates	82.2% (n=991)	17.8
7. Placement rates (additional education or training, employment, military service)	84.7% (n=992)	15.3
8. Program completion rates	90.9% (n=999)	9.1
9. Qualifications of vocational teachers	87.4% (n=1,002)	12.6
10. Career counseling/assistance	85.6% (n=1,000)	14.4
11. Linkage with post-secondary vocational education programs	84.2% (n=998)	15.8
12. Linkage with business or labor	85.2% (n=994)	14.8
13. Integration of academics with vocational curriculum	87.4% (n=995)	12.6
14. A coherent sequence of courses leading to an occupational skill	90.3% (n=995)	9.7
15. Location of program (e.g. local high school, area vocational school, community college)	59.3% (n=971)	40.7
16. Use of modern equipment/facilities	91.9% (n=998)	8.1
17. Participation in programs and services designed to eliminate sex bias and stereotyping in vocational education	89.5% (n=1,000)	10.5
18. Other (PLEASE SPECIFY)	84.9% (n=53)	15.1

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33. Listed below are things that could be used to measure the performance of a vocational education program. In (A) indicate whether or not your district is using each to measure the performance of any of its vocational education programs. For each that is being used, in (B) indicate whether or not your district has set a specific standard, e.g., a specific percentage of program graduates who should be placed, related to that measure. (CHECK "YES" OR "NO" FOR EACH MEASURE, AND IF "YES," CHECK "YES" OR "NO" IF THAT MEASURE HAS A STANDARD USED BY YOUR DISTRICT)

Possible Performance Measures	Use as a measure in 93-94 local assessment		Use with a standard in 93-94 local assessment	
	(A)		(B)	
	No	Yes-->	No	Yes
1. Academic competency gains	28.0 (n=967)	72.0	31.0 (n=665)	69.0
2. Occupational competency gains	23.0 (n=966)	77.0	33.5 (n=714)	66.5
3. Student retention in school	31.6 (n=968)	68.4	37.8 (n=629)	62.2
4. Student retention in vocational education program	28.0 (n=963)	72.0	40.0 (n=660)	60.0
5. Graduation	23.8 (n=967)	76.2	31.3 (n=712)	68.7
6. Vocational education program completion	14.9 (n=977)	85.1	30.6 (n=794)	69.4
7. Placement (additional education or training, employment, military service, etc.)	23.0 (n=967)	77.0	30.5 (n=718)	69.5
8. Employer satisfaction with program completers	37.2 (n=954)	62.8	45.4 (n=575)	54.6
9. Student satisfaction with vocational education training received	30.8 (n=959)	69.2	47.1 (n=635)	52.9
10. Number of students who earn certificates of competency	48.0 (n=142)	52.0	36.2 (n=481)	63.8
11. Other (PLEASE SPECIFY) _____	41.4 (n=29)	58.6	31.6 (n=19)	68.4

34. Listed below are credentials or qualifications that vocational education teaching staff might be required to have. For each, please indicate if (A) the State, or (B) the district, requires teachers to have that credential or qualification in order to teach vocational education in your school district. (PLACE A CHECK FOR THE STATE AND DISTRICT FOR EACH CREDENTIAL OR QUALIFICATION)

Types of Credentials	Required by state (A)		Required by district (B)	
	Yes	No	Yes	No
1. BS/BA degree	61.9 (n=940)	38.1	64.5 (n=921)	35.5
2. General certificate	50.3 (n=825)	49.7	51.3 (n=791)	48.7
3. Vocational teacher certificate for specific field	95.9 (n=978)	4.1	94.6 (n=948)	5.4
4. Continuing education credits for vocational education teacher in technical field	61.0 (n=913)	39.0	59.4 (n=891)	40.6
5. Continuing education credits for vocational education teacher in any education area	58.6 (n=899)	41.4	58.4 (n=890)	41.6
6. Other (PLEASE SPECIFY) _____	84.9 (n=53)	15.1	84.9 (n=53)	15.1

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35 Did the Perkins Act amendments of 1990 result in an increase, decrease, or neither an increase or decrease of each of the following? (CHECK ONE BOX FOR EACH ITEM)

	Greatly Increased	Increased	Neither increased nor decreased	Decreased	Greatly decreased	Do not know
1. Your district's ability to purchase state of the art equipment	17.9 (n=1,006)	35.7	29.8	9.2	5.5	1.9
2. Your district's ability to spend Perkins funds where needed most	15.6 (n=1,002)	39.4	18.6	17.5	6.7	2.3
3. Your district's ability to plan vocational programs and use Perkins funds	13.8 (n=1,004)	39.1	30.7	10.1	4.0	2.3
4. The equity with which Perkins funding is allocated among districts	6.3 (n=1,002)	25.0	36.6	9.1	7.4	15.7
5. The amount of record keeping required by state to meet Perkins requirements	32.9 (n=1,004)	34.8	21.2	3.2	0.9	7.1
6. The extent of services your district offers vocational-technical students in special populations	14.3 (n=1,004)	52.6	27.6	2.6	1.4	1.5
7. The extent of services your district offers vocational-technical students in general	7.3 (n=1,002)	45.1	37.1	6.4	2.4	1.7
8. The access special population students have to vocational-technical programs	9.6 (n=1,006)	46.4	41.1	0.9	0.5	1.5
9. Tutoring and remediation for vocational-technical students in general	9.9 (n=1,004)	34.0	50.6	2.2	0.6	2.8
10. Quality of vocational-technical programs	9.9 (n=1,002)	57.9	25.9	4.0	0.4	1.9
11. Your district's program improvement efforts	13.5 (n=1,001)	56.8	23.6	3.6	0.8	1.7
12. Technical education standards that students must achieve	6.1 (n=1,003)	44.5	45.1	0.9	0.2	3.3
13. Academic education standards that students must achieve	6.9 (n=1,003)	44.0	45.6	0.3	0.2	3.1
14. Use of applied curricula in vocational-technical courses	14.9 (n=1,003)	53.2	28.9	0.7	0.2	2.1
15. Use of integration of academic and vocational-technical courses	14.5 (n=1,001)	57.2	25.5	0.6	0.2	2.0
16. Application of measures and standards to evaluate the effectiveness of programs	12.0 (n=999)	48.5	36.1	0.6	0.0	2.7
17. Development of tech-prep (2+2) programs	25.1 (n=996)	43.0	29.1	0.7	0.0	2.1
18. Professional development opportunities for instructors and administrators	17.5 (n=1,001)	45.9	32.4	1.9	0.7	1.7
19. Other (PLEASE SPECIFY) _____	26.3 (n=38)	15.8	26.3	5.3	5.3	21.1

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36. In your opinion, what specific provisions of the Perkins Act, if any, should be modified? (WRITE IN BELOW) (n=574)

Thank you for taking part in this survey. If you have any comments about this questionnaire or about vocational education, add them here. (n=186)

HEHS/OS/1/1-94

**Appendix IV
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GLOSSARY

The definitions of the following terms used in this questionnaire were taken from the language in the Carl D. Perkins Vocational and Applied Technology Education Act or U.S. Department of Education regulations.

High technology: State-of-the-art computer, microelectronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, and other technologies being used to enhance productivity in manufacturing, communication, transportation, agriculture, mining, energy, commercial, and similar economic activity, and to improve the provision of health care.

Sequential course of study: An integrated series of courses which are directly related to the educational and occupational skills preparation of individuals for jobs, or preparation for post-secondary education.

Special populations: Includes individuals with disabilities, educationally and economically disadvantaged individuals, and individuals of limited English proficiency.

Vocational education: Organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree.

Comments From the Department of Education



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF VOCATIONAL AND ADULT EDUCATION

THE ASSISTANT SECRETARY

JUN 8 1995

Ms. Linda G. Morra
Director, Education and Employment Issues
Human Resources Division
United States General Accounting Office
Washington, DC 20548

Dear Ms. Morra:

This is in response to your May 25, 1995 letter to Secretary Riley, requesting comments on the General Accounting Office (GAO) draft report entitled, "VOCATIONAL EDUCATION: Changes at the High School Level After Amendments to the Perkins Act" (GAO/HEHS-95-144). The Secretary has asked me to respond to your request since the report addresses implementation of the Carl D. Perkins Vocational and Applied Technology Education Act (Perkins II).

As you are aware, this Department's mission is to ensure equal access to education and to promote educational excellence. Thus, we were pleased to learn that the report concludes that changes made by Title II of Perkins II did not lead to reductions in the level of vocational education services to special populations. Moreover, this finding supports this Department's recent proposal for restructuring Perkins II.

While we generally believe that this is a very good report, we do have some technical concerns. Therefore, we have enclosed for your consideration some comments on technical aspects of the underlying study and the report. We also offer the following comments as to how the report could be strengthened.

The report accurately notes that the 1990 amendments reflected in Perkins II removed the requirement to set aside 57 percent of the Title II funds for targeted populations (including the three populations studied in the report) contained in the predecessor statute (Perkins I). However, the report does not indicate that Perkins II contained a new requirement for local recipients to give priority in the use of approximately 75 percent of the Title II funds to the so-called "special populations." Thus, the report is comparing the level of services to the three populations under the set-aside requirements of Perkins I to that under the priority requirement of Perkins II--not to a statutory scheme where there is no requirement whatsoever. We recommend that you clarify this point in the report.

See p. 13 and p. 2.

Appendix V
Comments From the Department of
Education

See p. 13 and pp. 25-26.

Page 2 - Ms. Linda G. Morra

In addition, we agree that the report determined improvement in vocational education by using as quality indicators the level of integration of vocational and academic education, tech-prep education, and school-to-work elements in local programs. However, as the report found that only limited progress had been made in adopting these improvements in the short time covered by the study, it would have been helpful to see a comparison of the extent to which the three populations studied are participating in these improvements compared to the general student population. See section 423(a), especially section 423(a)(3)(B)(vi) of Perkins II.

Thank you for the opportunity to comment on this draft report. My staff and I would be pleased to discuss these comments further if you or your representatives have further questions.

Sincerely,



Augusta Souza Kappner

Enclosure

GAO Contacts and Staff Acknowledgments

GAO Contacts

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Staff Acknowledgments

Elsie Picyk, Senior Computer Science Analyst, was responsible for computer programming and data analysis. Thomas Hubbs, Senior Evaluator, provided direction to the project at its earlier stages. Thomas Hungerford, Senior Economist, commented on drafts and assisted with the data analysis. Laurel Rabin, Communications Analyst, provided editing and writing assistance.

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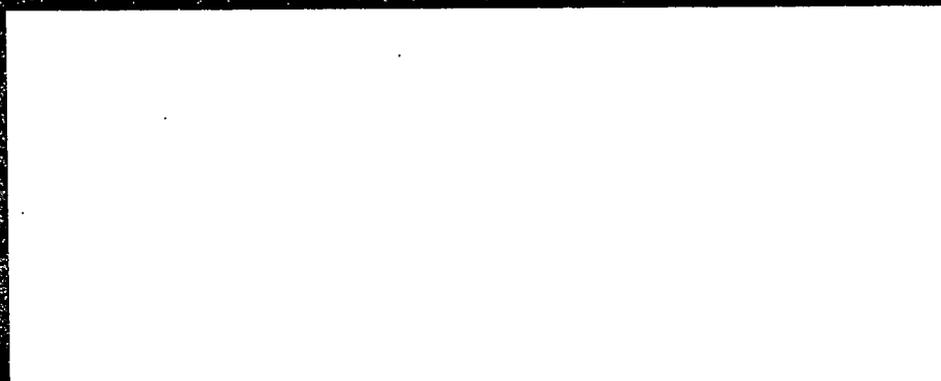
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