

**TRENDS IN TECH PREP IMPLEMENTATION AND
STUDENT PARTICIPATION
FOR THE STATE OF ILLINOIS FOR FY04**

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August 2005

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Funding for this report was awarded by the Illinois Community College Board and was conducted by staff at OCCRL. Conclusions or suggestions based on the data are the result of professional judgment and do not necessarily represent official position or policy of the Illinois Community College Board or the University of Illinois.

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Suggested Citation:

Kirby, C., Zhu, R., Hood, L., & Bragg, D. (2005, August). *Trends in Tech Prep implementation and student participation for the State of Illinois for FY04*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.

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ACKNOWLEDGEMENTS

This report is possible because of the work of many people associated with Tech Prep in Illinois. We thank the consortium directors, assistant directors, and coordinators for their persistent dedication to advancing Tech Prep education in Illinois and for their deliberate attempts to accurately report data that are often difficult to track and measure. We are also grateful to the Illinois Community College Board for entrusting us with the important task of compiling and summarizing the data that represent Tech Prep implementation in Illinois. Finally, a special appreciation to OCCRL staff: Lisa Hood for initially compiling data and composing a first draft, Catherine Kirby for providing collaborative leadership in preparing the final draft of this report; Rongchun Zhu for his tireless data rechecking, formatting, and analysis; and Linda Iliff for her creativity in formatting the figures, tables, and the text of this report.

EXECUTIVE SUMMARY

This document presents findings for Tech Prep consortia in Illinois for fiscal year 2003-04 (FY04). Throughout this report, comparisons of FY04 results are made to earlier years. Major results depict information provided by all 40 consortia in areas such as student participation, remediation rates, program elements, and staff involvement including professional development.

Results of the *Final Tech Prep Report* forms for FY04 show numerous areas of Tech Prep implementation were stable over the past four years, though some changes were evident among a subset of consortia. It is also noteworthy that the majority of consortium directors reported implementation of various Tech Prep components at the “progress” and “mature” stages.

Listed below are aspects of Tech Prep reported in FY04 that showed stability or modest change over the previous two or more years:

- The number of secondary Tech Prep programs offered by consortia appeared to be stable across 5 years data, showing an average of 19.7 and a median of 13.0 programs per consortium in FY04.
- The percentage of secondary Tech Prep students in FY04 remained the same as FY03, comprising 11% of all secondary students in Illinois.
- For all consortia other than Chicago, the median number of secondary students who were identified as Tech Prep graduates in FY04 remained the same over the 5-year period.
- State mean and median enrollment of first-year postsecondary Tech Prep students showed a stable pattern from FY03 to FY04, with the mean remaining the same at 68.4 and the median decreasing slightly from 62.7 to 59.1.
- The remediation rate for matriculating high school Tech Prep students showed a stable pattern over the 5 years but decreased to 37% in FY04.
- Postsecondary vocational-technical instructors continued to surpass academic instructors' involvement in Tech Prep funded activities in FY04. At the secondary level, the two instructor types demonstrated a comparable level of participation, which was similar to previous years.
- In FY04, 6 barriers were cited by at least 20% of consortium directors as having major or very major impact on implementation. Among them, 3 barriers cited consistently between FY00 and FY04 dealt with lack of financial resources, little time for joint planning, and lack of substitute teachers.

Areas where change, both positive and negative, was noted over the past two to five years to be more substantial follow:

- The retention rate for postsecondary Tech Prep students, from 13th to 14th grade, is 55.5% in FY04, which is a 10% decrease from FY03; however, this number is more reliable than in past reports because of adjustments to the dataset to improve accuracy.
- The mean percentage estimate of Tech Prep students with credits in escrow, dual credit, or other college credit options remained the same in FY04 as reported in FY03; however, it is important to point out that this trend has shown a dramatic increase over the past 5 years, from 47% in FY00 to 75.4 in FY04.
- There was a fairly substantial decrease in WBL opportunities for Tech Prep students in the state, from a total of 691 in FY03 to 571 in FY04.
- Over the six years data were collected there was an overall increase in business/labor/community representatives' participation in professional development.

After reviewing and reporting data from consortium directors for six years, data quality issues continue to be problematic; however, we have seen improvements in the consistency with which statistics are reported. Continuing problems related to the accuracy of data seem to be associated with variation in interpretation of definitions of some Tech Prep components (student, program, completer); turnover in Tech Prep personnel at the secondary, postsecondary and consortium administration levels; difficulties in tracking students from the secondary to postsecondary level; and issues with maintaining student confidentiality in identifying postsecondary Tech Prep students.

During FY06, local and state Tech Prep officials will be involved in a strategic planning initiative that will address numerous concerns associated with accountability data reporting. Once Perkins is reauthorized and after improvements associated with the strategic planning process are implemented, the Tech Prep Evaluation System (TPES) and the *Tech Prep Final Report* form will be revised. This will hopefully enhance the ability of consortium directors to measure and report results of Tech Prep implementation.

Many students in Illinois rely on a strong educational system to meet their academic and career needs. Many teachers and administrators work tirelessly to ensure that those students' preparation involves a seamless transition from secondary to postsecondary levels and that their education at both levels meets the dynamic needs of the workforce of which they will eventually enter. We at OCCRL remain dedicated to accurately documenting their progress toward their goals.

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INTRODUCTION

At the end of each fiscal year, Tech Prep consortium directors in Illinois complete and submit the *Tech Prep Final Report* form to the Illinois Community College Board (ICCB). The report describes Tech Prep implementation on the local level, including student participation at the secondary and postsecondary levels, accomplishments, barriers, technical assistance needs, and other status and outcomes of consortium activities throughout the year. Subsequently, state staff review the individual consortium reports to document implementation and develop plans to support local efforts across the state.

Since 1999 the Office of Community College Research and Leadership (OCCRL) at the University of Illinois at Urbana-Champaign (UIUC) has compiled results of the individual consortium forms into a summary trend report that provides a comprehensive description of Tech Prep implementation within the entire state. By compiling information on an annual basis and comparing the current year to previous years, patterns and trends can be observed over time, providing valuable information for state officials to enhance statewide Tech Prep efforts. This publication provides five, and in some cases six, years of data on Tech Prep in Illinois.

This year's report is posted on the OCCRL website homepage, under "Highlights," and at http://occr.ed.uiuc.edu/Projects/tech_prep/evaluation.asp. Along with annual reports and summaries for previous years, local consortium directors can gain a statewide perspective on Tech Prep implementation. By distributing these reports via the web, local educators can monitor student participation and program activities within their own consortia over time, and they can compare their consortium results with aggregate results for the entire state.

ORGANIZATION OF THE REPORT

This report presents findings for 40 Tech Prep consortia in Illinois for 2003-04 (FY04). Most results show a mean or median for all 40 consortia, although some selected results are presented separately for Chicago. Results are presented in this format because between FY03 and FY04 the Tech Prep grants in Chicago were merged and City Colleges of Chicago (CCC) became the grant administrator, but before that time the CCC consortium and Chicago Public Schools consortium were separate. Thus, we present results for the CCC consortium separately so data for secondary and postsecondary involvement for FY04 are consistent with past trend reports.

METHODS

Results included in this trend report represent totals, means, and medians for all 40 consortia, with a few exceptions. Also, in some cases, measures are aggregated for less than the 40 consortia because of problems with inaccuracies and missing data. For example, data related to secondary and postsecondary student participation was modified because a careful examination of past data revealed large fluctuations in data reporting by some consortia from year to year. Therefore, those data were either omitted from the analyses, estimates were computed using previous fiscal year data to create an average, or numbers were substituted with the regional or geographical average using the estimate that was judged to be most logical (based on previous years) and usually also most conservative. This estimation procedure was applied to the following measures: number of secondary programs, first-year postsecondary student enrollment, number of students in remedial/developmental courses, number of students earning articulated or dual credits, and second-year postsecondary enrollments. Throughout this document we indicate when estimates were used to compute results.

Results are reported according to the following major headings:

- Funding
- School and student involvement
- Tech Prep program implementation
- Barriers
- Major accomplishments
- Technical assistance needs

To supplement this report, readers can find additional tables of trends and FY04 findings on the OCCRL website under Tech Prep R&D. In some cases, the consortium measures were grouped according to their region or geographical location. The regional analyses assigned consortia into the Northern, Central, and Southern regions in alignment with the ICCB's regional classification. The geographic categorization grouped consortia by rural, small urban, suburban, and Chicago.

FUNDING

Beginning in FY04, local consortium directors reported the amount of grant funds received to implement Tech Prep programs. Directors indicated the dollar amounts received from: federal Tech Prep funds, state Tech Prep funds, other federal and state funds, local education funds, private-sector business and industry funds, and funds received from other sources. In FY04, all 40 Illinois consortia reported receiving a total of \$9,830,766. Consortium directors reported a near equal percentage of funding from two categories: “federal” and “other federal and state sources”, which included Tech Prep Support grants reported by eight consortia. The category of “state funds” accounted for over \$1.2 million in funding. These results suggest federal and state funds continue to play a very important role in supporting implementation of Tech Prep programs throughout the state of Illinois. Together, the categories of federal funds, state funds, and other federal and state funds account for 91% of all funds for Tech Prep in Illinois.

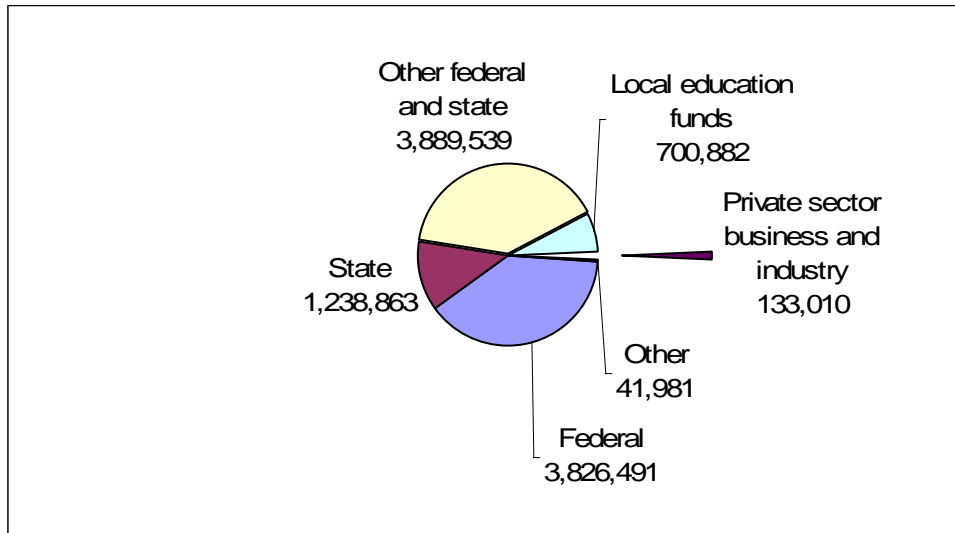


Figure 1. Total funding received by local consortia from various funding sources.

SCHOOL AND STUDENT INVOLVEMENT

This section contains results pertaining to secondary school involvement, secondary student participation, and postsecondary student participation.

SECONDARY SCHOOL INVOLVEMENT

Of the 39 consortia reporting the number of Tech Prep programs¹ at the secondary level in FY04, 8 consortia were excluded due to unexplained large fluctuations in reporting. Directors in the 31 consortia included in the FY04 sample reported a total of 558 Tech Prep programs were offered in secondary schools, with an average of 19.7 and a median of 13 programs per consortium². In FY03 and FY04 29 consortia reported reliable data for both years; of those, 5 reported an increase of at least 4 programs in FY04, 13 remained about the same, and 11 reported a decrease of at least 3 programs. The data from FY00 to FY03 included about 33 consortia that appeared to report reliable data.

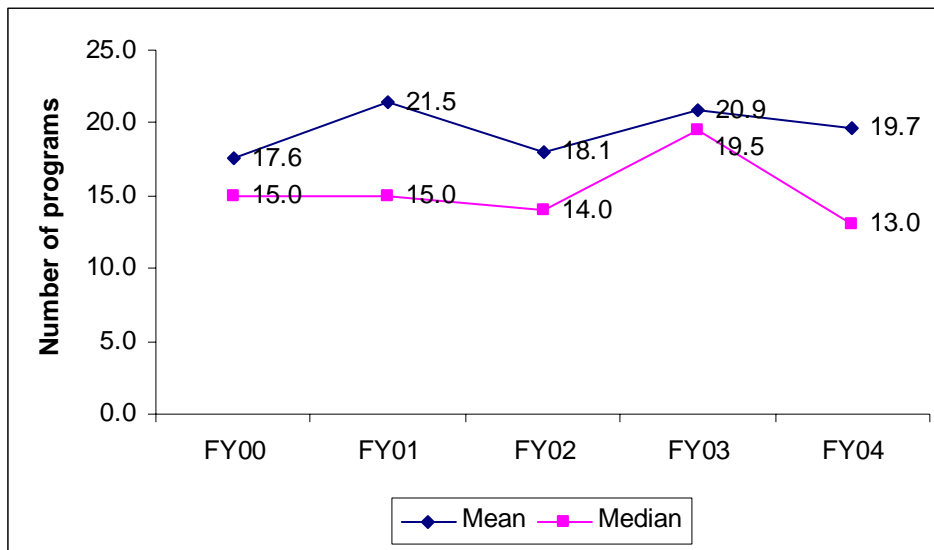


Figure 2. Mean and median number of Tech Prep programs offered from FY00 to FY04, excluding Chicago consortium.

Note. Total program numbers are 635 for 33 consortia in FY00, 653 for 32 consortia in FY01, 639 for 34 consortia in FY02, 692 for 33 consortia in FY03, and 558 for 31 consortia in FY04.

Figure 2 shows a consistent trend in the mean number of Tech Prep programs offered by Illinois consortia from FY00 to FY04 with slight fluctuations. Except for the median illustrated in FY03, the median number across the five-year span is also consistent. The spike in the median number in FY03 can be explained by fact that the program number reported by seven consortia in FY03 was twice the number they reported in FY04. During the five years of FY00 to FY04, the mean number of Tech Prep programs

¹ Given the unusually large numbers of reported programs by some consortia, it is apparent that some define "programs" differently than others. In all cases where unusual program numbers were reported, OCCRL staff made attempts to validate the numbers with consortia officials; when that was not possible, we used averages or eliminated unreliable data, always stating when substituted data were used.

² The mean and median numbers in this section differ from previous trend reports due to recalculations omitting what appear to be erroneous data.

offered by Illinois consortia was about 19, and the median number was 15. This result is based on about 82% of the consortia in the state reporting reliable data.

SECONDARY STUDENT PARTICIPATION

Each year, local consortia report the number of secondary students participating in Tech Prep programs. Of the 39 consortia reporting student participation in Tech Prep, the total number of secondary students taking Tech Prep-related courses reached slightly over 69,200 in FY04. This represents an increase from the three previous years in which the same number of consortia reported 58,345 students participating in FY01, 59,141 in FY02, and 66,700 in FY03. Again in FY04, Tech Prep students accounted for 11% of the total number of students in secondary schools (freshman through senior) and represented a slight increase from FY01 and FY02. It is worth noting the preponderance of Tech Prep students in Illinois are at the junior and senior level, so the report of Tech Prep students as a part of the total high school student population under represents the incidence of Tech Prep enrollments at the junior and senior levels where these students are mostly likely to be enrolled.

Between FY00 and FY03 consortia reported a slight increase in the median number of students participating in Tech Prep within consortia, reflecting an overall increase in student enrollment statewide (see Figure 3). However, in FY04, the state saw its first decline in median student enrollment, from 1225 in FY03 to 1155 in FY04. Despite an increase in the total number of Tech Prep student enrollments, the median declined because more consortia reported a decrease in student enrollment. In fact, 24 consortia indicated a decrease whereas only 15 consortia indicated an increase in the number of Tech Prep students. Chicago consortia were excluded from this figure because of the change in consortium organization.

Figure 3 also shows the trend in the median number of Tech Prep graduates per consortium from FY00 to FY04, with over 1,100 students and over 350 graduates reported per consortium in FY04. In FY04, consortium directors reported a total of 23,774 Tech Prep graduates, excluding those involved in the Chicago consortium (see next section).

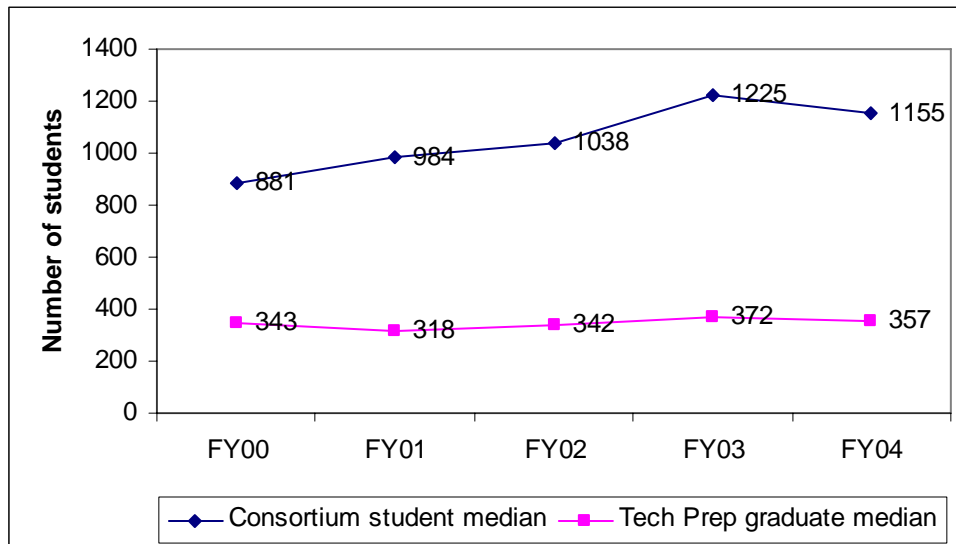


Figure 3. Consortium median number of Tech Prep students ($N=69,200$) and graduates ($N=23,774$), excluding Chicago consortia.

STUDENT PARTICIPATION IN TECH PREP IN CHICAGO

Due to its size and distinct funding pattern wherein the secondary and postsecondary levels were funded separately in Chicago, results for Chicago were reported separately. However, between FY03 and FY04 the Tech Prep grants to City Colleges of Chicago (CCC) and to Chicago Public Schools were merged. In FY04, CCC began administering the grant for both secondary and postsecondary levels. To maintain consistency in data reporting, we present results for the CCC consortium separately from the rest of the state.

Figure 4 shows the student enrollment trend for the CCC consortium as reported in the first two years that data were gathered. The number of Tech Prep students affiliated with this consortium increased over five fold, from 3,028 in FY00 to 17,750 in FY01 but then dropped sharply to 2,307 in FY02, continued to fall to 1,653 in FY03, and dropped even further to 645 in FY04. The spike in enrollment in FY01 is unexplained by available data, suggesting the possibility of reporting error.

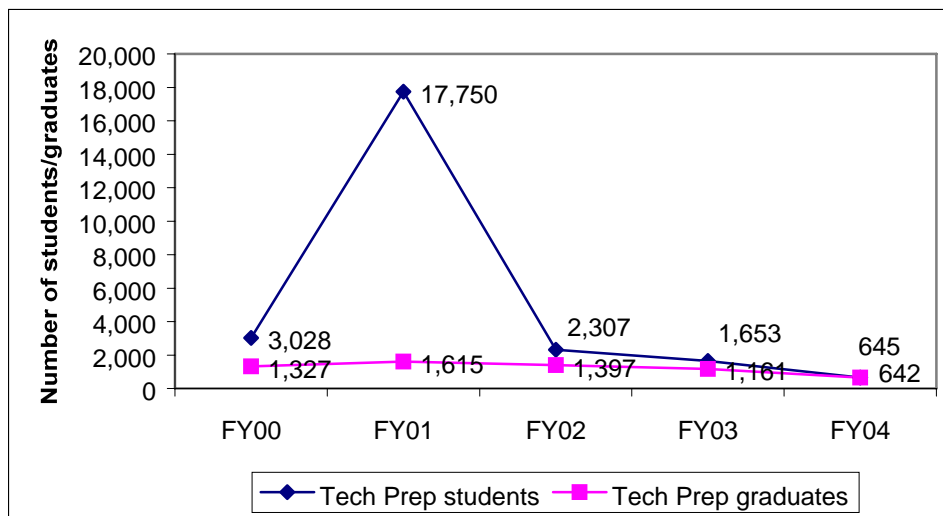


Figure 4. Chicago consortium number of Tech Prep students and Tech Prep graduates.

Over the 4-year period from FY00 to FY03, the number of Tech Prep graduates reported by CCC increased from 1,327 in FY00 to 1,615 in FY01, and then declined to 1,397 in FY02, 1,161 in FY03, and dropped rather dramatically to 642 in FY04. These results, along with student enrollment results over the same time period suggest the number of Tech Prep student participants reported in FY01 may be unreliable.

FIRST-YEAR POSTSECONDARY STUDENT PARTICIPATION

In FY04, an *estimated*³ total of 2,688 students were reported by all Illinois consortia to have enrolled in a Tech Prep program at the postsecondary level after finishing a sequence of secondary Tech Prep courses during the preceding year. The state total, mean, and median⁴ of first-year postsecondary enrollment decreased sharply between FY00 and FY01, and then somewhat stabilized in the time period between FY02 and FY04. Specifically, the mean increased from 55.5 in FY02 to 68.4 in FY03 and FY04, and the median increased from 55.6 in FY02 to 62.7 in FY03 before slightly dropping to 59.1 in FY04 (see Figure 5).

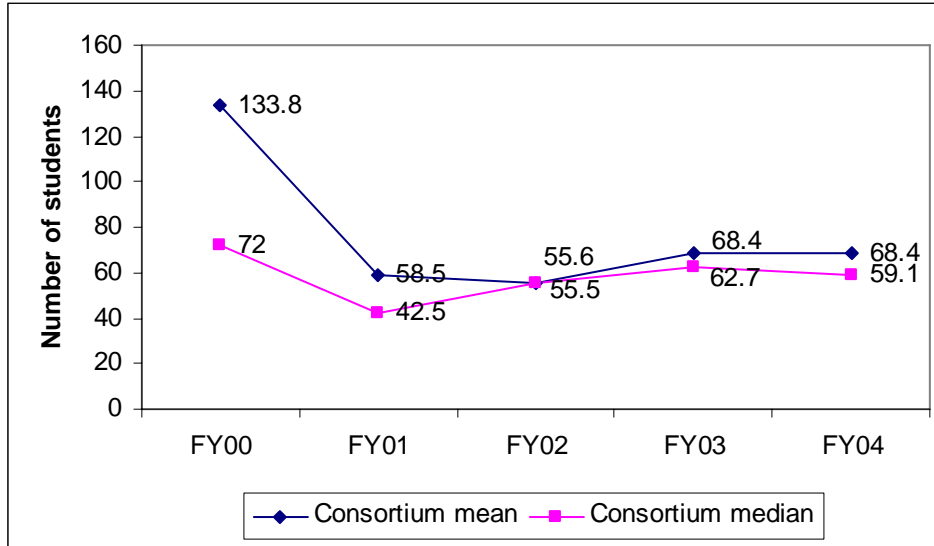


Figure 5. Consortium mean and median number of first-year postsecondary students enrolled in Tech Prep programs (N=2,688).

³ Due to fluctuations in data reporting, some consortia enrollment numbers were estimated based on previous enrollment numbers, or using the average enrollment number for their regional or geographical location.

⁴ The mean and median numbers in this section differ from previous trend reports due to recalculations omitting what appear to be erroneous data.

TECH PREP PROGRAM IMPLEMENTATION

Local Tech Prep program implementation is characterized by a number of core elements, including remediation, articulated curriculum, courses offered in high school for college credit (dual credit) or credits in escrow, academic course taking, work-based learning, and curriculum reform. This section provides a description of the implementation of various core elements.

IMPLEMENTATION RATINGS ON THE SIX COMPONENTS

Beginning in FY04, local consortium directors were asked to rate their consortium's level of implementation of each of six components of Tech Prep, identified by the state as essential components paralleling the federal Perkins legislation, using a scale of 1 (not evident or underway) to 5 (advanced implementation). Table 1 shows nearly all consortia rated themselves on all elements between the Progress in Implementation (3) and the Advanced Implementation (5) levels on all components. In fact, only 2 consortia (5%) reported they were below the Progress in Implementation stage, at the Planning or Development stage (2) on the inservice training component, and only 1 consortium (2.5%) rated itself at Planning or Development in the preparatory services component. The aggregate results also show very little difference in the mean ratings on the six components. All ratings are between 3.0 and 4.0, most approaching 4.0, signifying "mature" on the 5-point scale.

Table 1
Consortium Ratings for the Implementation of Six Tech Prep Components

Component	Mean	Std Dev	Planning or Development	Progress in Implementation	Mature	Advanced
Consortium level articulation	3.7	0.69	0%	37.5%	47.5%	15.0%
Tech Prep program sequences	3.7	0.68	0	37.5%	47.5%	15.0%
Inservice training	3.6	0.68	5.0%	40.0%	50.0%	5.0%
Equal access for special populations	3.9	0.65	0%	27.5%	57.5%	15.0%
Linkages and program innovation	3.6	0.58	0%	42.5%	52.5%	5.0%
Preparatory services	3.7	0.66	2.5%	37.5%	50.0%	10.0%

Note. The table does not include category 1, "Not evident or underway" because no consortia rated any component at this lowest level but rather reported more advanced implementation levels (categories 2-5) for all components.

REMEDICATION OF FIRST-YEAR STUDENTS

Figure 6 shows consortium directors' *estimates*⁵ of the percentage of FY03 graduates who were taking remedial mathematics reading or writing courses the following year (FY04) at the community college.

Based on figures provided by consortium directors, the mean percentage of first year community college Tech Prep students enrolled in at least one remedial course was 37% in FY04. This percentage compares favorably to estimated percentages⁶ of 44% in FY03, 41% in FY02, 38% in FY00 and matches the 37% reported in FY01. It is interesting to note that this estimated percentage is well below the remediation rate reported by Adelman (2005) in a national study of community college students; the study sponsored by the U.S. Department of Education found that an estimated 61.1% of all students in a large community college student cohort enrolled in at least one remedial course at the community college.

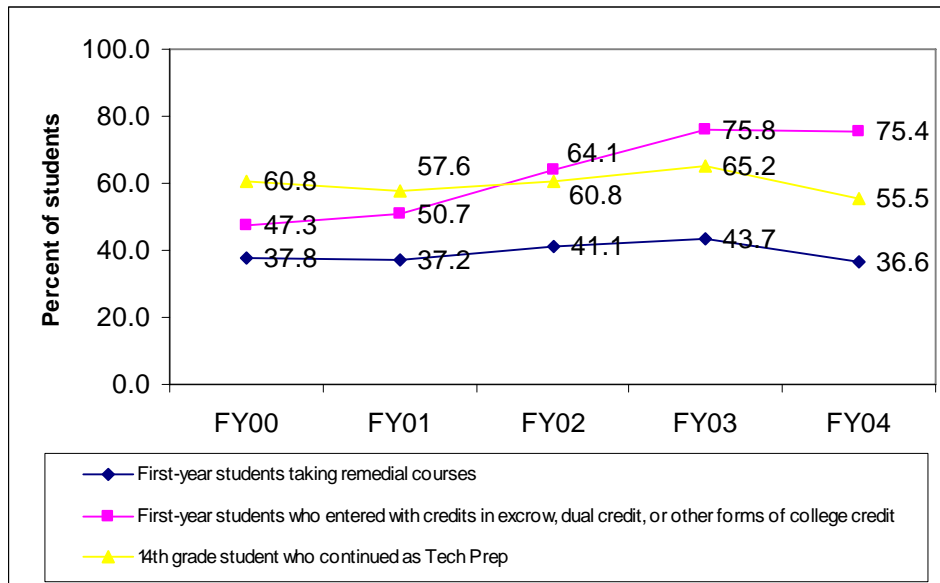


Figure 6. Consortium mean percentage estimate of Tech Prep students in postsecondary programs between FY00 and FY04.

COLLEGE CREDITS IN HIGH SCHOOL

Referring again to Figure 6, the mean percentage estimate of local consortia having Tech Prep students with credits in escrow, dual credit, or other college credit options increased dramatically from 47% in FY00 to 75% in FY04. The median also revealed a large increase, from 25 in FY01 to 51 in FY04, suggesting the incidence of dual credit is widespread throughout the state. These results confirm growth in participation of high school students in Tech Prep-related, college level courses receiving articulated or dual credits; this finding is consistent with results of other reports on dual credit for the state of Illinois [see, for example, Barnett, Gardner, and Bragg (2004) and Makela (2005)].

⁵ These results need to be interpreted cautiously because they reflect consortium directors' *estimates* of first year postsecondary students taking remedial courses. The estimated percentages presented in this section differ from previous trend reports due to recalculations omitting data that appeared inaccurate compared to previous years.

⁶ The mean percentage estimates in this section differ from previous trend reports due to recalculations omitting what appear to be erroneous data.

Figure 6 also shows that between FY00 and FY04 the percentage of students who continued a Tech Prep program of study from the 13th to the 14th grade remained stable. Retention percentages ranged from 57.6 in FY01 to 65.2 in FY03 but dropped in FY04 to 55.5, which is similar to the percentage in FY03. The average percentage for the five years shows about 60% of Tech Prep 13th grade students continued to the 14th grade in Tech Prep programs of study. This percentage estimate is slightly lower than the 13th to 14th grade retention rate reported by Adelman (2005) for a large, national representative cohort of community college students in the U.S. Specifically, Adelman found of the group of students under 21 who enrolled first at a community college, 74% were retained in the 14th grade, and 0.4% earned certificates after the 13th grade. Adelman also reported that, "There is no difference between the transfer and occupational degree groups in the rate of attainment of associate degrees from community colleges" (2005, p. 96). Results of Adelman's study show a slightly higher though fairly similar rate of retention as the Tech Prep students in this evaluation.

ARTICULATED PROGRAM AND COURSE SEQUENCES

Consortium directors provided totals and percentages of Tech Prep programs offered within each consortium. For this calculation, directors were asked to count each articulated course sequence as a Tech Prep program. Results show the total, mean, and median number of Tech Prep programs dropped slightly between FY03 and FY04. In FY04, 37 consortia reported offering 779 articulated secondary-to-postsecondary Tech Prep programs (with course sequences), with a mean of 21.1 and a median of 17 programs per consortium, compared to a total of 827 programs in FY03, with a mean of 21 and a median of 20. More consortia were included in this calculation than were in total program numbers in Figure 2 because the data on articulated programs (course sequences) seemed to be of higher quality.

WORK-BASED LEARNING (WBL)

Thirty-six consortia provided information regarding WBL programs offered in conjunction with postsecondary programs in FY04. A total of 571 Tech Prep programs of study included WBL opportunities; an average of 16 programs was offered per consortium. This represents a decrease in WBL opportunities from 691 offered in FY03.

STAFF INVOLVEMENT

Consortium leaders were asked to provide information on Tech Prep sponsored professional development activities offered by the consortium. The six categories of professional development activities were:

- One time conference, workshop, or inservice
- Series of related inservices or workshop
- On-going team/committee meetings
- Employer-sponsored site visits, workshops or internships
- Formal graduate study
- Other

For each type of activity, coordinators were asked to indicate the number of persons participating from each of the following categories: administrator, faculty, counselor, and business/industry representative. Respondents were also asked to indicate the number of persons attending from the secondary and postsecondary levels according to the six categories. Figure 7 shows the median number of high school and college faculty and administrators per consortium for the 6-year period of FY99 to FY04. One group, high school faculty, consistently accounts for the highest levels of attendance. A dramatic increase of median attendance from 108 on FY99 to the peak attendance of 206 in FY01 was followed by slight decreases in FY02 and FY03 before increasing to 182 in FY04. The other three groups (high school administrators, college administrators, and college faculty) showed modest involvement over the 6-year period for which data were collected.

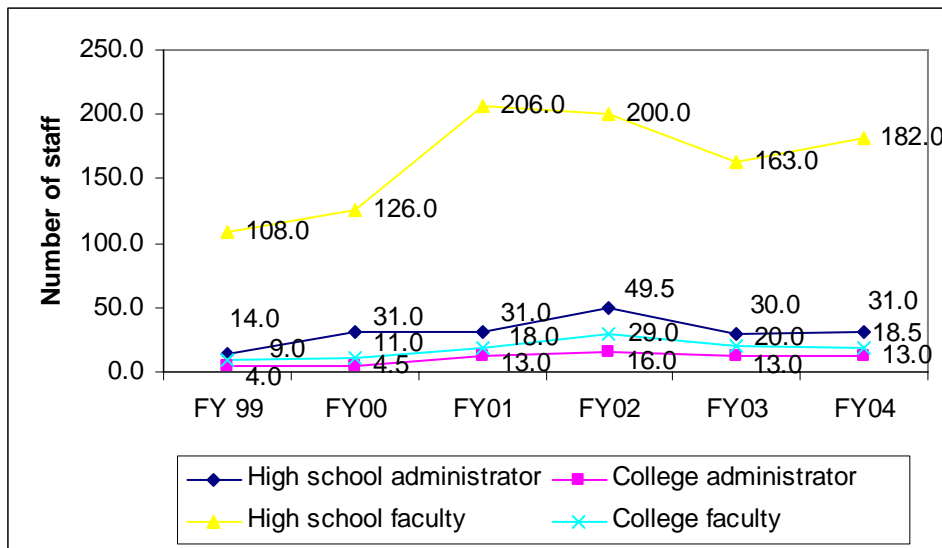


Figure 7. Consortium median attendance in professional development activities by job type.

Figure 8 shows the consortium percentage of total attendance in professional development by secondary, postsecondary, and business personnel from FY99 to FY04. High school personnel attendance accounted for three-fourths of total attendance in FY04, and this level of involvement was consistent over the six years.

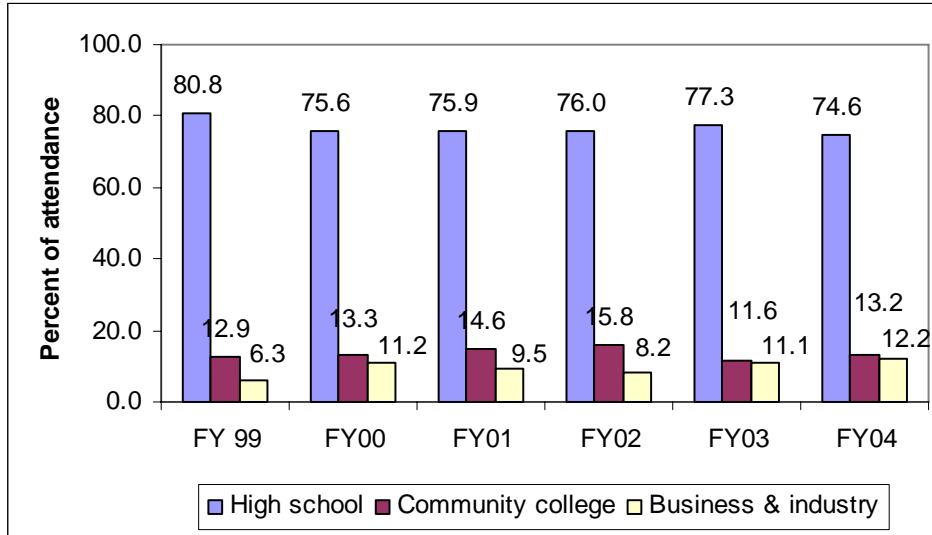


Figure 8. Consortium percentage of total attendance in professional development activities by institution type.

The *Final Tech Prep Report* form requires that consortium directors report the number of business/labor/community representatives taking part in professional development activities. Involvement of this group increased from an average of 41.5 (FY02) to 54.4 (FY03), and a median of 12 (FY02) to 24 (FY03) per consortium. These numbers remained relatively stable between FY03 and FY04, with an average of 56 and a median of 28 per consortium in FY04. Among 33 consortia reporting this information in both FY03 and FY04, 22 reported increases and 11 reported decreases, indicating an overall increase in business/labor/community representatives' participation in professional development in the six years data were collected.

STAFF INVOLVEMENT BY TYPE OF PROFESSIONAL DEVELOPMENT

Local consortia reported the number of staff who attended different types of professional development, including a one-time conference, workshop, or inservice activity; a series of related inservice events or workshops; on-going, interdisciplinary team/committee meetings; employer-sponsored site visits; formal graduate study; and other professional development activities. Between FY01 and FY03, the two most attended types of activities were the one-time conference, workshop or inservice, and on-going team/committee meetings (see Figure 9). In FY03, an increase over the previous years was observed in employer-sponsored site visits, workshops or internships, and other professional development activities. However, in FY04, involvement in all types of professional development activities decreased, except for attendance at a one-time conference, workshop, or inservice, which showed an increase to a median of 101 staff members attending this activity category per consortium.

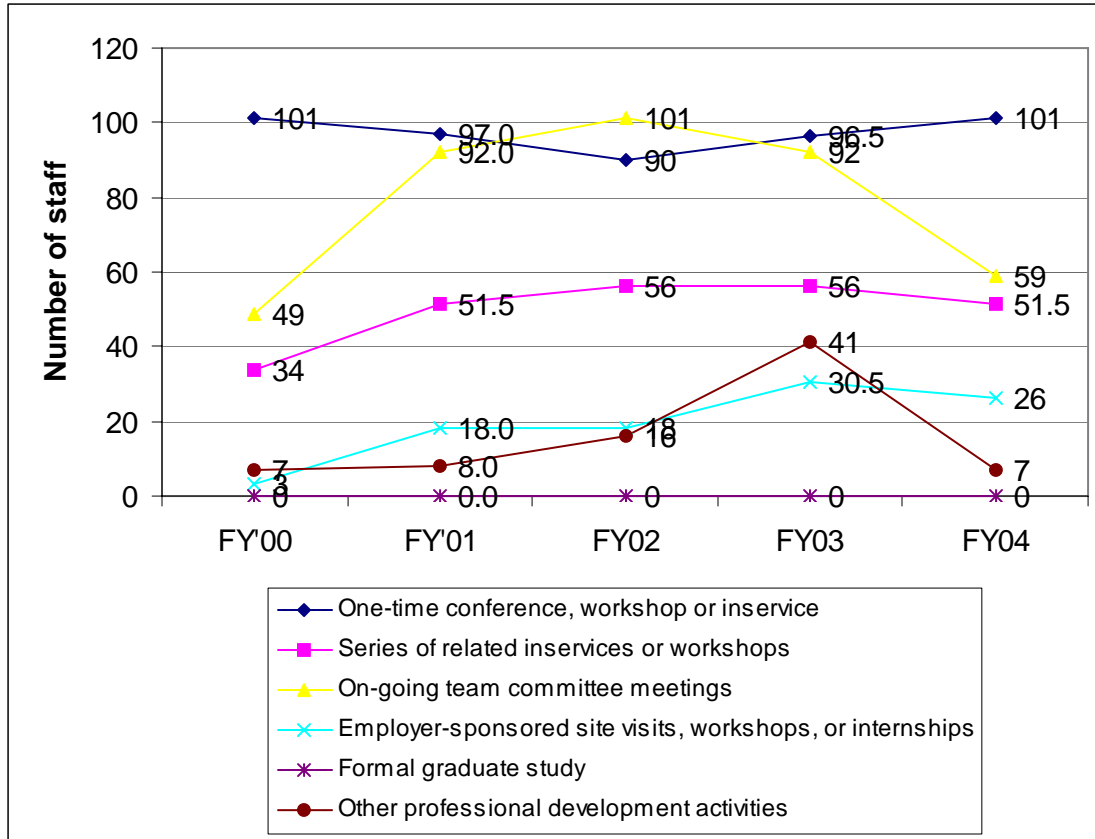


Figure 9. Median number of staff involved in professional activity by type from FY00 to FY04.

It is noteworthy that, in FY04, 25% of local consortia reported no staff involved in “employer-sponsored site visits, workshops, or internships associated with Tech Prep other than AIP & VIP,” and about 40% indicated no staff involvement in “other professional development activities associated with Tech Prep.” Over the five years, the one-time conference, workshop, or inservice has been a primary way of delivering professional development, with this approach emerging as the overwhelming choice of Illinois consortia in FY04.

CURRICULUM REFORM

Beginning in FY99, consortium directors were asked to indicate the focus of curriculum reform efforts that occurred in secondary schools and postsecondary institutions in their region by indicating “yes” or “no” to eight categories. In FY00 and thereafter, consortia were asked to provide estimates of the number of secondary and postsecondary schools involved in various types of curriculum reform. In all categories of curriculum reform, secondary schools were reported to demonstrate more involvement with the reform than were their postsecondary counterparts.

At the secondary level, results show several curriculum reform efforts increased over the 6-year period between FY99 and FY04, including:

- adding applied curriculum to the existing curriculum,
- replacing parts of the existing curriculum with applied academics courses,
- providing interdisciplinary courses combining vocational-technical content and academic content,
- organizing academic and vocational-technical courses around occupational/career clusters, and

- providing “academies” combining courses from vocational-technical areas and math, science, communication, and other academic areas.

At the postsecondary level, results show no increases in curriculum reform activity, but show decreases in activity of six of the eight curriculum reforms, including:

- supplementing existing vocational-technical courses with academic content,
- supplementing existing academic courses with vocational-technical content,
- adding applied curriculum to the existing curriculum,
- coordinating academic and vocational-technical courses by sequencing and reinforcing related content,
- providing interdisciplinary courses combining vocational-technical content and academic content, and organizing academic and vocational-technical courses around occupational/career clusters.

Figures 10 through 17 show the percentage of consortia reporting curriculum reform efforts at the secondary and postsecondary levels in eight different categories. Each figure addresses one of the following reforms.

- Supplementing existing vocational-technical courses with academic content
- Supplementing existing academic courses with vocational content
- Adding applied curriculum to the existing curriculum'
- Replacing parts of existing curriculum with applied academic courses
- Coordinating academic and vocational-technical courses by sequencing and reinforcing related content
- Providing interdisciplinary courses combining vocational-technical and academic content
- Organizing academic and vocational/technical courses around occupational/career clusters
- Providing “career academies” combining courses from vocational-technical areas and academic areas

Figure 10 shows the percentage of consortia that supplement existing vocational technical courses with academic content. Both the secondary and postsecondary levels demonstrated growth in this reform activity in the first three years data were collected (FY99 through FY01), followed by a slight decrease in FY02. By FY04 all consortia reported secondary schools were supplementing existing vocational education with academic content (100%), but postsecondary involvement in this reform had dropped to 90%.

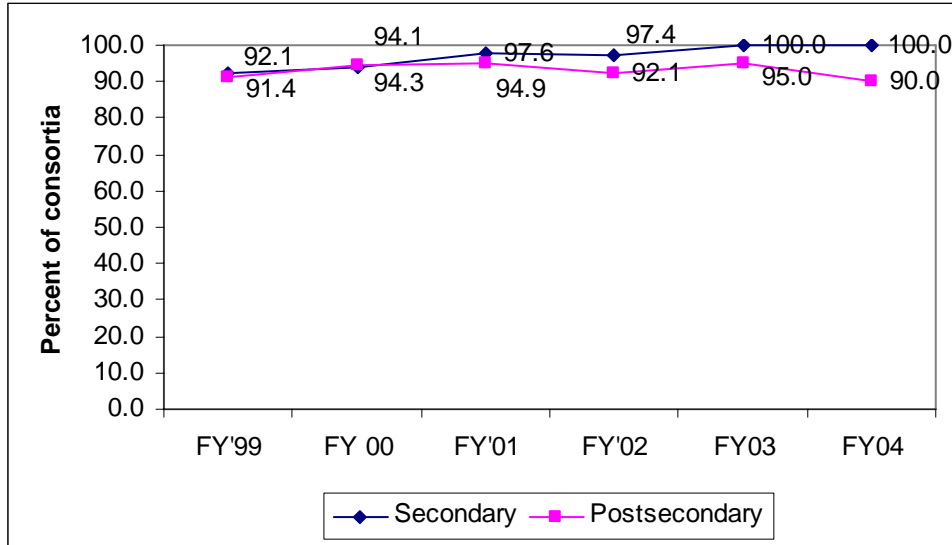


Figure 10. Percentage of consortia supplementing existing vocational technical courses with academic content.

Figure 11 shows the percentage of consortia that supplement existing academic courses with vocational technical content. Both secondary and postsecondary levels demonstrated an increase between FY99 and FY01 in this curriculum reform activity, followed by a relatively stable pattern between FY01 and FY04. Overall, secondary schools show more involvement in this reform than do postsecondary schools, with nearly 93% of secondary schools and nearly 78% of postsecondary schools involved in FY04.

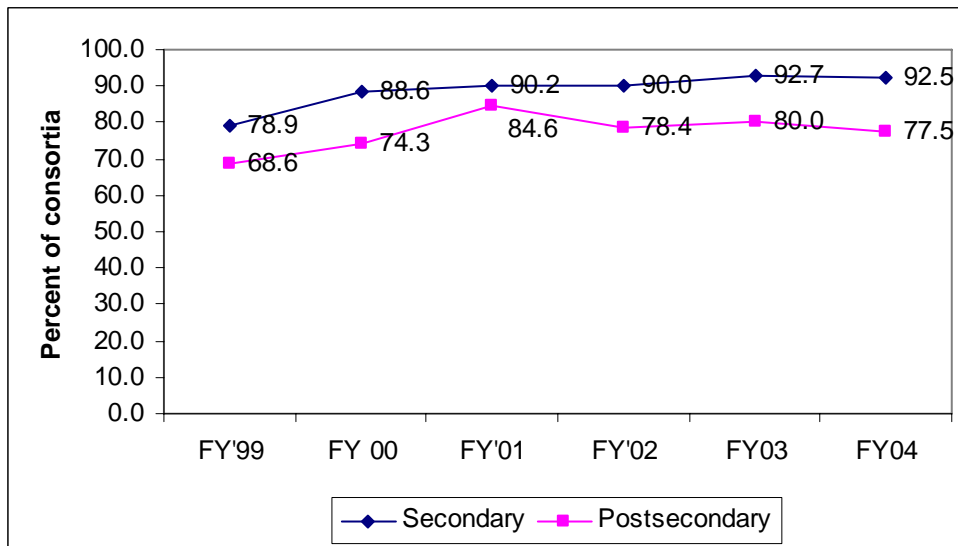


Figure 11. Percentage of consortia supplementing existing academic courses with vocational-technical content.

Figure 12 indicates the percentage of consortia that added applied curriculum to the existing curriculum. Both secondary and postsecondary levels reported a small decrease in this reform activity from FY99 to FY00, followed by fairly stable implementation from FY01 through FY04. In FY04 almost 98% of secondary schools and nearly 83% of postsecondary schools reported adding applied curriculum.

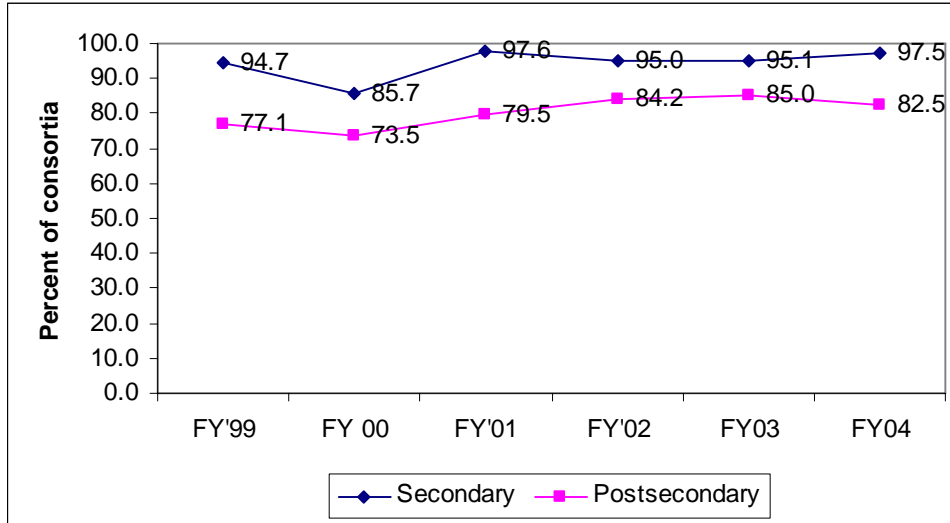


Figure 12. Percentage of consortia adding applied curriculum to the existing curriculum.

Figure 13 indicates the percentage of consortia that replace parts of the existing curriculum with applied academic courses. At the secondary level, there was substantial increase in this reform between FY03 and FY04, resulting in 90% of secondary schools involved. At the postsecondary level, consortia reported no change from FY03 but an overall increase from FY99.

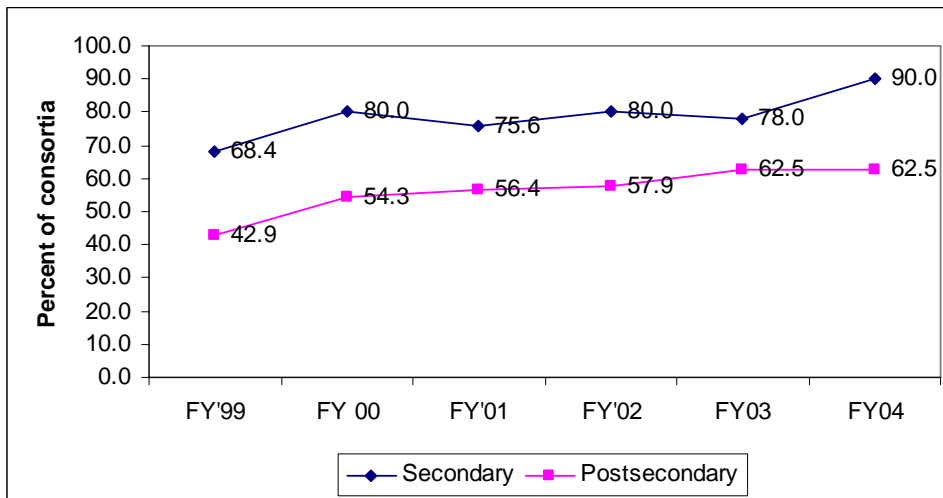


Figure 13. Percentage of consortia replacing parts of the existing curriculum with applied academic courses.

Figure 14 indicates the percentage of consortia that coordinate academic and vocational-technical courses by sequencing and reinforcing related content. The pattern at the secondary level demonstrates early, steady increase then stability between FY02 and FY04, ending with nearly 88% involvement in FY04. The trend at the postsecondary level demonstrates a dramatic increase from FY99 to FY00, a steady increase to FY03, followed by a decrease to nearly 58% in FY04.

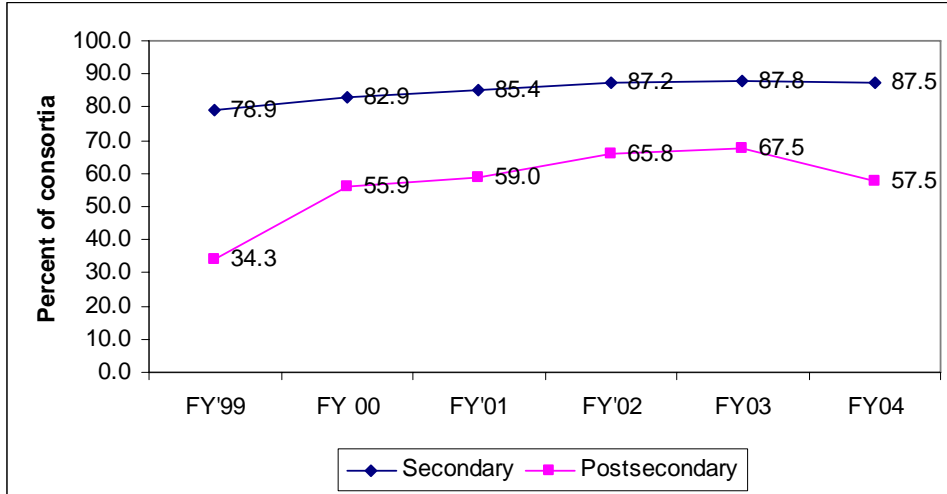


Figure 14. Percentage of consortia coordinating academic and vocational-technical courses by sequencing and reinforcing related content.

Figure 15 indicates the percentage of consortia that provide interdisciplinary courses combining vocational-technical content and academic content. The trend at the secondary level demonstrated steady growth from FY99 to FY01 before dropping slightly in FY02 and FY03, followed by another increase to 90% in FY04. The postsecondary trend shows a different pattern; there was a dramatic increase from 34% in FY99 to 60% in FY00, followed by gradual increases until FY03 when the activity peaked at 75% before falling to almost 68% in FY04.

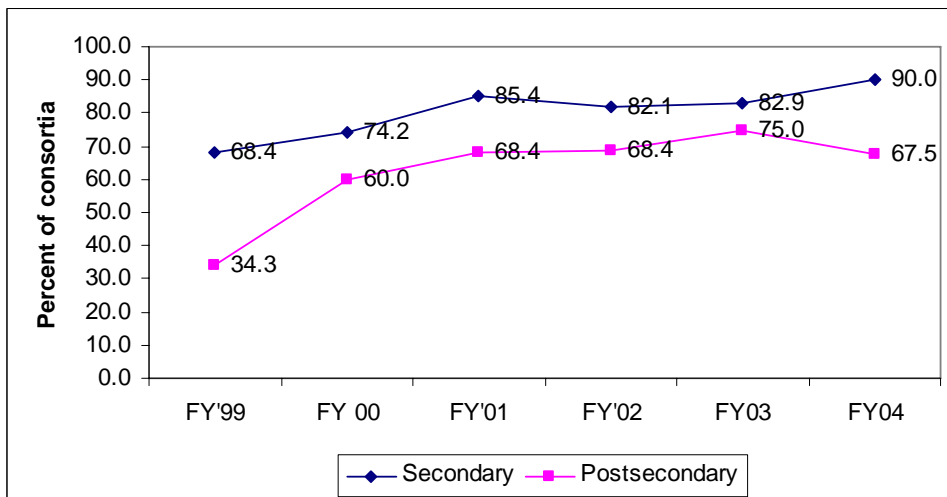


Figure 15. Percentage of consortia providing interdisciplinary courses combining vocational-technical content and academic content.

Figure 16 indicates the percentage of consortia that organize academic and vocational-technical courses around occupational/career clusters. The pattern at the secondary level shows a consistent trend from 84% in FY99 to 88% in FY03, ending at nearly 93% in FY04. The postsecondary pattern demonstrates a mostly consistent upward trend until FY03, followed by a decrease to 80% in FY04.

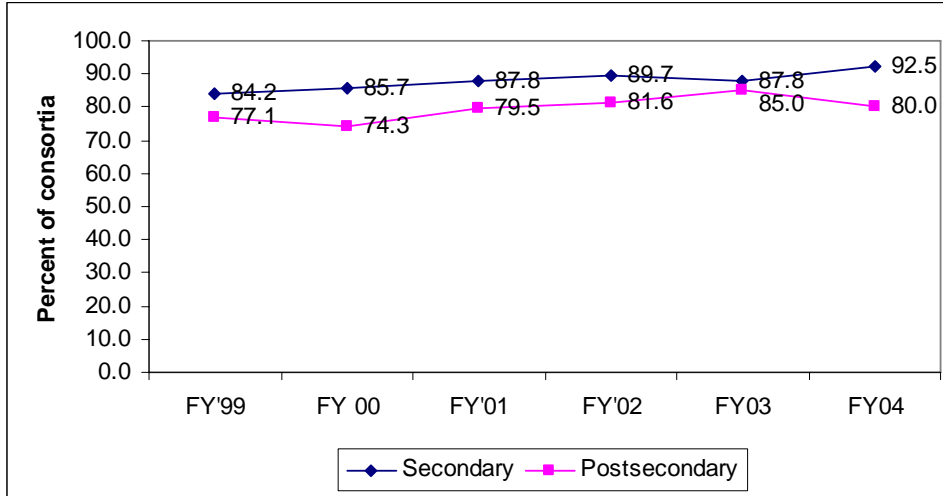


Figure 16. Percentage of consortia organizing academic and vocational-technical courses around occupational/career clusters.

Figure 17 indicates the percentage of consortia that provide "academies" combining courses from vocational-technical areas with math, science, communication, and other academic areas. This activity increased at the secondary level from 61.5% in FY02 to 75% in FY04. The activity was less common at the postsecondary level and remained consistent, around 40%, at the postsecondary level during the same period.

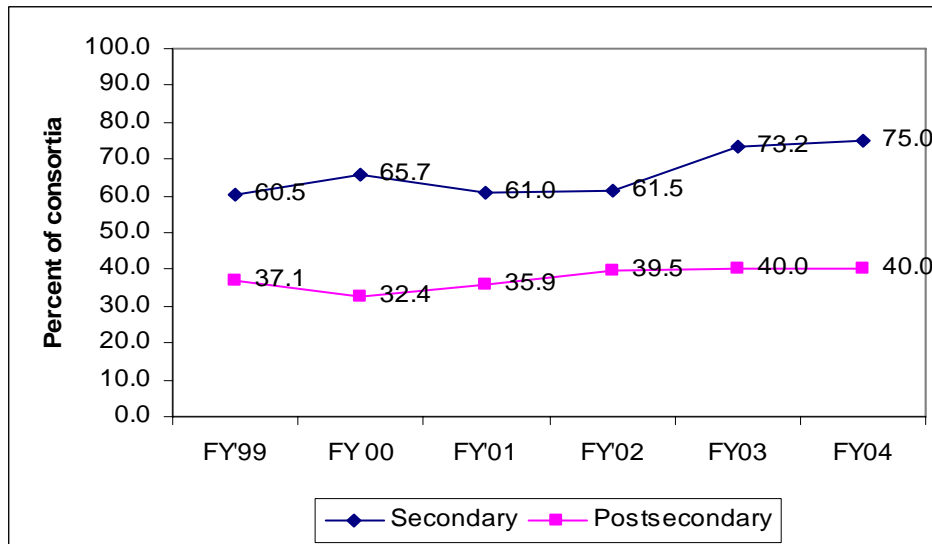


Figure 17. Percentage of consortia providing "academies" combining courses from vocational-technical areas and math, science, communication, and other academic areas.

BUSINESS PARTNER INVOLVEMENT

Each consortium was asked to provide a conservative estimate of the number of business and organized labor partners (also referred to as employers) involved in Tech Prep activities for FY04. The type of involvement included participating in curriculum development/revision, offering WBL opportunities for students, and providing placements for teachers and counselors to receive professional development opportunities. Two questions were new on the FY04 Final Report form, so no comparison to previous years can be made with respect to them.

Figure 18 shows the consortium median for two types of business involvement. In FY04, results showed an increase in the median number of business partners involved in curriculum development/revision, from 54 in FY03 to 57 in FY04. Between FY03 and FY04, there was a decrease in the median number of organized labor partner activities from a median of 6 to 4 per consortium, similar to FY99-FY01 levels.

The total number of business partners providing WBL opportunities for students was 10,522, with a median number of 123 per consortium. Finally, consortia reported that 580 business partners provided professional development placements for teachers and counselors, with a median number of 8 per consortium.

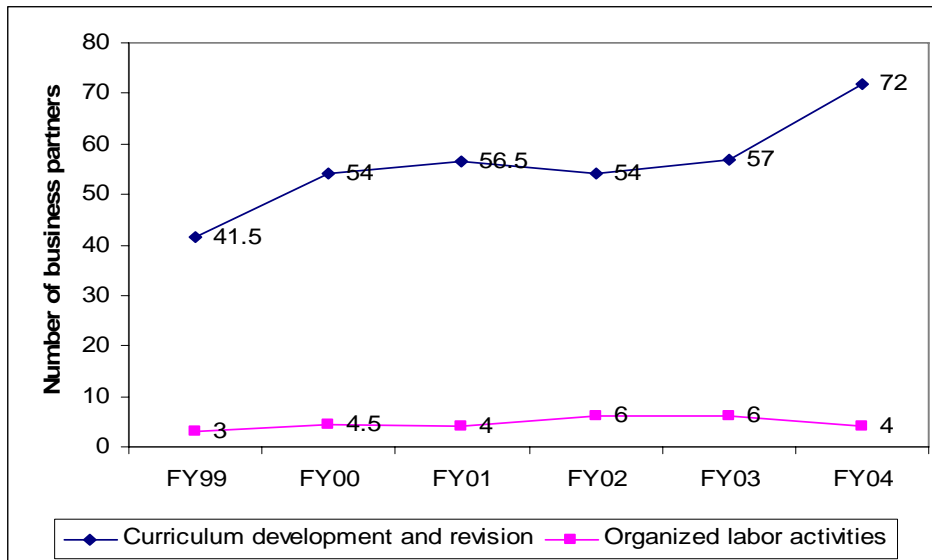


Figure 18. Consortium median number of business partners involved in Tech Prep activities ($n=3930$ for curriculum development and revision and 566 for consortia organized labor activities)

BARRIERS TO TECH PREP IMPLEMENTATION

Local consortium directors were asked to indicate the level of impact of 20 barriers on implementation of Tech Prep using a scale of 1 (none) to 6 (very major). The percentages displayed in Table 2 represent the number of consortia that identified each barrier as major or very major from FY01 to FY04. Barriers 21-27 were not included on the FY04 report form, and barriers 3, 10, and 11 were added in FY04 to represent challenges that may have emerged recently, based on evaluative data collected during site visits to local consortia in the past year or two.

In FY04, six barriers were identified by at least 20% of consortium directors as having major or very major impact on implementation efforts. They include:

- Lack of consistency in identifying Tech Prep students (26%)
- Lack of qualified certified instructors to fill technical teaching jobs in high schools (25%)
- Stereotype about Tech Prep as appropriate for less academically and socially proficient students (24%).
- Lack of financial resources for Tech Prep (23%)
- Little time designated for joint planning by academic and vocational or secondary and postsecondary faculty (21%)
- Lack of substitute teachers to fill in for regular teachers during professional development activities (21%).

Note: The last two barriers listed above decreased in impact in FY04 from previous years.

Just as important to note are barriers whose impact decreased significantly over the four years data were collected. They are:

- Lack of evaluation mechanisms to inform implementation (from 15% in FY01 to 6% in FY04).
- Too much paperwork associated with the administration of Tech Prep (from 41% to 5%).
- Lack of commitment to Tech Prep except for selected teachers and administrators (from 12% to 5%).

Table 2
Total Percentage of Consortia Identifying Barriers as “Major” or “Very Major” from FY01 to FY04

	Barriers	FY01	FY02	FY03	FY04
1	Lack of consistency in identifying Tech Prep students (<i>n</i> =38/41/41/40)	22%	17%	12%	26%
2	Lack of qualified certified instructors to fill technical teaching jobs in high schools (38/41/41/40)	17%	17%	17%	25%
3	Stereotype about Tech Prep as appropriate for less academically and socially proficient students (39)	--	--	--	24%
4	Lack of financial resources for Tech Prep (38/41/41/40)	24%	22%	20%	23%
5	Little time designated for joint planning by academic and vocational or secondary and postsecondary faculty (38/41/41/40)	46%	39%	32%	21%
6	Lack of substitute teachers to fill in for regular teachers during professional development activities (38/41/41/39)	41%	29%	29%	21%
7	Lack of parental support for Tech Prep (38/41/41/40)	22%	15%	20%	18%
8	Lack of acceptance that Tech Prep programs are rigorous academic programs (38/41/41/40)	20%	17%	17%	18%
9	Unclear definitions associated with Tech Prep (38/41/41/40)	17%	10%	10%	18%
10	Lack of understanding of the Tech Prep concept by local educators (40)	--	--	--	18%
11	Lack of passion from personnel other than Tech Prep team members (40)	--	--	--	15%
12	Failure of four-year colleges and universities to accept articulated credits, applied academics or other Tech Prep courses (38/41/40/40)	15%	12%	18%	13%
13	Lack of time dedicated to implement Tech Prep (38/41/41/40)	12%	17%	12%	13%
14	Lack of interest in Tech Prep among some high schools in the region (38/41/41/40)	12%	10%	10%	13%
15	Frequent turnover of high school and/or community college personnel associated with Tech Prep (38/41/41/40)	12%	12%	12%	11%
16	Lack of authority of local personnel to make changes needed to implement Tech Prep (38/41/41/40)	17%	12%	10%	10%
17	Difficulties incorporating curriculum changes into existing programs (38/41/41/40)	20%	17%	10%	8%
18	Lack of evaluation mechanisms to inform implementation (38/40/41/39)	15%	17%	15%	6%
19	Too much paperwork associated with the administration of Tech Prep (38/41/41/40)	41%	29%	29%	5%
20	Lack of commitment to Tech Prep except for selected teachers and administrators (38/41/41/40)	12%	10%	5%	5%
21	Lack of commitment from community colleges to create articulation agreements (38/41/41)	5%	5%	7%	--
22	Reluctance of business and industry to create work-based learning opportunities for students under 18 (38/41/41)	5%	7%	7%	--
23	Conflict, overlap or gaps between Tech Prep and Education-To-Careers (ETC) (38/41/40)	12%	2%	5%	--
24	Poor access to business/industry worksites for work-based learning (38/41/41)	5%	0%	5%	--
25	Lack of local leadership support for Tech Prep (37/41/41)	5%	5%	2%	--
26	Lack of participation by business and industry representatives on committees (38/40/41)	3%	2%	2%	--
27	Too few students to fill work-based learning slots offered by local businesses (38/41/41)	2%	0%	0%	--

Note. Barriers listed above are in descending order according to the total percentage of “major” and “very major” ratings in FY04.

The numbers following each barrier show the sample sizes of consortia reporting barriers between FY01 and FY04. In FY04, 3 items were added, and 7 were dropped because of consistently low ratings in FY01–FY03.

MAJOR ACCOMPLISHMENTS

Each year, consortia were given the opportunity to share what they believed were their major accomplishments. Consortium directors report a plethora of accomplishments to show for their Tech Prep efforts. Results of this category are difficult to quantify as some directors report all activities as “accomplishments” and others summarize all activities and only submit a few deemed special. Major accomplishments identified by consortium directors most often fell under the categories of

- professional development
- curriculum development
- articulation
- work-based learning
- marketing
- partnerships with business and industry and the community
- student career development

Again in FY04, professional development was the most often cited category of major accomplishment; activities included training for high school teachers and attendance at state meetings such as Connections and the Forum for Excellence. Consortium directors also cited accomplishments in the categories of curriculum development and articulation. Tech Prep faculty and leaders continued to redesign educational materials to include integrated academics, an integral ingredient of Tech Prep education. In addition, faculty updated technology and incorporated occupational skill standards, state academic standards, and career education materials into their curricula. There was growth in the development of articulated program sequences from secondary to postsecondary institutions; this growth was possibly related to the growing phenomenon of dual credit, often mentioned as an accomplishment in FY04. Also mentioned was increased website development and efforts to translate marketing and other Tech Prep materials to reach non-English-speaking audiences and increased collaboration between secondary and postsecondary institutions to improve methods to track students enrolled in Tech Prep programs of study.

TECHNICAL ASSISTANCE NEEDS

The *Tech Prep Final Report form* asked consortia to “please identify any technical assistance needs you feel would improve the effectiveness of your Tech Prep program.” Again, some directors reported many needs while others reported none. Three needs cited most frequently were:

- Help with identifying and tracking Tech Prep students. Specifically, consortia expressed a need for a statewide identification and tracking system. Related to this, consortia staff wanted the ICCB to provide clearer definitions related to Tech Prep students, which would ease tracking as well as provide training for consortium personnel on proper identification and tracking practices.
- Assistance with development of better marketing plans, activities, materials, and supplies to inspire state universities, policymakers, and high school and community college staff members, as well as ignite student and parent interest.
- More opportunities to learn from peers. Several consortium directors stated they would like to see the state identify “best practices” and distribute information about “model” Tech Prep programs via workshops or electronically.

Finally, in response to this question regarding technical assistance needs, consortium directors identified one additional issue not necessarily categorized as a technical assistance need but one they felt influenced implementation of Tech Prep and that could have important implications for technical assistance in the future. In FY04, a number of directors described the impact of the No Child Left Behind (NCLB) legislation on their Tech Prep efforts. Further, they reported that because of NCLB’s focus on math, English, and writing, Tech Prep programming was not viewed by some school administrators and teachers as a means of increasing test scores and preparing students for college. They explained that students were taking more core courses and had less time to take electives; thus, Tech Prep programming was not receiving the proper attention to facilitate its implementation and recruit students.

REFERENCES AND RELATED OCCRL REPORTS

- Adelman, C. (2005). Moving into town – and moving on: The community college in the lives of traditional-age students. Washington, DC. U.S. Department of Education. Executive summary available at www.ed.gov/rschstat/research/pubs/comcollege/index.htm.
- Andrews, H., & Barnett, E. (2002, Summer). Dual credit/enrollment in Illinois: A status report in *OCCRL In Brief*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Barnett, E. (2002). *Tech Prep in Illinois: Onsite review and improvement process, 2001-2002 cycle*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Barnett, E., Gardner, D., & Bragg, D. (2004). Dual credit in Illinois: Making it work. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Barnett, E. (Ed.). (2002). *[Issue on Tech Prep and its effective implementation]. Update on Research and Leadership (14)1*. Champaign, IL: Office of Community College Research and Leadership.
- Barnett, E. (Ed.). (2001). *[Issue on dual credit/enrollment]. Update on Research and Leadership (13)1*. Champaign, IL: Office of Community College Research and Leadership.
- Barnett, E. (2001, Fall). *Tech Prep in Illinois: Changing the face of education*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Bragg, D., Deng, C-P., & Kim, J-H. (2003). *The status of Tech Prep consortia In Illinois: Summary results for the FY '02 final Tech Prep reports*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Bragg, D., Deng, C-P., & Kim, J-H. (2002). *The status of Tech Prep consortia in Illinois: Summary results for the FY '02 final Tech Prep reports*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Hood, L., Bragg, D., & Barnett, E. (2002). *The status of Illinois' Tech Prep consortia: Summary results for the FY '00 final Tech Prep reports*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Kim, J., Bragg, D., & Barnett, E. (2001). *Illinois' Tech Prep on-site review and improvement process for 2000-2001: Cross-consortium results and implications for practice*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Makela, J. P. (2005, August). *Current practices and policies on dual credit admissions in Illinois' 4-year colleges and universities*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- University of Illinois Tech Prep Online Courses. On Website at <http://ocrl.ed.uiuc.edu/TechPrep/default.asp>.