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Assessment of Kalamazoo County's Education for Employment (EFE) Programs Using 2001 Survey Data

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by

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1. EFE Programs and Study Methodology

The Kalamazoo Regional Educational Service Agency (K/RESA), which is the intermediate school district for Kalamazoo County, administers a career and technical education consortium titled Education for Employment (EFE). The consortium members include all nine local school districts in Kalamazoo County, the intermediate school district, and Kalamazoo Valley Community College (KVCC). EFE offers programs and activities to students across a wide range of grade levels, and it supports professional development activities for teachers. For students, the consortium presents a career introductory program to districts' first graders using puppets; a career exploration day for all 8th graders in the county; job shadowing experiences for 10th graders; a variety of career and technical education programs for high school students; and services for community college students (through the Tech Prep program). Examples of its professional development activities for teachers are "Why Math?" and "Why English?", which are inservice programs in which secondary school math and English teachers visit local businesses to observe and learn how their subjects are used in the workplace. The largest share of EFE's mission, however, is the career and technical education (CTE) coursework for high school students, and those activities are the subject of this study. Note that most cte course offerings are fully articulated with KVCC and with Davenport College, a local private postsecondary institution, allowing students to obtain transferable college credits while taking secondary course offerings.

Career and Technical Education Programs

EFE programs may be classified as either (1) classroom-based or (2) work-based. But this simple dichotomy does not do justice to the wide variety of offerings. The classroom-based programs are offered at three different types of sites—high schools, postsecondary institutions

(WMU and KVCC), and work sites. Classroom-based programs are offered in 30 occupational areas—agri-science; allied health; auto body; automotive technology; business services and technology; commercial design; computer technology; construction trades; cosmetology and nail technician; dental assisting; drafting technology; early childhood education; electro-mechanical technology; emergency medical technician; entertainment industry technician; graphic arts/printing technology; heating and air conditioning; hotel, restaurant, and travel management; law enforcement; machine tool technology; manufacturing cluster; marketing; network administration; opticianry; photography; radio broadcasting; teacher education; television broadcasting; veterinary science; and welding.

Of these 30 occupational areas, 16 are offered in at least one of the 11 high schools in the county, and students from any of the high schools may enroll in them.[1] The extent of commutation between high schools varies widely across these 16 programs. Two of the programs—business services technology and marketing—account for almost 85 percent of the enrollment in the 16 programs (2,156 students out of 2,545).[2] They have enough students to be offered at most of the county high schools,[3] and because of their wide availability, only a handful of students come from other high schools. The other 14 programs with classes offered in high schools have a total enrollment of 691, of which 56 percent are students from the high school offering the course and 54 percent commute from other high schools.

Of the 30 occupational areas, six are taught in postsecondary institutions—one at WMU, four at KVCC campuses, and one at two different proprietary cosmetology institutions. Total high school

[1]A few students from parochial high schools and high schools outside the intermediate school district attend programs as well.

[2]All of the enrollment statistics in this section of the report pertain to Fall 2000, and come from the document "Kalamazoo County Education for Employment Fall Count 2000–2001," November 6, 2000.

[3]BST was offered at all 11 high schools in Fall 2000 and marketing was offered at 8.

student enrollment in these six programs in Fall 2000 was 221. About half of those were in the teacher education program offered at KVCC campuses.

A particularly innovative type of instructional environment that EFE offers is referred to here as **worksite classroom programs**. These are eight occupational areas where the formal class work is conducted at worksite settings. In each of these occupational areas, local businesses, nonprofit organizations, or government agencies have provided classroom space and have worked with EFE on developing curriculum and on-the-job experiences. These programs include a two-year allied health program offered at a local hospital; a two-year hotel, restaurant, and travel management program offered at a hotel; a two-year law enforcement program offered at a community probation facility; a one-year network administrator program at a software applications firm; a one-year opticianry program at an optical manufacturer; an entertainment industry technician program at a community auditorium facility; a one-year television production and broadcasting program at a community cable access center; and a one-year veterinarian science program at a veterinarian office; and a cosmetology program that is offered at three different local beauty academies. In all cases, these innovative programs extend beyond classroom instruction to actual experiential learning.

As with other EFE course offerings, these programs are open to and attended by students from all 11 high schools in the consortium. For most of the programs, the facilities are able to accommodate all the students who are interested in enrolling. In one or two, however, space and instructor availability constrain the programs, so that "slots" are allocated across districts. A total of 275 students were enrolled in these programs in Fall 2000; that is, left their home high schools each day to take classes at worksites. All together, EFE had 3,345 students enrolled in classroom offerings in Fall 2000; 2,545 at high schools, 221 at postsecondary institutions, and 275 at worksite settings.

Supplementing classroom-based programs (which may include work-based learning experiences) are work-based opportunities. EFE classifies these in three types. The first type of work-based opportunity is called **co-operative learning**, or **co-op**. These are paid work experiences in students' occupational areas of interest. In all cases, students are enrolled in a school-based program simultaneously with the co-op experience, which is meant to enhance the school-based program. In Fall 2000, about 210 students, who happened to come from 10 of the county's 11 high schools, were engaged in co-op experiences in marketing, office, or trade and industrial programs. The intent of these experiences is to supplement and contextualize the school-based program by providing actual employment in the occupational cluster that is being taught.

The second type of job placement is called **business/industry worksite training**. This program provides students with experiences that are similar to the co-ops just described. They may be paid or unpaid positions that are offered to students interested either in (1) occupational areas that do not have sufficient student interest to fill a (school-based program) class or (2) occupational areas that are not traditionally taught at the high school level. In Fall 2000, two students were enrolled in business/industry work site training. The enrollment documentation does not provide specific fields for these two students, but in past years, EFE has placed students in paralegal, aviation, and a few other occupational areas where there was not enough enrollment to fill a class.

EFE staff are usually quite proactive in establishing content guidelines for the employer/supervisors of students in business/industry worksite training. The EFE staff members who develop these positions collaborate with employers to determine objectives, content, and assessment standards. The co-op experiences supplement existing courses, so the objectives and content have been developed. The business/industry worksite training positions are offered precisely because there are no related courses, so the objectives and content need to be developed.

The final type of work-based program that EFE has operated in past years is **apprenticeships**. Individuals with apprenticeships are working for pay outside of school just as the co-op students are. However, in this case, the employers have agreed to provide the students with the experience and postsecondary education requirements of a formal U.S. Department of Labor-approved apprenticeship leading to journeyperson status. In Fall 2000, EFE had two students in formal apprenticeships. Typically, the consortium will have a small number (always less than 10) students in such apprenticeships.

Study and Methodology

In Spring 2001, EFE contracted with the Upjohn Institute to conduct data collection activities that provided information from two key stakeholder groups: students enrolled in EFE programs as of the second semester of the 1999-2000 school year and high school graduates who had participated in EFE programs. The latter were surveyed approximately one year after graduation.

The intent of the data collection efforts conducted through this study was to obtain a statistically valid, broad "snapshot" of students rather than an in depth analysis of a few individuals.[4] Consequently, surveys were designed and conducted rather than focus groups or personal interviews.

The first survey was administered in April/May 2001 to all students in EFE classroom-based or job placement programs. The survey collected data about the students' high school experiences, the information that they used to decide to enroll in the EFE class or program, their experiences in and opinions about the class/program, their knowledge and use of transferable college credits, and their career and postsecondary plans. There were approximately 2,500 students enrolled at the time of the survey, and 1,881 usable responses were received (a response rate of about 75 percent).

[4]Hollenbeck (1996; 2000) provides an in depth examination of EFE students' perspectives.

Loss in response came from classes or job placement situations where the instructor or coordinator was unable to administer the survey because they could not afford to or would not use instructional time. Perhaps half of the nonresponse came from these situations, i.e., no responses were received from that particular class offering. Other reasons for nonresponse included student absences on the day that the survey was administered, student refusal to respond, or unusable responses.

The second survey was a telephone follow-up of students who had completed their EFE class during the second semester of 1999–2000. For the most part, they were individuals who had graduated from high school at the end of the 1999–2000 school year and who had been enrolled in an EFE class or program at the end of that year. The State of Michigan mandates and regulates this survey because funding decisions for career and technical education in the State are partially determined by its data. The main purpose of the survey is to measure postsecondary and employment outcomes. As in prior years, EFE chose to add a few questions to the State's survey that were aimed at gauging satisfaction with the EFE classes/programs.

The response rate for the survey was quite satisfactory. The number of respondents exceeded the samples that resulted from the previous follow-up survey. The universe for the sample was 1,205 (this is the number of unique student names that was supplied to EFE by the state data information system VEDS). However, 436 of the students could not be reached because of incorrect telephone numbers, disconnected telephone numbers, or missing telephone numbers in VEDS. Furthermore, there was not enough identifying information to find current telephone numbers for the students. Of the remaining 769 students, interviews were completed with 555 students. This represents a response rate of approximately 72 percent. There were 79 refusals or terminations (about 11 percent), and the remaining 135 nonrespondents were simply not reached within ten calls.

2. EFE Students

This section of the report presents characteristics about the students currently enrolled in EFE programs. Data were collected about the students' high school experiences, factors that influenced enrollment into EFE classes, opinions about EFE programs, experiences with work-site programs, knowledge of and planned use of transferable college credits, postsecondary and career plans, and current employment. For most of these data, the information has been disaggregated in order to examine differences between males and females, whites and nonwhites, and whether or not the students were in a work-based program. The sample percentages for these characteristics are as follows: about 51 percent males and 49 percent females, about 80 percent whites and 20 percent nonwhites, and about 21 percent in a work-based program and 79 percent not participating in such an experience. (These percentages compare closely to last year's sample that had 52 percent males, 82 percent whites, and 21 percent in a work-based program experience.) The appendix to this chapter has time series graphs for a number of the statistics presented in this report. Figures 2.A.1–2.A.3 show the trends in gender, race, and work-based program participation.

High School Experiences

Table 2.1 provides summary data about the students' overall experiences in high school. Note that all of the data were self-reported, and about 75 percent of the students responded to the survey. About 29 percent of the survey respondents were freshmen or sophomores; about 34 percent were juniors; and the remaining 38 percent were seniors. This percentage distribution is approximately the same for males and females. Whites and students with work-based experiences have a larger percentage of juniors and seniors and a lower percentage of freshman compared to their

Table 2.1
High School Experiences and Characteristics of EFE Students

Characteristics	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Class standing:							
Freshman	11.0%	10.4%	7.6%	22.7%	1.3%*	12.7%*	11.0%
Sophomore	16.1	19.3	16.8	19.5	4.2*	21.3*	17.6
Junior	38.0*	28.6*	36.2*	23.9*	23.1*	37.1*	33.6
Senior	34.9*	41.7*	39.4	33.8	71.4*	28.9*	37.8
Homework (avg. hours)	2.2*	3.0*	2.5*	2.9*	2.4	2.7	2.6
High school grade (gpa)	2.94*	3.16*	3.10*	2.90*	3.07	3.05	3.03 (B)
High school activities (avg. no. of)	2.4*	2.9*	2.7	2.7	2.3*	2.8*	2.7
Tardies (avg. no. of)	6.6	6.2	6.0*	7.6*	6.4	6.4	6.5
Absences (avg. no. of)	5.4	5.5	5.2*	6.0*	6.1*	5.2*	5.4
Total percentage	51.1%	48.9	79.7%	20.3	21.5%	78.5	100.0%

Note: Sample size is 1,881.
*Difference from other population group is statistically significant at the .05 level.

counterparts. The overall percentage of EFE students who were freshmen or sophomores is larger than last year, when it was 22 percent. Figure 2.A.4 shows the growth in the enrollment of students in grades 9 and 10. As might be expected, the percentage of students who were participating in work-based experiences who were freshmen or sophomores was significantly smaller than their overall share of students. About 5 percent of the students with work-based experiences were in 9th or 10th grade.

Respondents averaged about 2.6 hours of (self-reported) homework per week. Females averaged almost an hour more per week than males (3.0 to 2.2), which was statistically significant. Nonwhites also reported that they averaged more homework than whites, and this difference—2.9 to 2.5—was statistically significant. The students were asked about how many extracurricular activities they engaged in. On average, the students indicated that they were involved in 2.7 activities. Females reported being engaged in more activities than males (2.9 to 2.4), and students

without a work-based experience reported more activities than those with a work-based experiences (2.8 to 2.3). The average (self-reported) grade point average in the sample was 3.03 (B). Among the groups, females and whites reported a higher average than males and nonwhites, respectively. These averages were much higher than previous years' averages, particularly for minorities and for males. Figure 2.A.5 displays the trends in grade point average for EFE students, by race and sex.

The last items in the table are average number of unexcused absences and tardiness during the school year. The overall averages for the entire sample were 6.5 tardies and 5.4 days of absence. The average number of tardies declined slightly from last year (6.6 to 6.5), but the average number of unexcused absences "blipped" up (5.2 to 5.4). (Assuming there were about 180 days of instruction, the average number of unexcused absences works out to about 3 percent.) Females had less tardiness than males (6.2 instances, on average, as compared to 6.6), and whites had less tardiness than nonwhites (6.0 versus 7.6). Nonwhites had more absences than whites, and students in work-based programs had more absences than students not in such programs.

This year's average level of tardiness (6.5) shows a downward trend compared to last year (6.6) but it is still above the low of 6.3 in 1998. The (self-reported) instances of tardiness had decreased from 7.8 to 6.9 to 6.3 between 1996 to 1998, but it went back up to 6.8 in 1999 and has slowly decreased since then. On the other hand, the mean level of absences seems to be trending downward, although it increased slightly this year. The average level of absences had dropped from 7.1 to 6.7 to 6.4 to 6.1 to 5.2 between 1996 and 2000. (See figure 2.A.6.)

Table 2.2
Sources of Information and Individuals Who Assisted in Decisionmaking About EFE Class

Source/Individual	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Information Source Used/Most Important							
Guidance counselor advice	0.56*/0.27*	0.64*/0.35*	0.60/0.31	0.60/0.33	0.63/0.32	0.59/0.30	0.60/0.30
Poster	0.04/0.00*	0.04/0.01*	0.04/0.01	0.05/0.01	0.04/0.01	0.04/0.01	0.04/0.01
Academic subject teacher	0.22/0.08	0.25/0.09	0.25/0.09	0.22/0.08	0.30*/0.07	0.22*0.09	0.24/0.08
Technical ed. teacher	0.11/0.02	0.11/0.02	0.10*/0.02	0.14*/0.02	0.10/0.02	0.11/0.02	0.11/0.02
Brochure	0.35*/0.15	0.47*/0.16	0.40*/0.16	0.46*/0.16	0.32*/0.08*	0.44*/0.18*	0.40/0.16
High school handbook	0.17*/0.05*	0.27*/0.11*	0.23/0.08	0.20/0.08	0.34*/0.13*	0.19*/0.07*	0.22/0.08
Friends/acquaintances	0.43*/0.22	0.49*/0.24	0.48*0.26*	0.40*0.17*	0.47/0.24	0.46/0.23	0.45/0.23
Brother/sister - family	0.11*/0.05*	0.15*/0.08*	0.13/0.07	0.12/0.04	0.10/0.07	0.13/0.07	0.12/0.06
EFE staff presentation	0.05*/0.02*	0.09*/0.05*	0.07/0.04*	0.06/0.01*	0.09/0.04	0.06/0.03	0.07/0.03
Employer	0.04/0.01	0.02/0.01	0.03/0.01*	0.04/0.03*	0.02/0.01	0.03/0.02	0.03/0.01
Other	0.05/0.02	0.05/0.02	0.05/0.02	0.06/0.03	0.06/0.02	0.05/0.02	0.05/0.02
Individual Who Assisted/Most Important							
Guidance counselor	0.52*/0.25*	0.63*/0.34*	0.57/0.29	0.60/0.31	0.58/0.30	0.58/0.30	0.58/0.29
Academic subject teacher	0.13/0.05	0.11/0.05	0.12/0.05	0.10/0.04	0.14/0.05	0.11/0.05	0.12/0.05
Technical ed. teacher	0.10*/0.03	0.13*/0.04	0.12/0.04	0.11/0.03	0.14/0.05	0.11/0.04	0.12/0.04
Other school administrator	0.02/0.01	0.02/0.01	0.02/0.01	0.02/0.01	0.02/0.01	0.02/0.01	0.02/0.01
Parent/guardian	0.32*/0.20*	0.44*/0.28*	0.38/0.24	0.37/0.23	0.42/0.25	0.37/0.23	0.37/0.23
Friends	0.40/0.23*	0.41/0.19*	0.42*/0.22*	0.33*/0.16*	0.43/0.22	0.39/0.20	0.39/0.20
Brother/sister - family	0.08*/0.04*	0.12*/0.07*	0.10/0.05	0.10/0.05	0.10/0.05	0.10/0.05	0.10/0.05
Employer	0.02*/0.01*	0.01*/0.00*	0.02/0.00	0.01/0.01	0.03*/0.01	0.01*/0.00	0.02/0.01

Notes: Table entries are the proportion of the sample who used the information source (top panel) or who got assistance from the individual (bottom panel) followed by the proportion of the sample who reported that the information source or individual was among the most important. Sample size is 1,881.
*Difference from other population group is statistically significant at the .05 level.

EFE Enrollment Decisionmaking

Students were asked about how they learned about the EFE class that they were enrolled in: sources of information and individuals. Table 2.2 presents summary data for these issues. The entries in the table are composed of two numbers. The first represents the proportion of the respondents who reported that they used each of the information sources or got assistance from particular individuals. The second number, after the slash, is the proportion of students who said that each source of information or individual was among the most important. For example the first entry in the table is 0.56*/0.27*. This means that 56 percent of the males reported that guidance counselor advice was a source of information about their EFE class, and that 27 percent of the males indicated

that guidance counselor advice was among the most important sources of information. (The asterisks indicate that the 56 percent and 27 percent for males are statistically significant differences from the 64 percent and 35 percent for females.)

The data show that about half of the students relied on guidance counselor advice, brochures, and friends or acquaintances as sources of information about the EFE classes. Around a quarter of the students relied on advice from an academic subject teacher and high school handbook, and about 10 percent of the students received information from a technical education teacher, a sibling, or EFE staff presentations. The most important sources closely aligned with overall reliance. Guidance counselor advice, friends, and brochures were the most important information sources. Note that posters and employers were reported to be a source of information by very few students.

A number of the differences in the proportions among the sex, race, and work-based experience groups were significant. Females reported more information sources than males, and in particular, a greater reliance on guidance counselors, brochures, and siblings. There were only a few differences between minorities and whites. The former reported a lower reliance on friends/ acquaintances and a greater reliance on brochures. Students who were in work-based programs tended to rely more heavily on academic subject teacher and their high school handbooks, but less on brochures than did other EFE students.

The bottom panel of the table reports data concerning which individuals were influential in the students' decisions to enroll in EFE. Guidance counselors were mentioned most often by respondents both as individuals who assisted and the most helpful individuals. Friends were next followed closely by parents/guardians. Among the groups, females reported that they tended to be assisted by guidance counselors, parents/guardians, friends, CTE teachers, and siblings more than did males. The only statistically significant difference between nonwhites and whites was a much

higher reliance on friends for whites. Students with work-based program experiences reported a higher reliance on employers than those without such experiences (but the fractions were very small.)

Last year's report noted that there had been a substantial decline in reliance on information from all sources relative to the preceding two years. The percentage of students who reported gaining information from each of the sources and the percentage of students for whom the source had been among the most important had gotten considerably smaller than comparable percentages from the 1996, 1997, and 1998 data. The data reported in table 2.2 are very similar to last year's data, i.e., they continue to be much smaller than the earlier years. This is consistent with the hypothesis that EFE classes have become familiar to students, and so the students are less reliant on external sources for information or decisionmaking.

Opinions About EFE Classes

The students were presented with a number of survey items to gauge their opinions about their EFE classes. Specifically, they were asked for their level of agreement or disagreement with several statements of opinion about different aspects of the course, they were asked to assign a letter grade (from A to F) to assess the course, and they were asked open-ended questions about the three best and three worst things about the class. Table 2.3 provides summary information about the statements of opinion and the letter grade. The top portion of the table presents the proportion of students who agreed or strongly agreed with various statements about their EFE class. (Note that some of the questions were worded negatively; in this case, the indicators represent the percentage

Table 2.3
EFE Class Satisfaction Indicators

Indicator	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Agree/strongly agree with "This course is one of the best. . ."	57	60	61*	52*	71*	56*	59
Disagree/strongly disagree with "This course is too hard. . ."	73*	80*	79*	70*	78	77	76
Agree/strongly agree with "I get along with other students and we work together. . ."	82	85	85*	79*	86	82	82
Agree/strongly agree with "The equipment and facilities meet the needs. . ."	74*	81*	78	74	75	78	77
Disagree/strongly disagree with "Not enough information. . ."	65	71	69	64	65	69	67
Agree/strongly agree with "This course treats everybody fairly. . ."	70	71	72*	65*	74	69	70
Agree/strongly agree with "I can get questions answered. . ."	70	70	72*	63*	73	69	69
Disagree/strongly disagree with "This course is disorganized."	65	70	67	67	68	68	67
Average grade for course quality (converted to 4.0 scale)	3.04*	3.24*	3.19*	2.96*	3.22	3.13	3.13

Notes: Table entries for the first eight rows are proportion of the sample who gave a favorable rating of 1 or 2 (or 4 or 5) on a 5-point Likert scale. Item nonresponses are not included in the denominator. However, response of "Neither agree or disagree" is included. Overall sample size is 1,881. Approximately 50 cases are missing for each item. Sample size for average letter grade is 1,788.
*Difference from other population group is statistically significant at the .05 level.

of respondents who disagreed or strongly disagreed.) The entries in the columns can be interpreted as indicators of student satisfaction.

Note that the levels of satisfaction are medium to high—all ranging between 59 and 82 for the total sample. The first opinion item asked students to agree or disagree with the statement that the EFE course "...is one of the best courses that I have had in high school." Approximately 59 percent of the students agreed, with the highest level of agreement from students who were in work-based program experiences. Over 70 percent of students in work-based programs agreed it was one of their best classes in high school. The next item asked for agreement or disagreement with the

statement, "This class is too hard." Here, around 76 percent of the students disagreed. A higher proportion of females disagreed than did males and a higher proportion of whites disagreed than nonwhites. It should be recognized that students would disagree with this statement if they felt that the class was too easy or if they felt that the pace and level were appropriate. Consequently, the indicator is somewhat difficult to interpret.

The third statement was, "I get along well with other students and we work together well in the class." Overall, more than 80 percent, about five out of six, of the students agreed with this statement. No follow-up questions to explore the students' reasons for answering the items one way or another were asked, so we can't explain differences with certainty. Whites seemed to have more positive comments than nonwhites. The next item was intended to measure student opinion about the equipment and facilities in the classrooms and worksites. The item was phrased, "The equipment and facilities meet the needs of the course." Overall, about three-quarters of the students agreed with this statement, but males were in less agreement.

The next survey item asked students whether they thought enough information about the course had been given to students and families. Overall, about two-thirds of the students were satisfied with virtually no differences across the groups. Next, the battery of opinion items asked about whether everyone was treated fairly in the course. Seventy percent of the respondents were satisfied, but the level of agreement was much lower for nonwhites. Students were asked for their agreement with the statement, "I can get questions answered easily in this class." The results were quite similar to the previous question; overall, just under 70 percent of all respondents in the sample were satisfied, but the level of agreement was again lower for nonwhites. The last indicator was disagreement with the statement that, "This course is disorganized." Around two-thirds of all of the population groups disagreed with the statement with almost no differences among population groups.

The average grade for course quality is given in the bottom row of the table. The sample average of 3.13 indicates that, all in all, students were quite satisfied with their classes. A significant differences in this average exists by sex and race, however. The grades assigned by males and by minorities were much lower than females and whites.

In general, the trends in the EFE class satisfaction indicators over the six-year period of data are rather flat. Most of the indicators shown in figure 2.A.7 change little over the time period, although two of the indicators have clearly trended downward—"one of the best" and "this class is too hard." Figure 2.A.8 shows the averages for course quality grades, by race and sex, which dropped fairly significantly this year.

Table 2.4
EFE Class Best and Worst Aspects

Aspect	Number of times mentioned	Percent
Best Aspects		
Equipment	179	4.5
Books/software	760	19.3
No homework/tests	61	1.5
Pace	314	8.0
Specific teacher	461	11.7
Work-based learning	188	4.8
Skills, experience	851	21.6
College usefulness	50	1.3
Hands-on	266	6.8
Other students	228	5.8
Other	579	14.7
Nothing	44	—
Total (except "Nothing")	3,937	100.0
Worst Aspects		
Equipment problems	119	4.9
Books/software	394	16.1
Too difficult	150	6.1
Too easy, boring	340	13.9
Too much work	458	18.7
Student:teacher ratio	53	2.2
Specific teacher/staff	342	14.0
Schedule problems	113	4.6
Class environment	53	2.2
Classmates	93	3.8
Other	317	13.0
Unfair	11	0.5
No worst comments	188	—
Total (except "No worst")	2,443	100.0

Notes: Columns may not add to 100.0 due to rounding.

Table 2.4 provides data about the students' responses to the open-ended questions about the best and worst aspects of their EFE classes. About 1,880 students responded to the survey, so the potential number of best aspects and worst aspects that could have been named was over 5,600. In fact, almost 4,000 positive aspects were named and about 2,450

worst aspects were named. This, in itself, is a good sign. Respondents could more easily name positive characteristics than negative ones. Among the best aspects, students were most appreciative of the skills they were learning and the "real world" experiences they were having. The next most often mentioned factor was books/software. A specific teacher/staff person was the third highest rated positive aspect.

On the other side of the ledger—i.e., worst things about the course—the item that was mentioned most often was that the course required too much work. Of the total number of responses to this question, this response was received almost 19 percent of the time. Just behind it in terms of percentage frequency was books/software. Finally, specific teacher and course was "too easy" were the next most often mentioned complaints.

Work-Based Program Experiences

Table 2.5 shows that just over one-fifth of the sample participated in work-based program experiences. The percentages were statistically identical for females and males (a difference from previous years when females comprised a larger share) and for whites than nonwhites. (See figure 2.A.9 for trends in participation rates by race and sex.) A little over half of the students who participated in a work-based experience received pay, and on average, the pay was $7.26 per hour. The proportion of males who were paid for their work-based experience is quite a bit higher than the proportion of females. Figure 2.A.10 shows the trend in the percentage of students in work-based program experiences who received pay, by race.

Table 2.5
Work-Based Program Experiences

Characteristic	Sex		Race		Total
	M	F	W	NW	
Participation (n = 1780)	21	22	22	19	21
If Participated:					
Paid? (n = 373)	63*	42*	52	52	54
Average wage (n = 188)	$ 7.69*	$ 6.79*	$ 7.46	$ 6.76	$ 7.26
Average hours (n = 321)	16.4*	14.0*	15.5	13.7	15.5
Strongly disagree/disagree with "Work is unrelated to course. . ." (n = 368)	63	66	64	66	64
Agree/strongly agree with "Mentors are supportive and answer questions. . ." (n = 361)	77	83	80	79	79

Note: Table entries are percentages except for wages and average hours.
*Difference from other population group is statistically significant at the .05 level.

The hourly pay differential of $0.90 per hour between males and females was significant ($7.69 for males and $6.79 for females). The work-based program experiences averaged about 15.5 hours per week. Males worked more than females (16 hours to 14 hours), but there was not a significant difference between racial groups. The work-based program experiences for this year were quite similar to last year. About the same proportion of students received pay and the hours per week were about the same. The actual hourly wage earned was higher this year by about 2.5 percent.

Students who were participating in work-based program experiences were asked two opinion questions to measure satisfaction with their experiences. The first item dealt with the extent to which the work experience was related to the content of the EFE class that the student was taking. About two-thirds of the students disagreed or strongly disagreed with the statement that the work experience was "...unrelated to their EFE class." This percentage is much higher than it was in the last year. The second item asked for agreement with the statement that "...workplace mentors are

supportive and willing to answer questions." About 80 percent of the sample agreed with this statement, with no differences between male and female and between whites and nonwhites.

Postsecondary and Career Plans

The next general topic is postsecondary and career plans. Table 2.6 presents summary data about postsecondary plans. A surprisingly high proportion of students reported that they planned to pursue an apprenticeship program after high school. About one-fifth of the entire sample reported this plan. Males were significantly more likely to indicate that they planned to pursue a formal apprenticeship than females. It is not clear why such a high percentage of students had this aspiration; apparently there is a misunderstanding about what apprenticeships mean and/or how readily accessible they are.

A large percentage of the students indicated that they were planning to attend a postsecondary institution (including community colleges and four-year colleges or universities). All

Table 2.6
Postsecondary Plans and Relevance of EFE Class

	Sex		Race		Work-based program		
Plan/Relevance	M	F	W	NW	Yes	No	Total
Apprenticeship program after school? (n = 1,678)	25*	15*	21	20	24	19	21
Postsecondary college, university (including community college) (n = 1,806)							
Yes, right away	74*	85*	81*	72*	83*	78*	79
Yes, after work	10	8	8*	13*	8	9	9
Don't know	9*	6*	7	8	7	7	7
No	7*	2*	4	6	2*	5*	5
Agree/strongly agree with "EFE class helped me to decide. . ."	41	40	41	37	52*	37*	40
Agree/strongly agree with "EFE class was helpful in choosing program. . ."	43*	50*	46	46	59*	42*	46

Note: Table entries are sample percentages of the overall sample, except for item nonresponse.
*Difference from other population group is statistically significant at the .05 level.

together, 86 percent of the sample indicated that they were planning to attend either right after high school or in the future after a few years of work. Females reported a much higher rate of planning to attend college right after high school—85 percent to 74 percent for males (this is a smaller differential compared to last year's student data). Figure 2.A.12 shows the trends in planned postsecondary attendance rates, by sex. However, this difference was offset somewhat by respondents who indicated that they intended to work first, and then go to a postsecondary program. About 10 percent of males indicated this plan as opposed to 8 percent of females. Still a greater percentage of females had postsecondary aspirations. About 16 percent of the males indicated that they did not plan to go on to postsecondary or that they did not know whether they would or not. Only 8 percent of females did not know or reported that they did not plan to go.

Whites were also more likely to be planning to go to college than nonwhites. Over 80 percent of white students indicated that they planned to attend college right after high school as opposed to 72 percent of nonwhites. Again, the differential was dampened somewhat when you take into account the students who indicated that they intended to go to college, but after working. Also a higher percentage of students who had participated in a work-based program experience planned on pursuing postsecondary education than students not in such a program.

The students' EFE experiences apparently had an impact on their postsecondary plans. Forty percent of students reported that they agreed or strongly agreed with the statement that "EFE classes helped me to decide whether or not to attend postsecondary schooling." While this seems like a modest impact, it should be noted that the majority of students reported that they were college bound prior to their enrollment in EFE classes. Work-based program experiences had an impact on students' postsecondary decisions also. Over half of the students participating in work-based

program experiences agreed that EFE classes helped them to decide whether or not to attend a postsecondary institution whereas only 37 percent of the remainder of students were influenced.

We also asked whether EFE classes had been influential in choosing a *particular* institution or postsecondary program. Just under half of the respondents indicated agreement with the statement that "EFE classes had been helpful in choosing a particular college or program." Females were more likely to agree than males, and students with work-based experiences were more likely to agree or strongly agree than their counterparts (59 percent to 42 percent).

The percentage of students who plan to go on to postsecondary schooling right after high school has trended upward. It was 74 in 1996; 73 in 1997 and 1998; 76 in 1999; 77 in 2000; and 79 in 2001. The percentage of students who plan to go on to postsecondary schooling after working for a while was 11 in 1996-1998; 10 in 1999; and 9 in 2000 and 2001. The extent to which EFE influences postsecondary plans was almost identical to last year's percentage.

Most of the items on the student survey have not changed since 1996; however, in 1998 we added a number of questions to determine the importance of and usage of transferable college credits earned while in EFE courses in high school. These items were repeated this year, and table 2.7 presents a summary of these data. Overall, exactly half of the respondents indicated that they believed that they could receive college credit for their high school EFE class. Twenty-one percent believed that they would not be able to receive college credit for this class, and the remaining 29 percent indicated that they did not know. This is very close to last year's data with those believing that they can receive credit having stayed virtually identical. Whites were more likely to have believed that they could receive college credit than nonwhites; students not in work-based programs and nonwhites had significantly higher "don't know" responses.

Table 2.7
Availability and Importance of Transferable College Credit

Characteristic	Sex		Race		Work-based programs		Total
	M	F	W	NW	Yes	No	
Can student receive postsecondary credit for this class? (n = 1,782)							
Yes	51	49	51*	44*	49	50	50
No	20	22	21	20	27*	20*	21
Don't Know	29	29	28*	36*	24*	31*	29
If yes:							
College credits earned for this class (average) (n = 556)	3.2	3.6	3.3*	4.0*	3.5	3.4	3.6
College credit was important in decision to take this class (n = 845)	39	43	40	45	46	40	41
Sources of information on college credit (n = 886)							
Guidance counselor advice	34	36	34	39	32	36	35
Poster	1	2	2	1	0	1	2
Academic subject teacher	54	58	57	53	57	56	55
Technical education teacher	11	9	10	12	10	10	10
Brochure	5*	9*	7	7	13*	6*	7
High school handbook	12	16	13	19	11	14	13
Friends/acquaintances	11	14	12	15	13	11	12
Brother/sister - family	4	5	4	4	3	4	4
EFE staff presentation	5	7	6	5	8	5	6
Employer	2	1	1*	4*	1	1	1
Other	6	5	5	5	7*	5*	5
Total college credits earned by end of this year (average) (n = 806)	3.3	2.9	3.1	3.2	3.9*	2.8*	3.1

Note: Table entries are sample percentages, except for average number of college credits.
* Difference from other population group is statistically significant at .05 level.

We asked the students who indicated that they knew they could earn college credits how many credits they thought they could earn for this course and whether the potential to earn college credit was an important factor in deciding to enroll in the program. A substantial share—just over 40 percent—reported that this factor had been important in their program enrollment decision in high school. This share did not vary substantially across student characteristics. Nonwhite students and students who had participated in work-based program experiences were more likely to indicate that the ability to earn college credits was a deciding factor for taking this course, but the differences are

not statistically significant. The students believed they would be able to earn about 3.6 college credits for this course.

The respondents were also asked to indicate sources of information about the ability to earn transferable college credits in their EFE course. Academic subject teachers were the predominant sources followed by guidance counselors. Friends/acquaintances and high school handbook were the next two most often mentioned sources.

Table 2.8 presents data on occupational/career aspirations of the students when they reach 30 years of age. The students are clearly aspiring to "white collar" positions. Around 60 percent of the sample aspire to the following occupations: manager/administrator, professional, technical, or school teacher. Females, particularly, have set their aspirations in these directions. Forty-seven

Table 2.8
Career Plans and Relevance of EFE Class

	Sex		Race		Work-based program		
Plan/Relevance	M	F	W	NW	Yes	No	Total
Occupational aspiration at age 30							
Clerical	0*	2*	1*	3*	2	1	1
Craftsperson	10*	1*	7*	2*	5	6	6
Farmer	2	1	1	1	2	1	1
Manager/administrator	7*	4*	5	4	6	5	5
Military	2*	1*	1	2	2	1	1
Operative	2*	0*	1	0	1	1	1
Professional	28*	47*	36	41	28*	40*	37
Proprietor/owner	5*	3*	4	5	5	4	4
Protective services	4*	1*	3	2	3	3	3
Sales	4	3	3	4	3	4	3
School teacher	3*	17*	10	7	16*	7*	9
Service	2*	5*	3	4	1	3	3
Technical	12*	6*	9	9	10	9	9
Not working	2	1	1	1	1	1	1
Relevance of EFE Class							
Agree/strongly agree with "EFE class helped me to decide on job at 30."	35	39	37	35	51*	33*	37

Note: Table entries are sample percentages. Sample size for occupational aspirations is 1,742. Sample size for relevance is 1,702. Columns may not add to 100 due to rounding.
*Difference from other population group is statistically significant at the .05 level.

percent of the females in the sample reported that they would like to be in a professional occupation when they reach 30 and another 17 percent wanted to be a school teacher. Less than 30 percent and 3 percent of males shared those aspirations. On the other hand, 10 percent of males aspired to be craftspersons, whereas only 1 percent of women reported this aspiration. Figure 2.A.13 shows the trends in the males' and females' aspirations to "white collar" and "blue collar" occupations.

As we did for postsecondary plans, we asked about the influence of EFE on the students' career aspirations. This indicator is displayed in the bottom row of table 2.8. The survey question asked the students to agree or disagree with the statement that the "My participation in this class or other EFE classes helped me to decide what job or career I would like to have when I'm 30." Overall, just under 40 percent of the students agreed or strongly agreed with this statement, that is, indicated that their EFE class had had a strong influence on their career choice. These data mirror closely the occupational aspirations of last year's sample of students. The differences by gender or race were not statistically significant. However, over half of the students in work-based programs strongly agreed with the statement.

Current Employment

The last topic covered by the survey is current employment experiences. As table 2.9 indicates, half of the students indicated that they were currently working for pay apart from any work-based experience that they are having through EFE. Whites and students in a work-based program were much more likely to be employed (outside of the work-based program) than nonwhites or students not in a work-based program. For those with jobs, the average hours of work per week was around 17, and the average hourly wage was $6.92. Males worked more hours per week than females—17.7 to 16.5—and they earned a higher hourly wage—$7.11 to $6.72. Students with

Table 2.9
Current Employment Characteristics

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Currently employed? (n = 1,720)	50	49	53*	37*	62*	47*	50
If yes:							
Average hours (n = 800)	17.7*	16.5*	17.0	17.0	19.4*	16.3*	17.1
Average pay (n = 772)	$ 7.11*	$ 6.72*	$ 6.94	$ 6.85	$ 7.28*	$ 6.78*	$ 6.92
Use training from EFE class? (n = 838)							
A lot	14	14	14	18	18*	12*	14
Some	26	26	25	25	26	26	26
Hardly any	22	24	24	20	20	24	23
Never	38	36	38	37	36	38	37

Note: Table entries for rows 1 and 4–7 are sample percentages.
*Difference from other population group is statistically significant at the .05 level.

work-based experiences worked more hours (19.4 to 16.3) and earned higher wages ($7.28 to $6.78) compared to their counterparts.

Since 1996, the percentage of students who were employed has declined, from 60 percent to 56 percent to 54 percent in both 1998 and 1999 to 53 percent in 2000 to 50 percent this year. (See Figure 2.A.14, which displays this trend and the trend by race and sex.) The average hours per week for employed students has also declined or stayed the same until this year—from 18.7 to 18.2 to 17.7 to 17.8 to 16.6 to 17.1. On the other hand, hourly wages have risen—from $5.35 to $6.92.

We asked the students whether or not they were using the training that they had received through their EFE course in their current job. Two-fifths (exactly 40 percent) of the students who were working indicated that the skills and training they had received in their EFE class were somewhat useful or useful "a lot" on their part-time jobs. The other students reported that they used "hardly any" of the EFE skills and training or none at all. Indeed, over one-third of the students indicated that they never use their EFE training. Males were more likely to report that they never used their EFE training in their current jobs.

Summary and Trends

The following points summarize the key findings from the survey of students:

- The average EFE student has a (self-reported) 3.03 (B) grade point average (GPA), participates in 2.7 extracurricular activities per year, and does about 2.6 hours of homework per week. The average GPAs of students have increased significantly over previous year's data.

  There continues to be a substantial increase in Freshman enrollment in EFE. There was a substantial increase in the percentage of minority students, but virtually no change in the percentage of students who participated in a work-based experience.

- The sources of information that students relied upon and the individuals who assisted in decisionmaking about EFE classes showed only a slight shift compared to previous years. The most important sources of information were guidance counselor advice, friends/acquaintances, and brochures. The individuals who were mentioned most often as assisting the students were guidance counselors, parents/guardians, and friends.

- Indicators of student satisfaction with EFE classes were moderately high. They decreased slightly from last year on all aspects except equipment, however. Once again this year we see a gap between whites and nonwhites in a number of the satisfaction indicators and in overall quality ratings. Similarly, males seemed to be less satisfied than females.

- The percentage of students who participated in work-based programs stayed the same as last year. There continues to be a downward trend in the percentage of students who participate in work-based programs who get paid, but for those who do get paid, the wage rates were higher. The hours per week for these activities decreased from over 16 hours per week on average to about 15.5.

  There was a rebound relative to last year in the percentage of students who participate in work-based programs who agreed that there was a connection to their course work in EFE, and there continued to be a high level of agreement that workplace mentors are "supportive and answer questions."

- The percentage of students who plan to attend a postsecondary institution either right after high school, or after working for a few years, increased to its highest level in the six years of surveys—88 percent. About 80 percent of students planned to enter a postsecondary institution right away after high school, whereas about 10 percent plan to attend more schooling after working for a few years. The planned rate of attendance is higher for females. EFE influences the decision to attend a postsecondary institution and the decision about which institution to attend for over 40 percent of the students.

- Exactly half of the students indicated that they could receive direct or transferable college credit for their EFE class. The other half of the students was about split in half between not

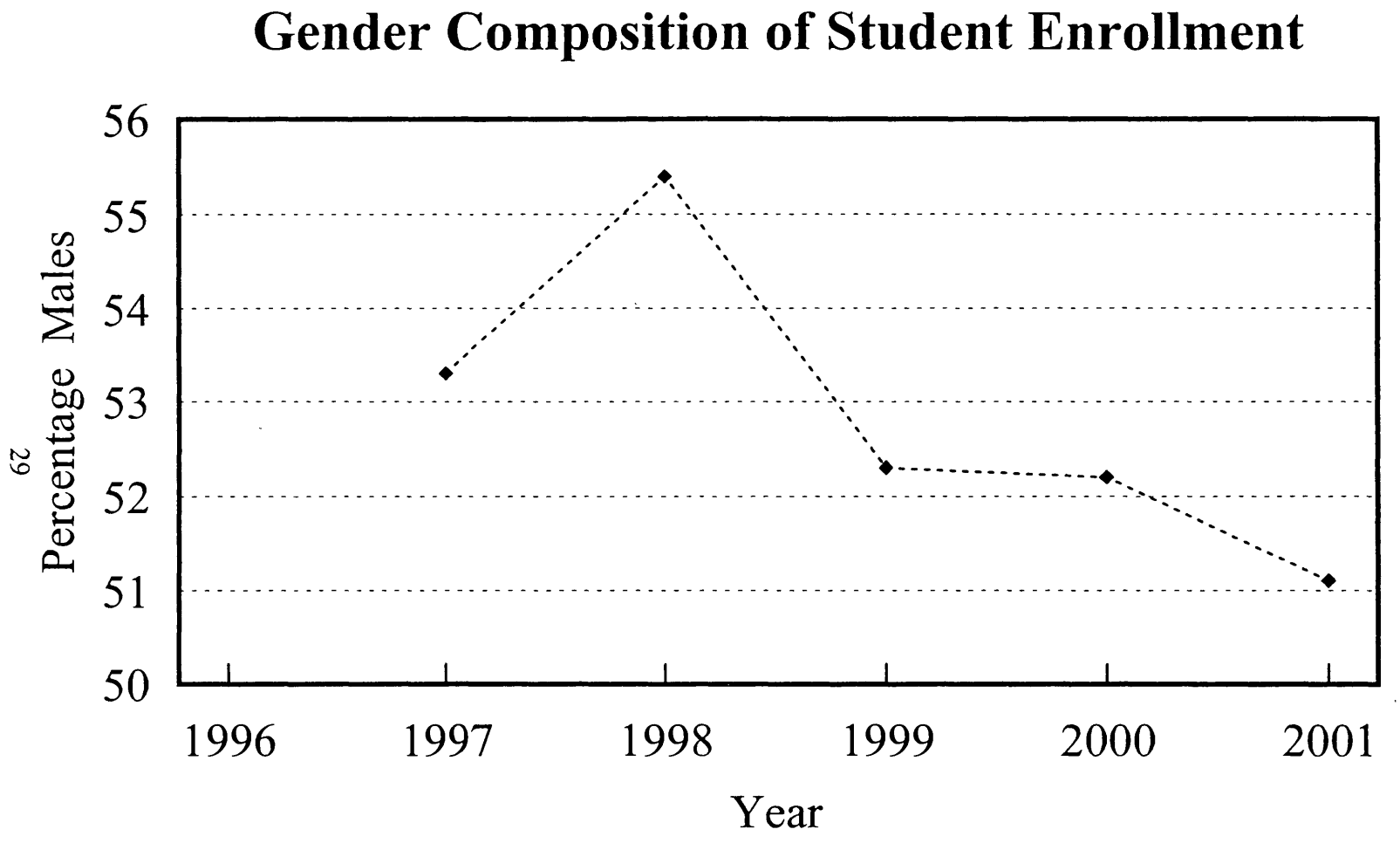
knowing and believing that they could not get credit. Among the students who believed that they would be eligible for college credit, about 40 percent indicated that such potential credit was an important reason for enrolling in the EFE class. On average, the students thought they could earn 3.6 college credits for the class that they were in.

- Compared to last year, we see a more skewed distribution for occupational aspirations. About 60 percent of the students (much higher for females) planned to be in a white collar occupation when they reached age 30. There is an upward change in the percentage of students who aspire to be in "white collar" occupations, and a downward change in the percentage of students who aspire to be in "blue collar" occupations. About 40 percent of the students indicated that EFE influenced their career choices.

- Current employment, other than in work-based programs affiliated with EFE, has gone down over time. Note, this may be caused by increased enrollment of 9th and 10th grades. Average hourly wages have increased. Among the students who work, 40 percent indicated that they use their EFE training in their part-time jobs and about 37 percent reported that they "never" used their EFE training in their current job.

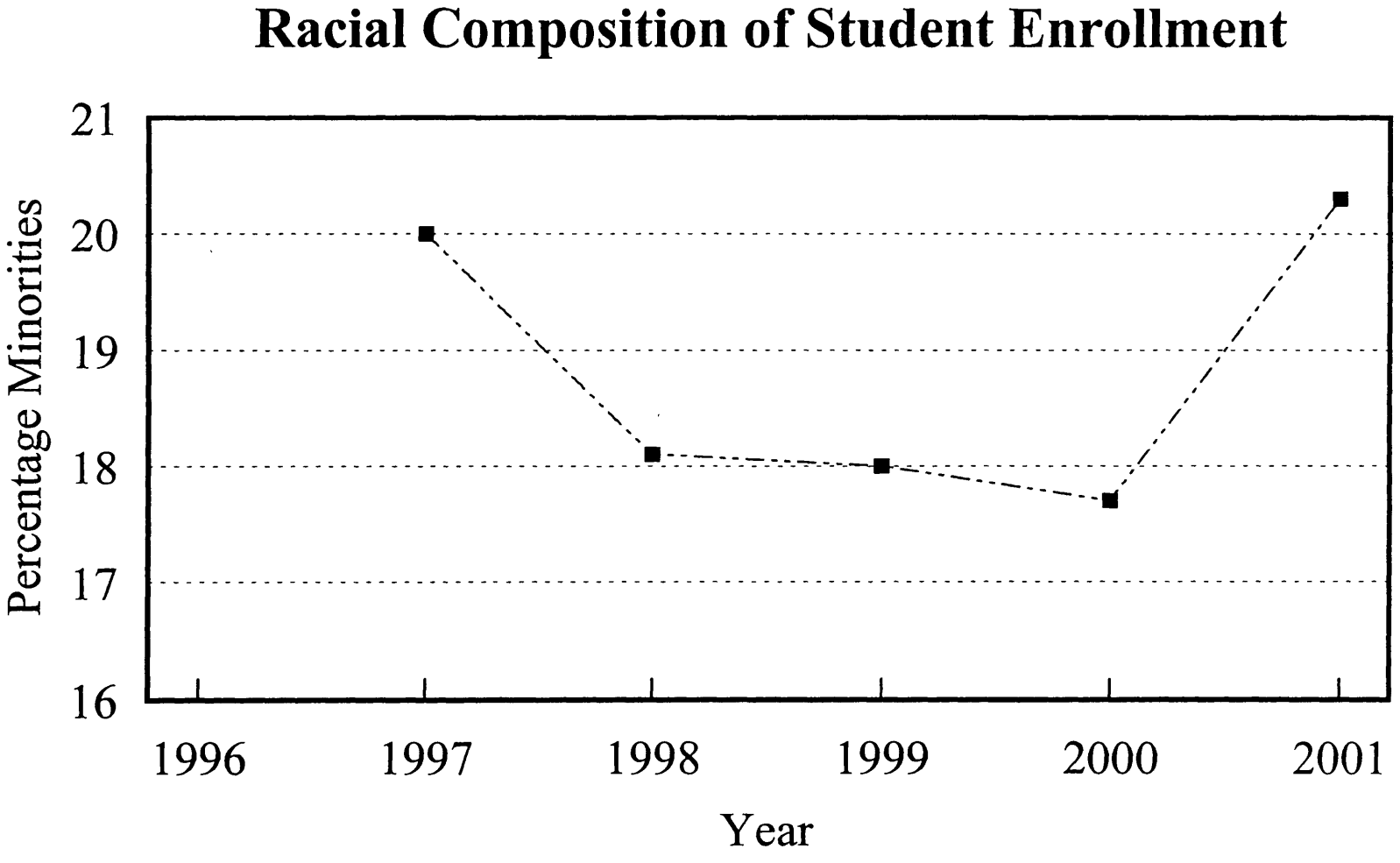
Appendix: Time Series Graphs of Characteristics and Experiences of Current Students

Figure 2.A.1



Note: Data not available for 1996

Figure 2.A.2



Note: Data not available for 1996

Figure 2.A.3

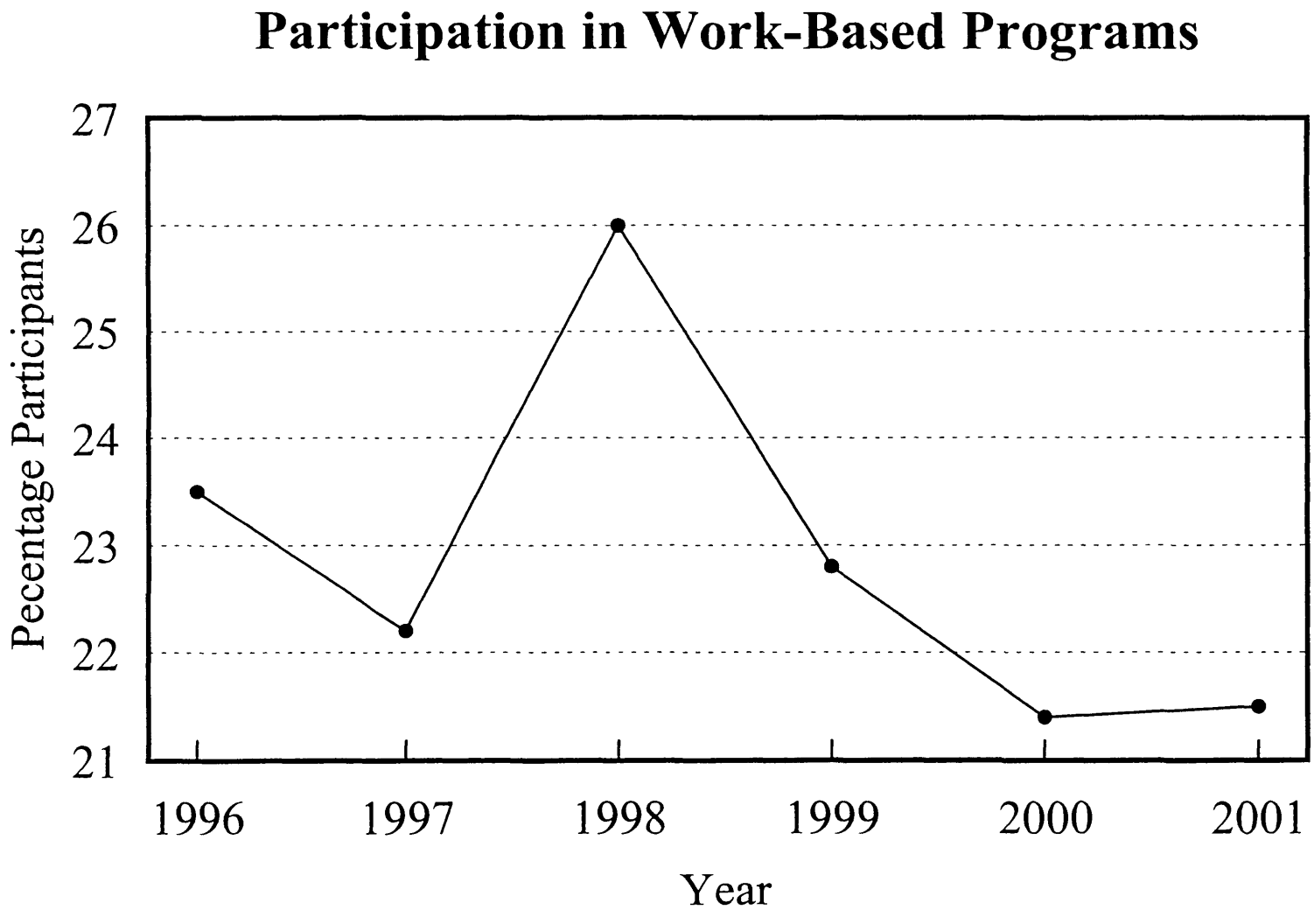
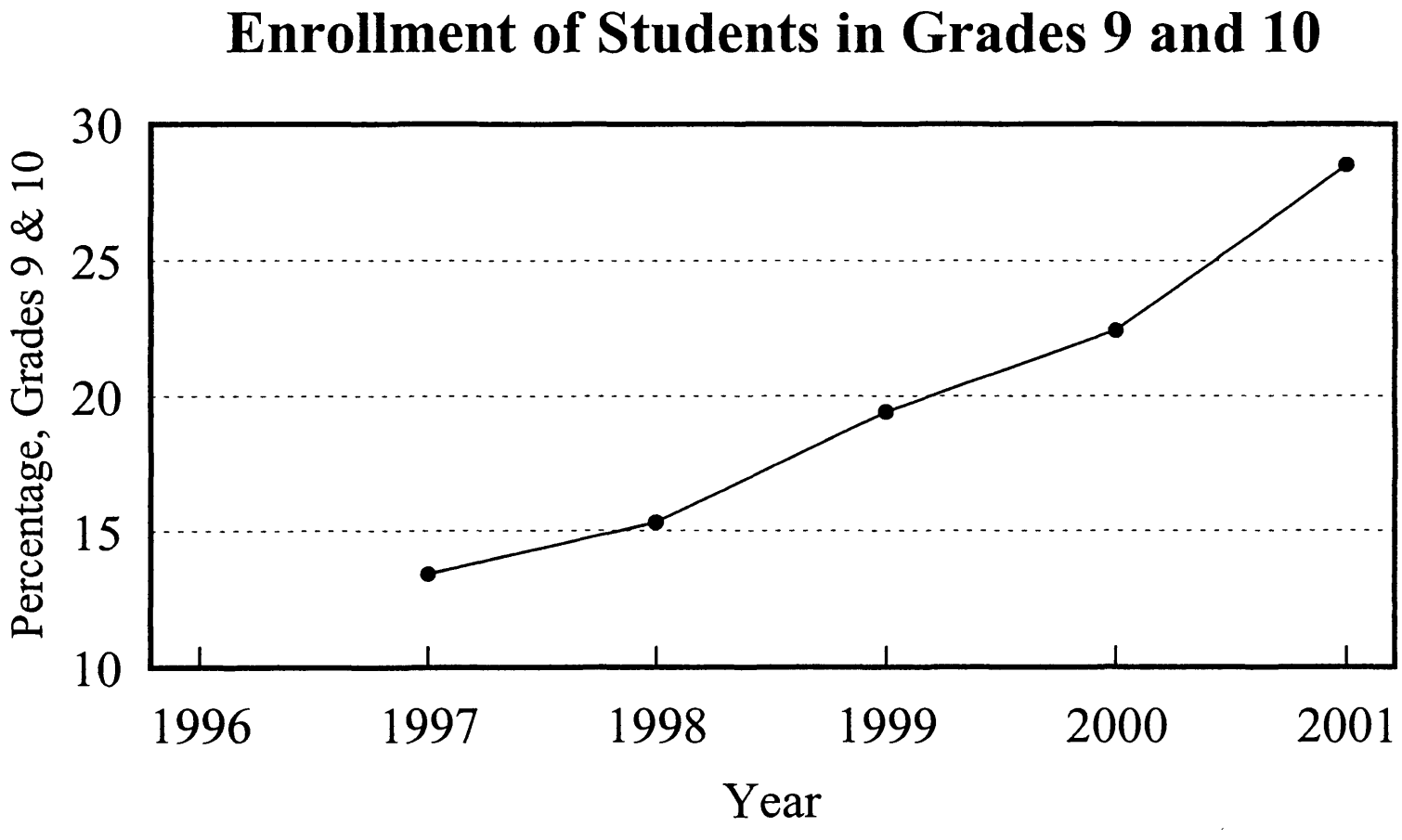

Participation in Work-Based Programs
Pecentage Participants
27
26
25
24
23
22
21
1996
1997
1998
1999
2000
2001
Year

Figure 2.A.4



Note: Data not available for 1996

Figure 2.A.5

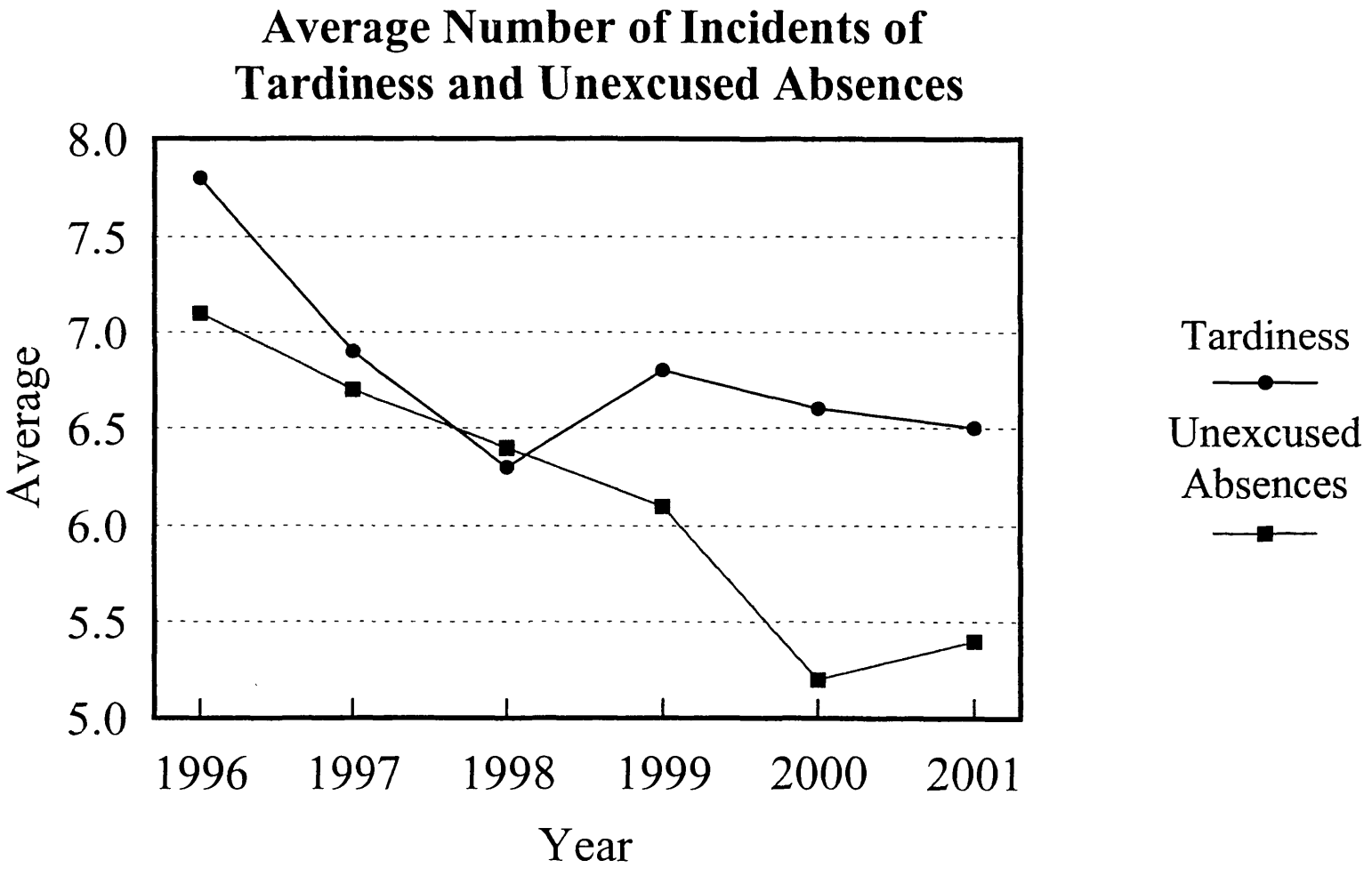
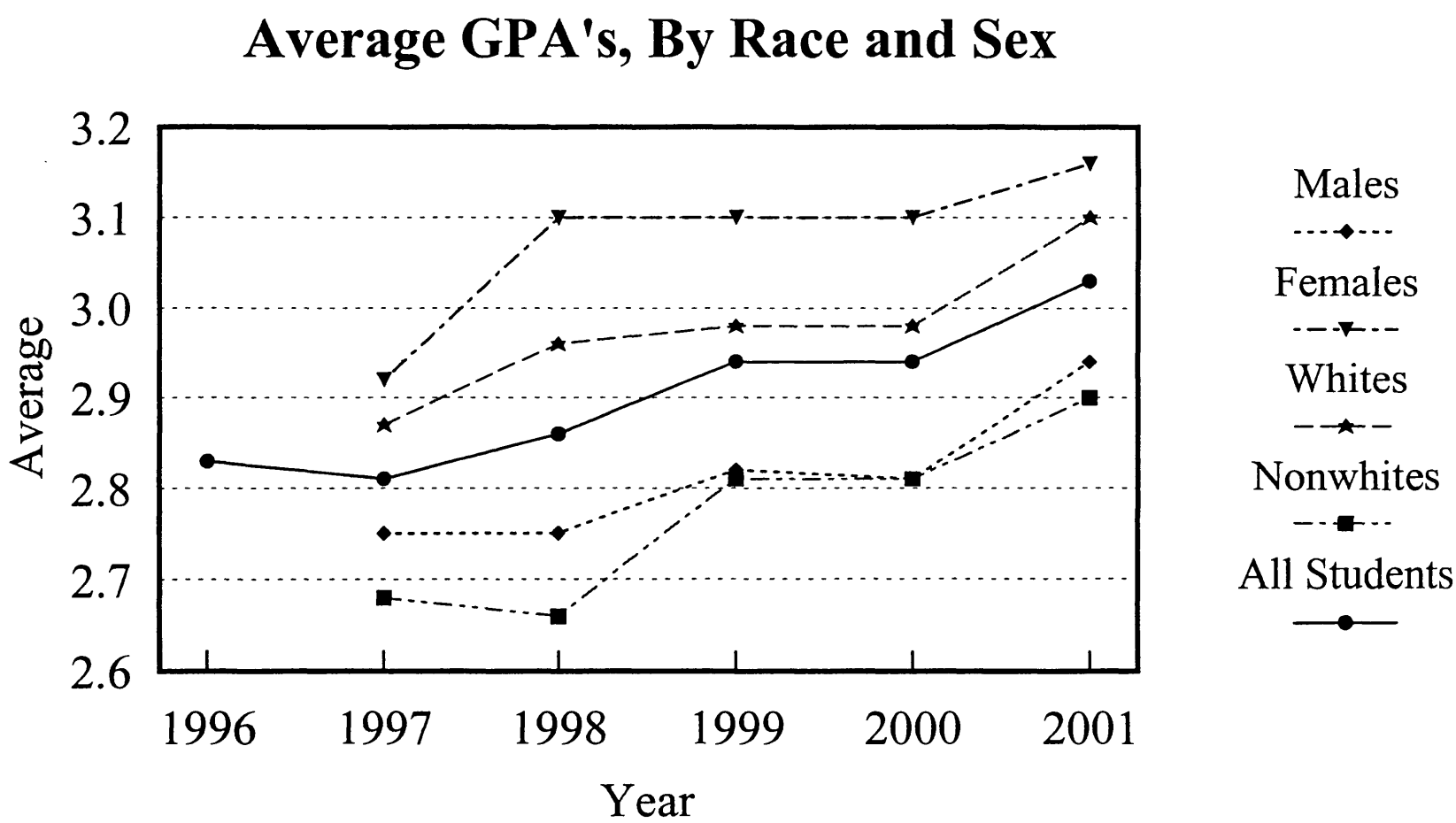

Average Number of Incidents of Tardiness and Unexcused Absences
8.0
7.5
7.0
6.5
6.0
5.5
5.0
Average
1996
1997
1998
1999
2000
2001
Year
Tardiness
Unexcused Absences

Figure 2.A.6



Note: Data by race and sex not available for 1996

Figure 2.A.7

Indicators of Satisfaction with Aspects of EFE Classes: Percentage Agreement or Disagreement with Descriptive Items

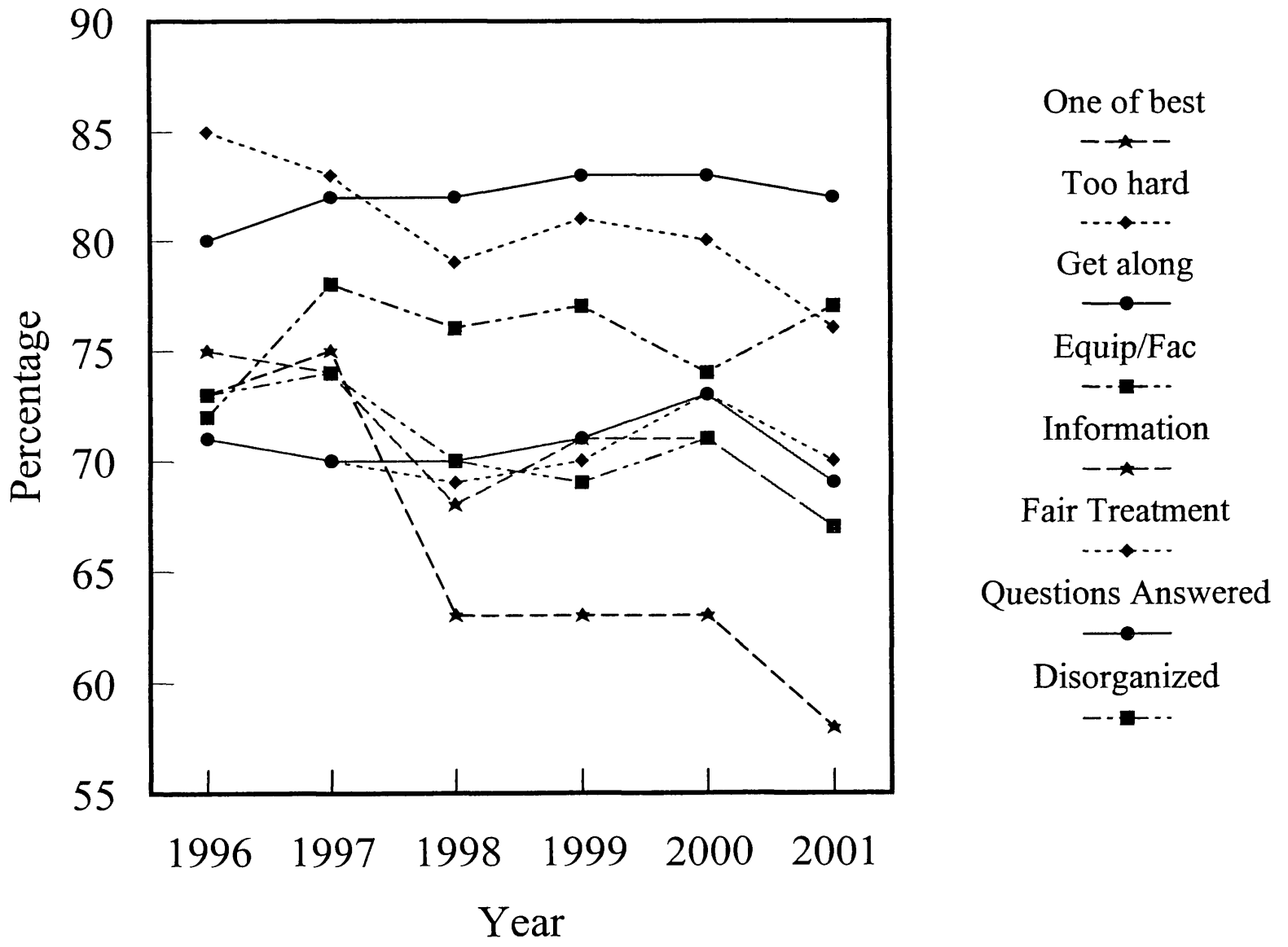
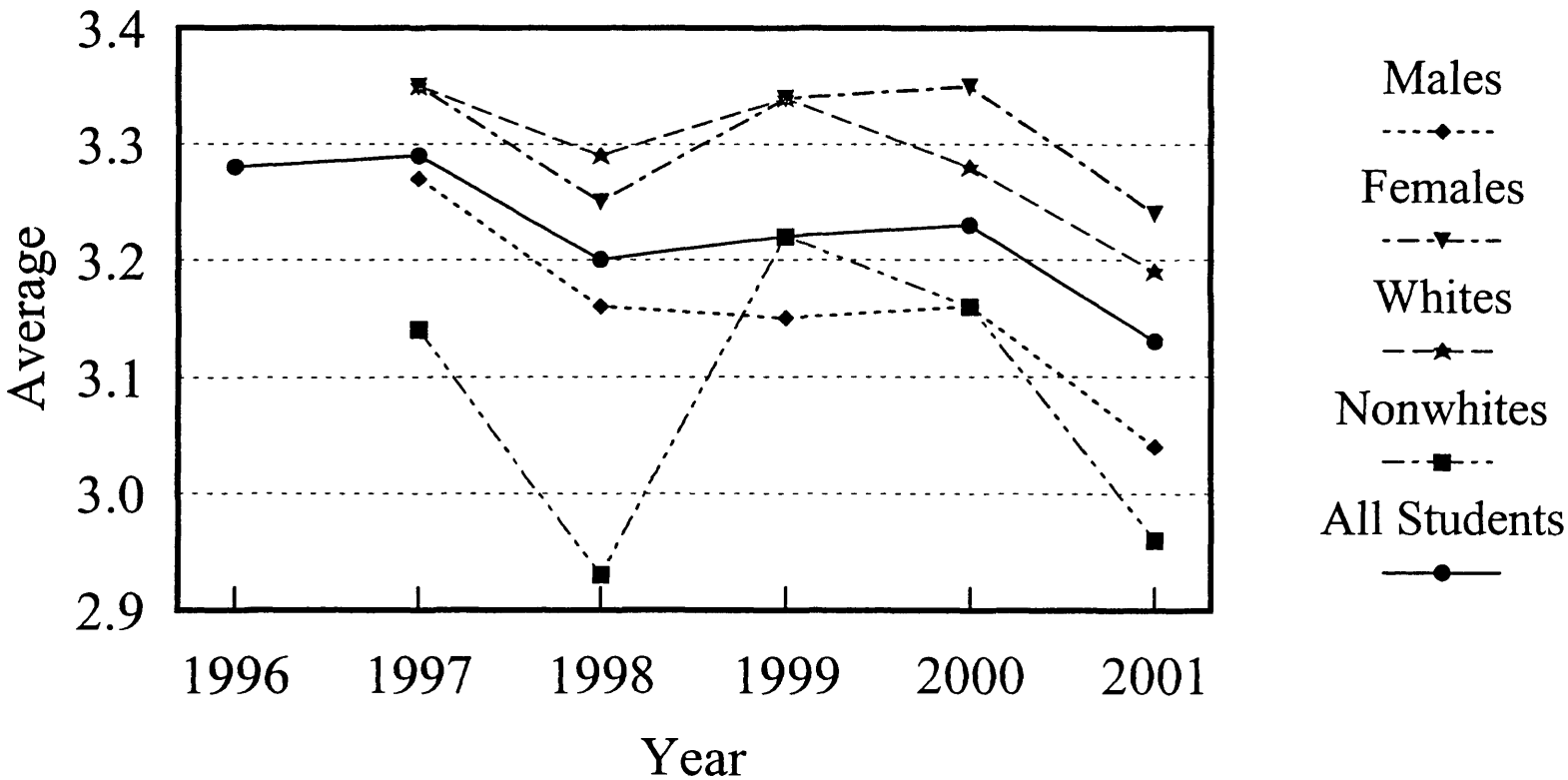


Figure 2.A.8

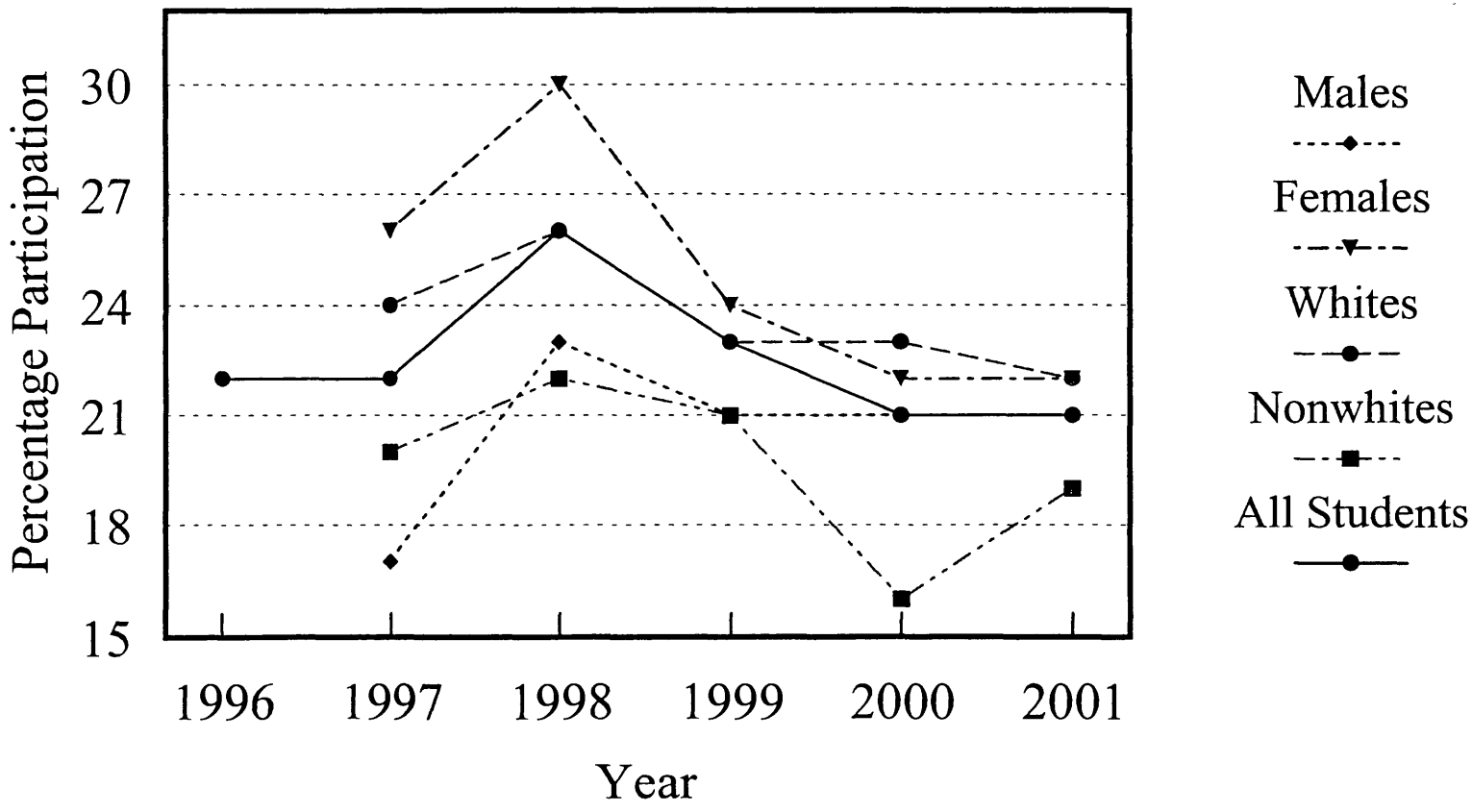
Student "Grades" for Course Quality, By Race and Sex



Note: Data by race & sex not available for 1996

Figure 2.A.9

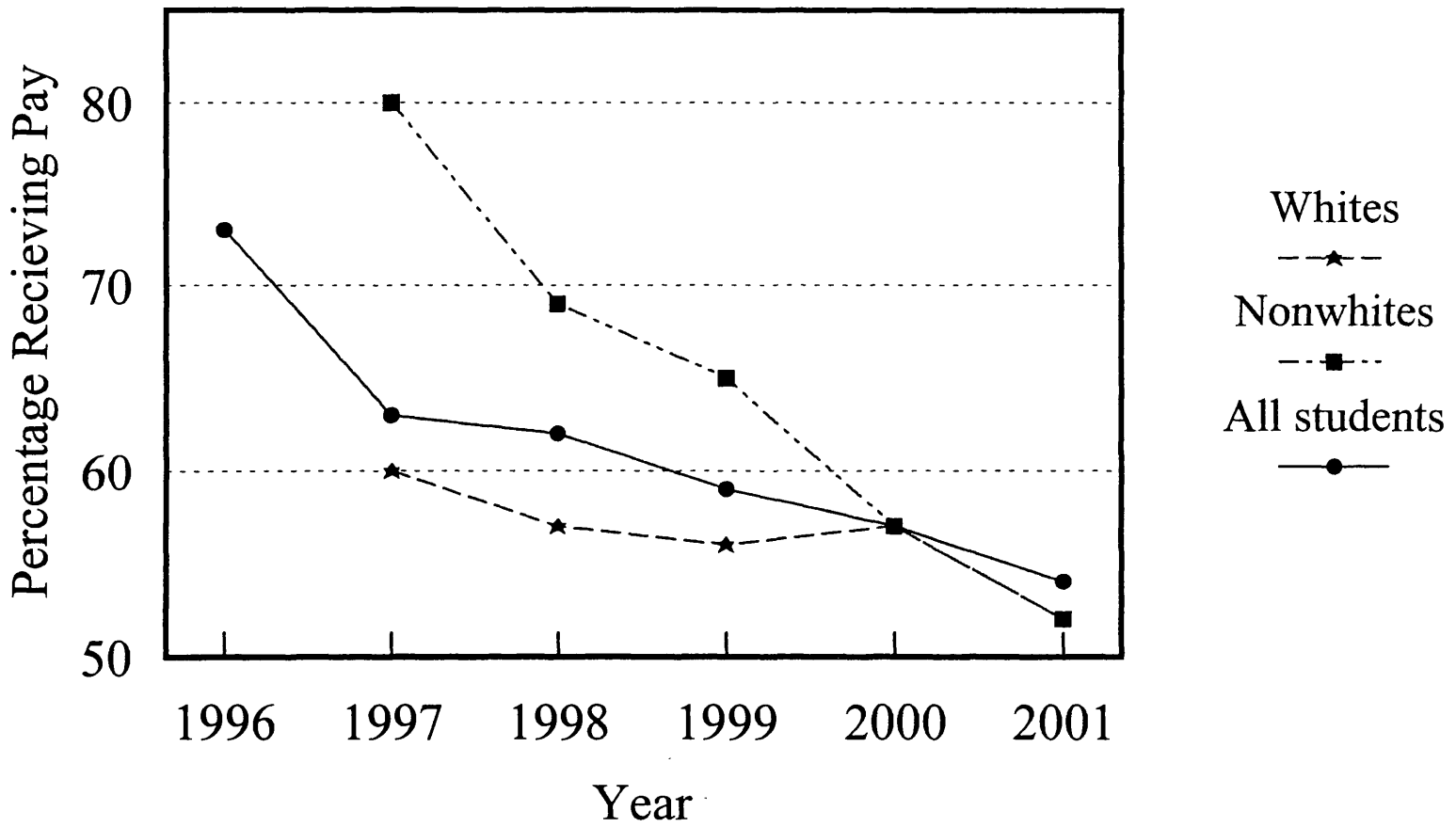
Participation in Work-Based Program Experiences, By Race and Sex



Note: Data by race and sex not available for 1996

Figure 2.A.10

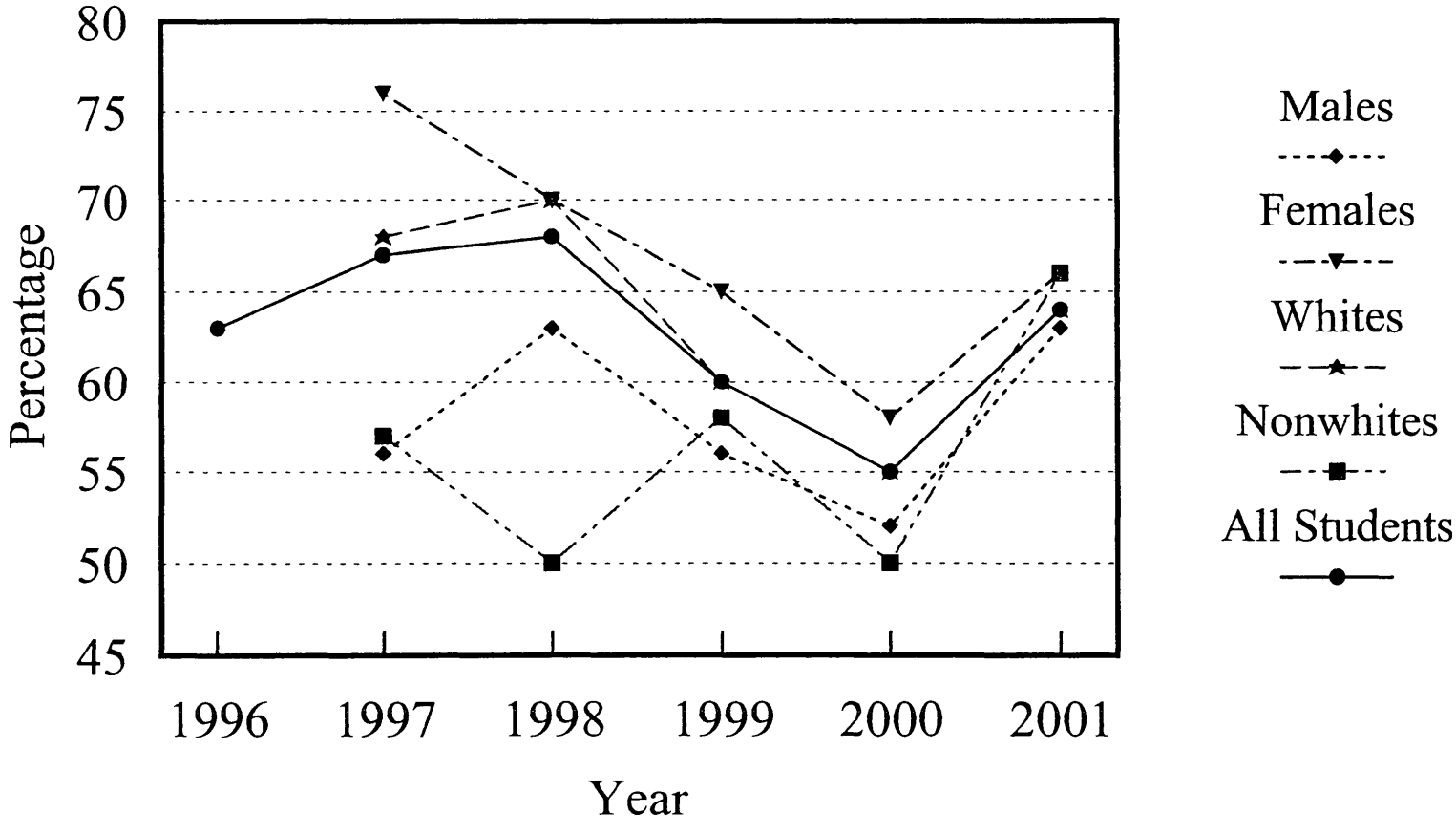
Percentage of Students in Work-Based Programs Receiving Pay, By Race



Note: Data by race not available for 1996

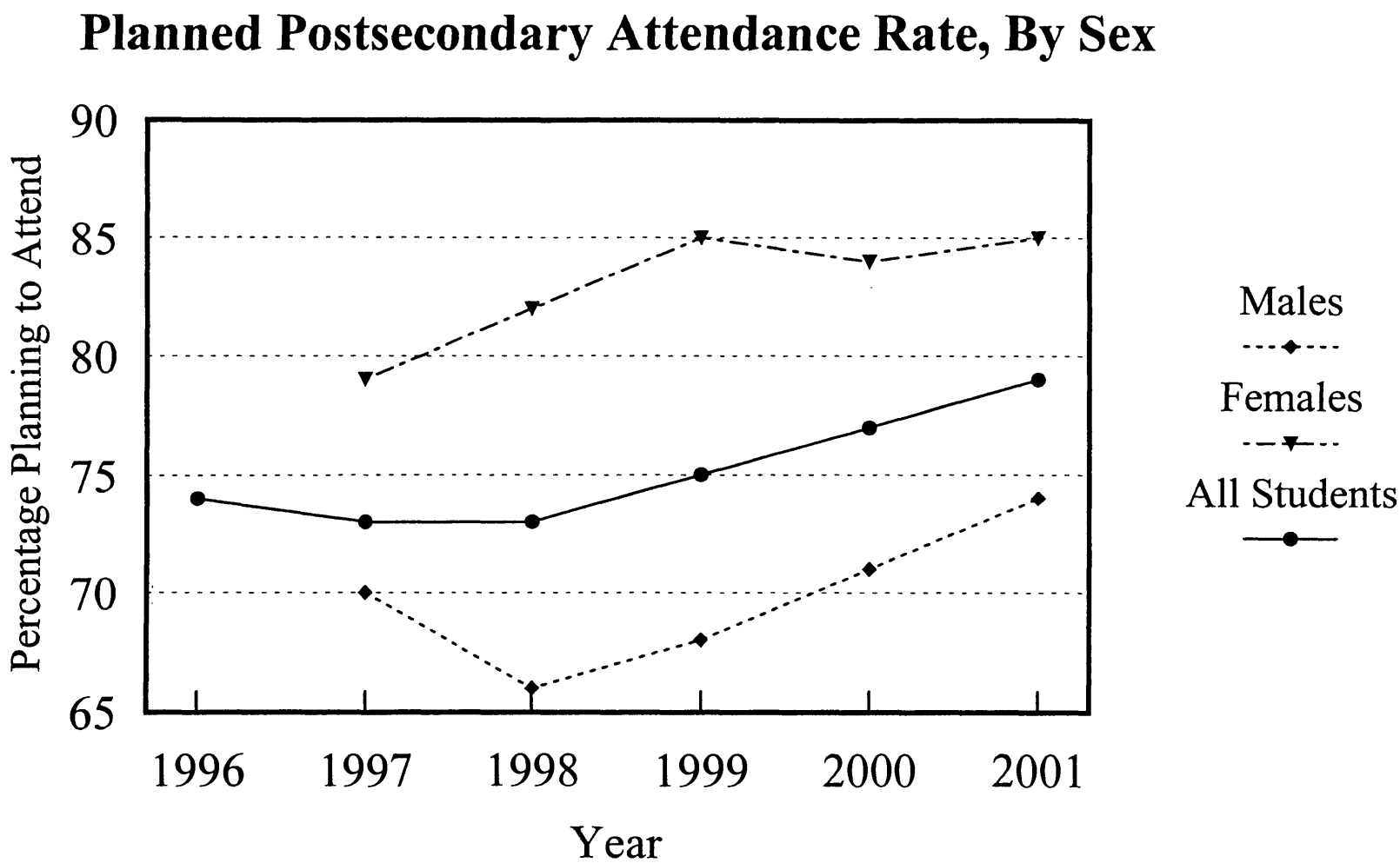
Figure 2.A.11

Percentage of Participation in Work-Based Programs who Report Experience Related to EFE, By Race and Sex



Note: Data by race and sex not available for 1996

Figure 2.A.12



Note: Data by sex not available for 1996

Figure 2.A.13

Occupational Aspirations, By Race & Sex

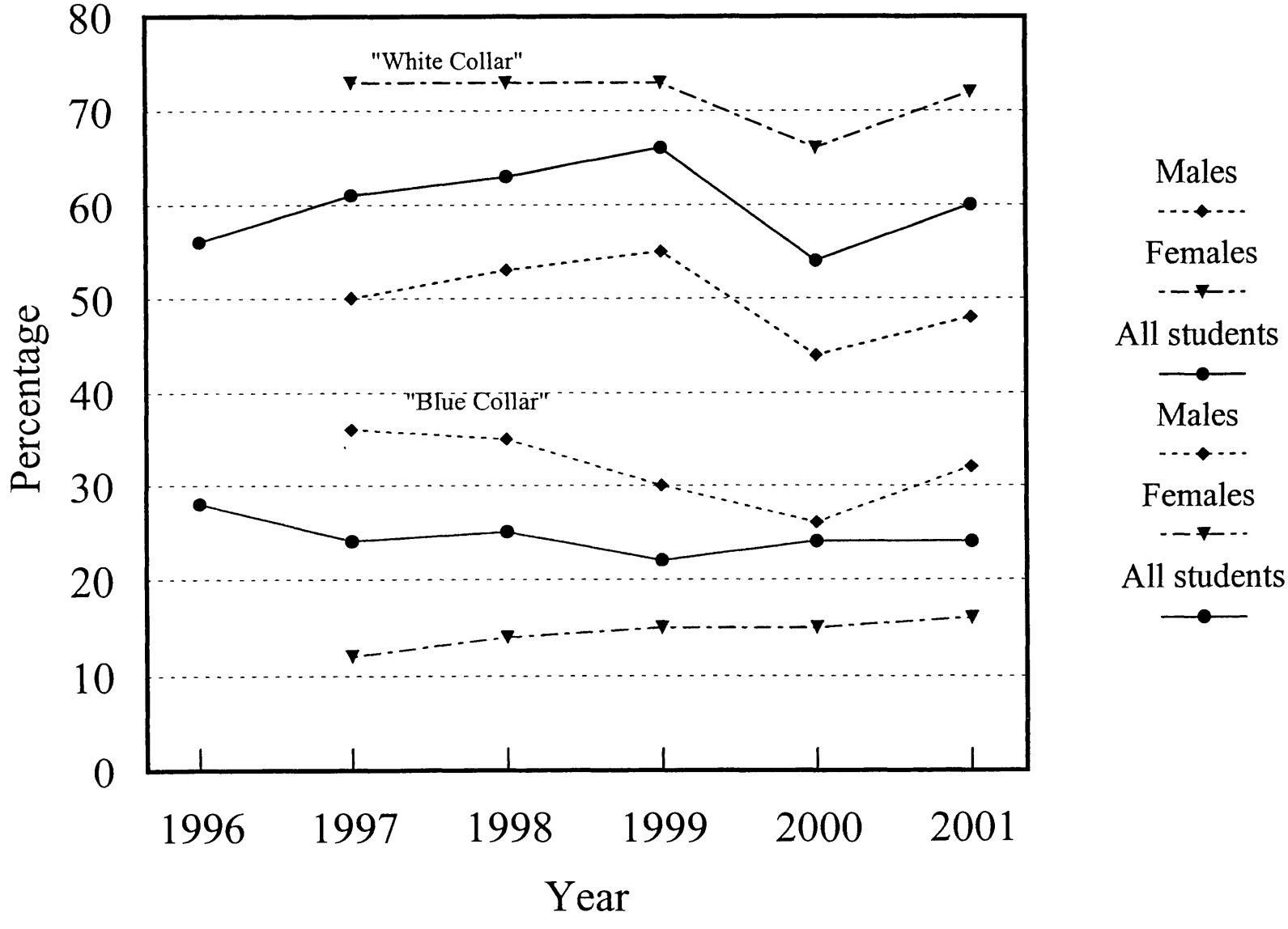
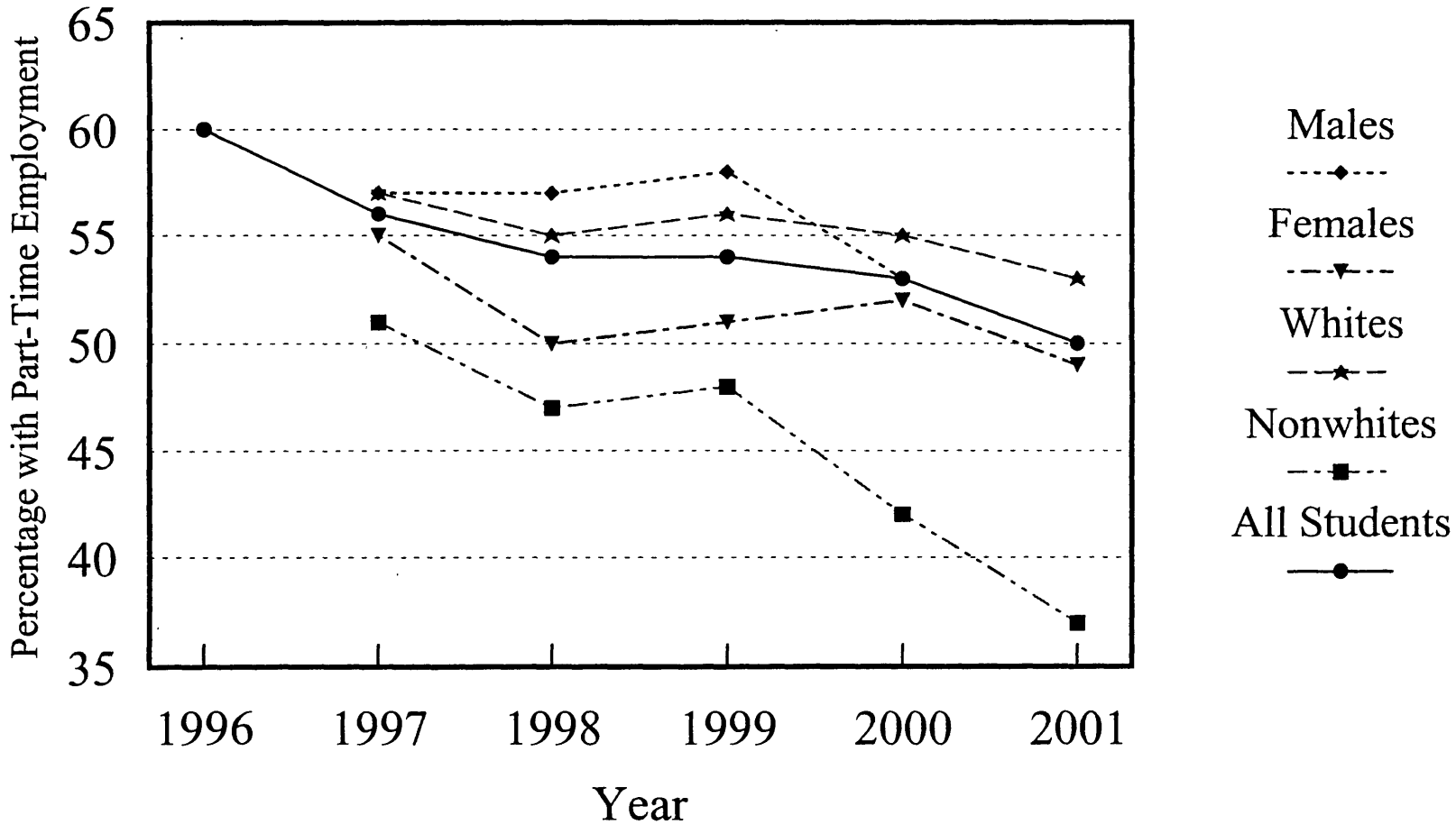


Figure 2.A.14

Part-Time Employment Rates, By Race & Sex



Note: Data by race and sex not available for 1996

3. EFE Completers

In addition to collecting data from current EFE students, this assessment also included a survey of former EFE students. Advanced Data Services, Inc., of Kalamazoo, conducted the survey under subcontract to the Upjohn Institute. The population for this survey was students who were classified as seniors in 1999/2000 and who were enrolled in an EFE class at the end of that school year. These students were surveyed by telephone in April/May 2001, which was just under a year after they graduated from high school. As noted in a table below, about 3 percent of the students reported that they did not graduate in 2000, and that they had just completed high school in 2001.

Note that the population of EFE completers is different from what the population for the student survey would look like if we interviewed them one year later (for seniors) or two years later (for juniors). First of all, some of the current students may drop out and not graduate. Second, some of the juniors may not continue with an EFE class in grade 12. Finally, we may have response bias for the follow-up survey if there are systematic characteristics that explain who responded and who didn't.

The main subjects of the survey include the postsecondary experiences of the students, the use of transferable college credits earned while in high school, the current employment status of the students, and high school experiences and opinions about EFE classes as recalled by the students. The analyses presented in this chapter examine these subjects for all respondents, and by sex, race, postsecondary attendance status, and whether or not the students participated in a work-based program while in EFE. The appendix to this chapter displays graphically trends in a number of the statistics discussed in the chapter.

Postsecondary Experiences

Table 3.1 summarizes the postsecondary experience data for the EFE completers. The respondents can be roughly divided into thirds: those attending a four-year institution (31 percent),

Table 3.1
Postsecondary Experiences of EFE Completers

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Postsecondary Status							
Not attending school	40*	30*	34	41	29*	38*	35
Full time active duty military	4*	1*	2	5	2	2	2
Just completed high school	3	3	2*	7*	1	4	3
2 year institution	31	32	32	32	37*	29*	32
4 year institution	26*	35*	33*	20*	33	30	31
Sample size	281	288	484	85	225	325	569
For those in 2- or 4-year postsecondary (n = 344)							
Accounting/Finance	4	2	3	5	3	2	3
Business related	19	12	14	21	13	17	15
Communications	1	2	2	0	1	2	1
Computers	8*	3*	5	9	5	6	6
Cosmetology	0*	3*	1*	7*	1	3	2
Criminal justice	3	5	4	2	5	3	4
Education	4*	14*	10	2	12	8	9
Engineering	4	2	3	2	2	3	3
Graphic/Fine Arts	9	7	8	9	5	10	8
Marketing	3	3	3	2	3	3	3
Medical-related	5*	21*	13	16	18*	10*	13
Agriculture	1	3	2	0	2	2	2
Liberal Arts	9	8	10	2	7	10	9
Trade & Industrial	16*	0*	7	5	7	6	7
Travel & Tourism	2	2	2	2	2	2	2
Undecided	12	12	12	12	12	12	12
Sports/Leisure	3	2	2	2	1	3	2
Training related to named field (n = 351)							
A lot	32	26	29	27	32	24	29
Some	32	35	34	30	35	33	34
Hardly any	16	20	19	14	18	19	18
None	21	18	18	30	14*	24*	19
Degree working on (n = 345)							
Associate's	22	24	22	28	25	21	23
Bachelor's	52	62	57	60	56	58	57
Other/none/don't know	26*	15*	21	13	19	21	20

Note: Table entries are sample percentages. Full-time active duty military is a subset of not attending school. Columns may not add to 100 due to rounding.
* Difference between population groups is statistically significant at the .05 level.

attending a two-year institution (32 percent), or not attending school (including just graduated from high school) about 38 percent. The difference in the postsecondary attendance rates between whites and minorities is statistically significant. Almost half of minority EFE completers were not attending school, whereas only 36 percent of whites were not attending. Whites were more likely to attend 4 year institutions than nonwhites—33 to 20 percent.

The postsecondary attendance rate among the follow-up sample—63 percent—is slightly higher than last year (61 percent), but lower than two years before (67 percent). A lower share of the sample reported being in four-year institutions than last year (31 percent as opposed to 34 percent), but that decrease was more than offset by the increase in the percentage of students at two-year institutions (27 percent increased to 32 percent). The percentage of minority students who reported not pursuing postsecondary education—41 percent—represents a substantial decrease from last year, when it was 47 percent. Figures 3.A.1 through 3.A.3 show the five-year trends in postsecondary attendance of EFE completers. The first figure shows the trends in attendance of 4-year institutions, 2-year institutions, and not attending. The second figure disaggregates the latter trend (not attending) by race, and the third figure disaggregates the trends in attendance of 4-year and 2-year institutions by sex.

If we compare the postsecondary attendance plans of current EFE students as reported in chapter 2 with the actual postsecondary attendance rates of EFE completers, we find that the latter are lower than the former. In table 2.6, we reported that roughly 80 percent of current students planned to attend a postsecondary institution right after high school. Table 3.1 shows that about 63 percent were attending. The actual rates are lower for all population groups, but the greatest discrepancy is for females. Among the current students, 85 percent of females plan to go on to

postsecondary schooling right after graduation, but only about 67 percent of female students in the follow-up survey were in school.

The bottom three items in the table concern the postsecondary experiences of the EFE completers who reported that they were attending a two- or four-year institution. The first item is the student's program or major field. Twelve percent reported that they were undecided about a major or program. A business-related major or program was given by the highest percentage of students–15 percent. The only other field with more than 10 percent of the students was medical, which was listed by 13 percent of the students in postsecondary schooling. The students' choices across fields were very similar to last year; no substantial changes or trends were evident. As in past years' data, there were substantial differences by gender. Males were more likely to be in computer-related and trade and industrial programs/majors than were females. Conversely, females were more likely to be in education, medical-related, and cosmetology programs. Students with work-based program experience were more likely to be in medical-related fields.

An important outcome for career and technical education students is whether they pursue majors or programs in postsecondary schooling that are related to their courses in high school. About two-thirds of the survey respondents who were in postsecondary programs and who had decided upon a program indicated that it was related to their EFE class "a lot" or "somewhat." There were no statistically significant differences in training-relatedness between males and females, and between whites and minorities. However, students who were not in a work-based program in high school were much more likely to report that their EFE training was not at all related to their field than the students who were in a work-based program.

The percentage of respondents who reported "a lot" or "some" training-relatedness between their EFE program and their current field/program has not changed dramatically over the four years.

It has decreased steadily, although not dramatically. However, there has been a substantial decrease in respondents who said "a lot" and a concomitant increase in the percentage who reported "some." The percentage of students who reported "a lot" of training-relatedness was over 50 percent in 1996, about 42 percent in 1997, 34 percent in 1998, 33 percent in 1999, 26 percent in 2000, and 29 percent in 2001. (See figure 3.A.4.)

About a quarter of the students in a postsecondary institution reported that they were pursuing an associate's degree. About three-fifths, with almost no variation across the groups, were pursuing a bachelor's degree. Twenty percent were pursuing other degrees or were apparently undecided about what degree they were pursuing.

Table 3.2 presents a summary of data about usage of college credits earned while in EFE courses in high school. Overall, just under half (47 percent) of the respondents indicated that, when

Table 3.2
Importance and Use of College Credits Earned in High School

	Sex		Race		Work-based program		
Characteristic	M	F	W	NW	Yes	No	Total
Could student have received credit? (n = 372)							
Yes	41	52	47	50	52	44	47
No	37	29	33	32	31	33	33
Don't know	22	19	21	18	17	23	20
If yes:							
Have you arranged to receive credit? (n = 168)							
Yes	56	62	62	44	69*	50*	56
No	44	38	38	56	31*	50*	41
Average credits (n = 86)	5.3	4.7	5.1	4.2	5.2	4.6	5.0
Important in program enrollment? (n = 171)							
Yes	47	49	46	60	51	45	48
No	53	51	54	44	49	55	52
Important in postsecondary enrollment? (n = 168)							
Yes	26	28	26	33	33	21	27
No	74	72	74	67	66	79	73

Note: Except for average credits, table entries are sample percentages.
* Differences between population groups is statistically significant at the .05 level.

they were in high school, they believed they could have received college credit for their high school EFE class. Thirty-three percent indicated that they believed that they would not be able to receive college credit. The other 20 percent indicated that they did not know. These percentages are slightly different from the 1999 data, when 43 percent of the students indicated that they could have received credit and 36 percent indicated that they could not have received credit. There has been a further increase in the percentage of completers in postsecondary institutions who thought they could have earned college credits. Students who participated in work-based experiences were more likely to have believed that they could have received college credit than other former EFE students, though the difference is not statistically significant.

We asked those students who believed that they could have received college whether they had actually arranged to do so. Fifty-six percent of the respondents this year in contrast to 65 percent last year reported that they had. On average, these students had earned 5.0 college credits. Students who had been in work-based program experiences and were aware of the possibility of receiving college credits were more likely to have arranged for those credits; they received 5.2 credits, on average, compared to 4.6 for students who had not participated in work-based programs.

We asked the students who indicated that they knew about earning college credits whether that potential was an important factor in deciding to enroll in the program in high school and whether the ability to transfer college credits was an important factor in selecting a postsecondary institution. A substantial share—about half—reported that this factor had been an important factor in their program enrollment decision in high school. This share varied substantially across student characteristics, however. For nonwhites, the ability to receive college credits was far more important than for whites. A smaller percentage—around 27 percent—indicated that potential college credits

influenced their postsecondary institution choice. Again, nonwhite students and students who had participated in work-based experience programs were more likely to have said yes.

Employment Status

A major emphasis of the survey was on the current employment status of the EFE completers. Two aspects about this aspect of the survey need to be noted. First, this year's survey was undertaken earlier in the year than previous surveys—an April/May time frame rather than May/June. As a consequence, much of the data that were collected this year concerning employment and hours for students in college may not be comparable to data collected in earlier years. Second, note that these data represent an amalgam of part-time work experiences of students who might be pursuing Summer school, Summer jobs for students who are pursuing postsecondary education, and full-time or part-time employment of students who are not attending postsecondary institutions. All together, table 3.3 shows that three-quarters of the survey respondents indicated that they were

Table 3.3
Employment and Unemployment Status of EFE Completers

	Sex		Race		Work-based program		Postsecondary			
Characteristic	M	F	W	NW	Yes	No	2-yr	4-yr	No	Total
Employment rate (n = 569)	78	73	77*	64*	81*	71*	83*	62*	79*	75
If employed:										
Usual hours/week (n = 425)	33.8*	27.0*	31.1*	26.6*	31.2	29.3	30.9*	20.0*	37.0*	30.5
Hourly wage (n = 429)	$8.69	$7.86	$8.34	$7.92	$8.68	$8.02	$8.85	$8.00	$7.97	$8.29
EFE training - relatedness (n = 423)										
A lot	20	25	25*	10*	33*	15*	30*	22*	16*	23
Some	29	31	29	37	32	28	29	33	30	30
Hardly any	18	16	18	13	12*	21*	12*	17*	21*	17
None	33	27	29	40	24*	36*	30	28	32	30
Unemployment rate (n = 503)	12.7	15.2	11.5*	28.0*	8.4*	18.1*	9.6*	19.3*	14.1*	13.9

Note: Table entries, except where noted, are sample percentages. Columns for training-relatedness may not add to 100 due to rounding.
* Difference between population groups is statistically significant at the .05 level.

currently working for pay. This rate was lower than most of the previous years, which were 82, 85, 87, 88, 83 percent for 1996, 1997, 1998, 1999, and 2000, respectively. Whites, students who had participated in work-based programs in high school, and those attending 2-year colleges or no college had much higher employment rates than nonwhites, students who had not participated in work-based programs, and those attending 4-year colleges.

The average work week for employed individuals was about 31 hours, which is much lower than it past years. However, we suspect that the difference is caused by low reported hours of students in 4-year colleges who were more likely to have been interviewed while they were still on campus this year than in past years. Indeed, their average hours per week are only 20. It was 37 hours per week for respondents who did not go on to college, which is about 7 hours more per week on average, than for individuals who at two-year institutions. Males also averaged more hours per week than females.

The average hourly wage this year was $8.29, which is about 4 percent higher than in 2000. The average for males was higher than females—$8.69 to $7.86, but the difference was not statistically significant. In this year's data and in the previous two year's data, the average wage for individuals not pursuing postsecondary education was just equal to or less than the average wage for college attendees. In 1996 and 1997, individuals who were not attending college were receiving wages that were much higher than those who were attending. This coincides with a broad trend in the labor market where skilled employees' wages have been increasing, but unskilled employees' wages have been stagnant or decreasing.

We also asked respondents about how related the training in their EFE classes was to their current job. Over half of the respondents indicated that it was relevant ("a lot" or "some"); conversely just under half indicated that their EFE training had "hardly any" or "no" relatedness to

their current job. The "relatedness" items were virtually identical to last year, and the long-term trend (shown in figure 3.A.5) is relatively flat at the level of just over half. The percentage of respondents who indicated that their EFE training was related "a lot" to their current employment stayed at just over 20 percent. Among the population groups, students who had work-based program experiences and students in 2-year colleges were significantly more likely to have reported that their employment was training-related than students who had not been in a work-based program or students in a 4-year college or no college.

The unemployment rate is defined as the share of the labor force who are not working for pay and are looking for employment. For the sample as a whole, the unemployment rate was 13.9 percent, but again this is probably inflated by the time of the survey. Nevertheless the differences by race are striking—11.5 percent for whites and 28 percent for nonwhites. Furthermore, the rate for students who had been in a work-based program was 8.4 percent compared to 18.1 percent for those students who had not been in a work-based program. Figure 3.A.6 displays the trends in the unemployment rates of EFE completers, by race.

High School and EFE Program Experiences

The follow-up survey asked the respondents to recall their experiences in high school and in their EFE courses. Table 3.4 presents summary data on (self-reported) grade point averages in high school and on incidents of tardiness and absences. It is interesting to note that these young individuals recalled fewer incidents of tardiness or absences in their senior year of high school than the current students reported. These data, of course, are subject to recall error since they pertain to a time period of over a year prior to the survey date. These statistics were quite high last year relative to the previous years of the survey. This year, the statistics are lower than last year, but still

Table 3.4
High School Experiences as Recalled by EFE Completers

Characteristic	Sex		Race		Work-based program		Postsecondary			Total
	M	F	W	NW	Yes	No	2-yr	4-yr	No	
Average number of tardies (n = 534)	7.2	6.4	6.7	7.4	6.5	7.1	7.0	6.3	7.0	6.8
Average number of absences (n = 540)	6.1	5.3	5.5	7.0	5.3	6.0	5.7	4.5*	6.7*	5.7
Average GPA (n = 557)	2.91*	3.21*	3.09*	2.92*	3.15*	3.01*	3.04*	3.44*	2.78*	3.07

*Significantly different from other population at the .10 level.

considerably higher than in the earlier years of the data. This year's average is about 6.8 tardies per year compared to last year's figure of 7.1. However, prior to last year, the three previous years were 5.6, 6.1, and 6.3. For unexcused absences, this year's average of 5.7 is much lower than last year's figure of 6.3, but is higher than 5.2 in 1997 and 4.3 in 1996.

The overall mean high school GPA reported by respondents to the follow-up survey, 3.07, is close to the average GPA for current students, which suggests some validity in reporting. Males reported lower GPA's in high school than females. Whites had higher GPA's than nonwhites, and as expected, students who went on to four-year colleges/universities had higher GPA's.

Table 3.5 provides data on the same set of EFE class satisfaction indicators for the completers as table 2.3 does for current students. Of course, the follow-up survey asked respondents to recall their EFE classes in which they were enrolled over a year before and to provide opinions about those classes. The current students were providing assessments of classes they were enrolled in at the time of the survey. The completers reported much higher levels of satisfaction than current students.

The first item listed in the table asked for respondents to agree or disagree with the statement that "EFE classes were among the best classes in high school." Sixty-nine percent of the respondents

Table 3.5
EFE Program Satisfaction Indicators from Completers

Indicator	Sex		Race		Work-based program		Postsecondary			Total
	M	F	W	NW	Yes	No	2-yr	4-yr	No	
Agree/strongly agree with "The classes are among the best..."	69	69	71*	58*	71	67	67	73	67	69
Disagree/strongly disagree with "These classes are too hard..."	88	89	90*	82*	88	89	87*	94*	86*	89
Agree/strongly disagree with "I got along with other students and we worked together..."	95	93	93	96	92	94	94	94	93	94
Agree/strongly agree with "The equipment and facilities were excellent."	77	81	79	77	81	78	76	83	78	79
Disagree/strongly disagree with "not enough information..."	78	79	80*	70*	78	78	76	84	77	79
Agree/strongly agree with "The program treated everybody fairly."	88	89	89	85	88	88	85	90	90	88
Agree/strongly agree with "I could get questions answered..."	88	89	89	84	86	90	86	87	91	88
Disagree/strongly disagree with "the program seemed disorganized."	83	77	80	79	77	82	77	81	81	80
Letter grade for program quality	3.29	3.34	3.36*	3.07*	3.39	3.27	3.25*	3.46*	3.25*	3.32

Note: Table entries for the first eight rows are percentages of the sample who gave a favorable rating of 1 or 2 (or 4 or 5) on a 5-point Likert scale. Item nonresponses are not included in the denominator. However, response of "Neither agree or disagree" is included. Overall sample size is 569. Approximately 30 cases are missing for each item. Sample size for average letter grade is 550.
*Difference between population groups is statistically significant at the .05 level.

agreed with this statement. Eighty-nine percent of the respondents disagreed with the statement that "these classes were too hard," and 94 percent of the sample agreed with the statement, "I got along well with other students and we worked together frequently."

Responses to the next item were less enthusiastic. About 79 percent of the sample agreed the "equipment and facilities were excellent." Almost 80–90 percent or more of the students had positive responses to the final four items, compared to 65–70 percent for current students. About

80 percent disagreed with the statement that "not enough information was provided to students or their parents." Eighty-eight percent of the respondents agreed that "the program treated everybody fairly," and that they "could get questions answered and problems easily resolved." Finally, about 80 percent of the respondents disagreed with the statement that "the program seemed disorganized."

These satisfaction indicators were slightly more positive than in last year's data, although the relative satisfaction among the items was identical. (That is, higher levels of satisfaction were garnered for the second, third, sixth, and seventh items, and relatively lower levels of satisfaction were achieved for the other items.) Figure 3.A.7 displays the trend in each of these indicators for the graduates.

As with the current students, the follow-up survey asked respondents to assign a letter grade to the EFE courses that represented their assessment of quality. The overall average for this grade, converted to a 4.0 scale, was 3.32, which would be a B+. Nonwhite students and students who were not at 4-year colleges assigned the lowest grades for quality.

Table 3.6 provides tallies of the responses to the questions of what were the best and worst aspects of the EFE classes as recalled by the completers. The aspects that were mentioned the most often among the best aspects were the opportunity to participate in work-based learning opportunities, other students/teamwork, and the technical or employability skills learned. Far fewer negatives were mentioned. Among the complaints, the most often mentioned items were that the class was disorganized and logistical problems such as transportation or scheduling.

The EFE completers were also asked to recall whether they had participated in work-based experiences. As shown in table 3.7, 41 percent indicated that they had participated in a work-based program. Females were more likely to have been participants than were males. (See figure 3.A.8.) The percentage is higher than the 21 percent of current students who reported that they were

Table 3.6
Best and Worst Aspects About EFE Program as Recalled by Completers

Best		Worst	
Aspect	Number of Times Mentioned	Aspect	Number of Times Mentioned
Equipment	74	Equipment, classroom environment	37
Books, software	26	Books, software	17
Pace	20	Pace: too easy	38
Hands-on instruction	67	Pace: too fast	18
Specific teacher	4	Pace: too much work	37
Small class size, individual attention	25	Specific teacher	3
Technical or employability skills learned	104	Class size too large	31
Work-based experience/real world	164	Transportation/schedule	67
College usefulness	14	Classmates behavior	28
Interesting/fun	47	Disorganized	55
Other students, team work	120	Work experience	6
Everything about the class	16	Unfair treatment	13
Vocational clubs	21	Specific activity or project	23
Other	188	Grading policy	12
Nothing, no best thing, don't know	—	Absolutely nothing wrong	7
		Other	18
Total	890	Unclassifiable	41
		Total (except for "Absolutely nothing...")	444

participating in work-based programs. However, it is still lower than the 49 percent of respondents in 1998 who had reported being in a work-based program. Of those who reported that they had participated in a work-based program, 52 percent indicated that it had been a paid experience.

Almost 70 percent of the respondents who had been in work-based programs disagreed with the opinion question that "the work was unrelated to the EFE class." Females and students in postsecondary institutions had higher levels of (dis)agreement than did males or students who didn't go to college. About 90 percent agreed that "workplace mentors were supportive and answered my questions." There were no differences among population groups on this item, however.

Table 3.7
EFE Work-Based Program Experiences as Recalled by Completers

Characteristic	Sex		Race		Postsecondary			Total
	M	F	W	NW	2-yr	4-yr	No	
Participation (n = 550)	34*	47*	44*	23*	47*	43*	33*	41
If participated: (n = 223)								
Paid?	60*	46*	53	42	62*	36*	57*	52
Disagree/strongly disagree with "Work was unrelated..."	61*	74*	69	67	73*	74*	56*	69
Agree/strongly agree with "Mentors were supportive and answered my questions."	89	89	89	94	90	93	83	89

Note: Table entries are sample percentages.
* Differences between population groups is statistically significant at the .05 level.

EFE Outcomes

Two performance indicators of EFE outcomes are presented in table 3.8. The first indicator measures how many EFE completers were either attending college or were employed one year after completing their high school course(s). Ninety-two percent of the sample met these criteria. The percentages were much higher for whites than nonwhites and for students who had participated in work-based programs compared to those who hadn't. (It is not meaningful to look at the differences in this outcome measure by the different types of college attendance because all college attenders meet the standard, by definition.) The level of this indicator is slightly lower than its value in 2000,

Table 3.8
EFE Performance Indicators

Indicator	Sex		Race		Work-based program		Postsecondary			Total
	M	F	W	NW	Y	N	2-yr	4-yr	No	
Postsecondary attendance or employed (n = 569)	93	92	94*	80*	97*	89*	100*	100*	79*	92
Training-related postsecondary attendance or employment (n = 563)	56	61	61*	47*	71*	50*	69*	75*	37*	59

Note: Table entries are sample percentages.
* Difference between population groups is statistically significant at the .05 level.

and continues a downward four-year trend. (See figure 3.A.9.)

One criticism of this standard is that it is not difficult to meet. A summer telephone interview of almost any population of 19-year-old's would likely yield a high percentage of respondents who were either attending college during the academic year or currently working. The second indicator is somewhat more rigorous. This standard measures the percentage of individuals who were pursuing a major field or occupational program area in a postsecondary setting that is related to the course work taken in high school or who were employed in a job where their EFE course work is related. About 60 percent of the sample met these criteria. Again, somewhat alarmingly, the percentage for whites (61 percent) is higher than for nonwhites (47 percent). Furthermore, students who were in work-based program experiences had a 20 percentage point higher level than nonparticipants, and postsecondary students have much higher levels than individuals who did not go to college. Notice that fewer than 40 percent of the students who were not attending college were working in a job that was related to their EFE course work. This year's level for this outcome continues a four-year downward trend and, in fact, is at the lowest level since these surveys were conducted.

Summary and Trends

The following points summarize the key findings from the survey of completers:

1. Students who completed high school about a year ago and had taken an EFE class can be classified into three groups: attending a four-year postsecondary institution, attending a two-year institution, and not attending a postsecondary school. Compared to last year's follow-up survey, there was a decrease in students attending a 4-year college and not attending school; and a substantial increase in attendance at 2-year institutions.

   Females were more likely than males to be attending a 2-year or 4-year institutions. As in previous years, a larger percentage of minorities were not attending a postsecondary institution compared to whites—in fact, the gap was almost identical to last year's.

2. For students who were attending a postsecondary institution, there were very few changes in the fields that students reported as their major field or program. Business-related, medical-related, and education were the most numerous fields.

   The percentage of students who reported that their EFE training was related "a lot" or "some" to their postsecondary field/program has been declining slowly over four years.

3. Almost half of the students indicated that they could have received college credit for the EFE classes that they took in high school. Of those, three-fifths reported that they had arranged to receive such credit. About 50 percent of the students who indicated that they could get college credit for their high school course indicated that it had been an important reason for enrolling in the EFE class, and about 30 percent reported that transfer of college credits had been an important consideration in selecting a postsecondary institution.

4. The employment rate of completers of 75 percent was lower than any of the previous follow-up surveys. There were no significant differences in the employment rate between demographic groups. The average work week was about 31 hours. The average wage increased by about 4 percent to $8.29 per hour.

   As with last year's data, there was no difference in the average wage received by individuals who were not attending college from those who were attending. This result is consistent with national data that suggest that unskilled employees' wages have been stagnant or decreasing, while skilled employees' wages have been increasing.

5. The completers reported much higher levels of satisfaction with their EFE classes and experiences than current students. Furthermore, the levels of satisfaction increased slightly compared to last year's data. There were few differences between population groups in the data.

6. The performance indicators for EFE were high, although they had slipped from where they were last year. The percentage of follow-up students employed or in a postsecondary program was 92 percent, and the percentage of follow-up students who have training-related employment or who are in a training-related postsecondary program was 59 percent.

Appendix: Time Series Graphs of
Characteristics and Outcomes of EFE Completers

Figure 3.A.1

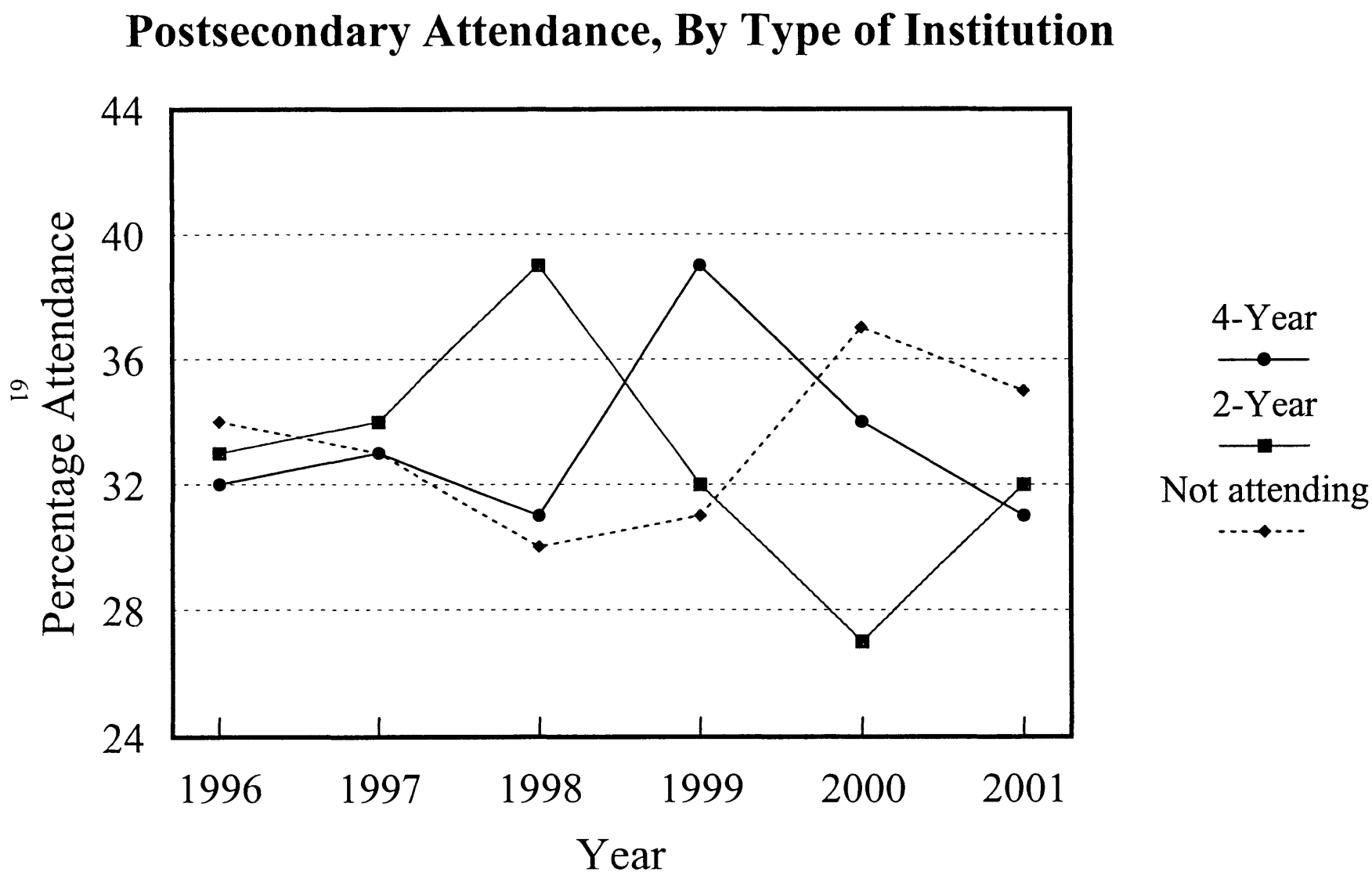

Postsecondary Attendance, By Type of Institution
Percentage Attendance
44
40
36
32
28
24
1996
1997
1998
1999
2000
2001
Year
4-Year
2-Year
Not attending

Figure 3.A.2

Racial Composition of Students Not Attending Postsecondary Schooling

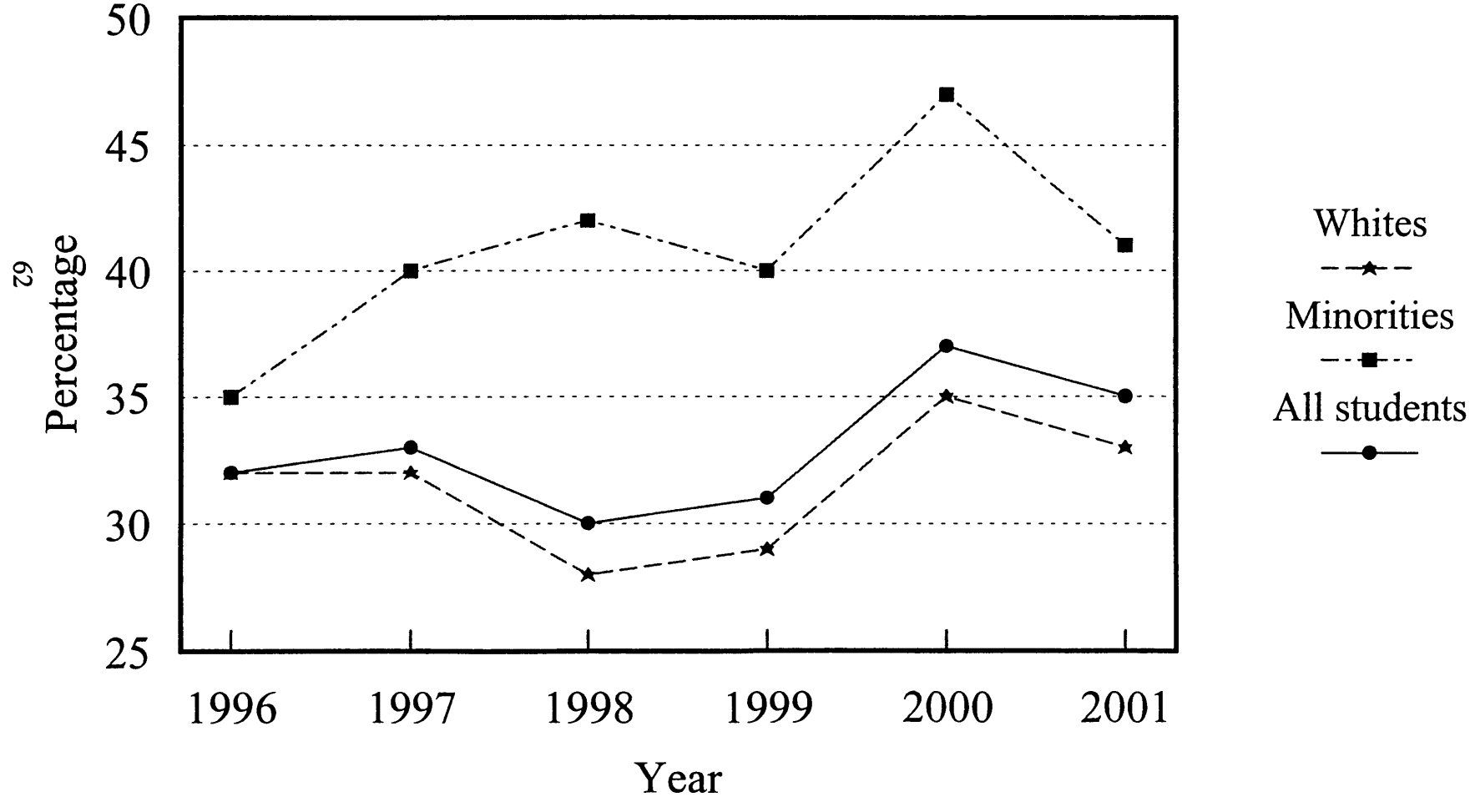


Figure 3.A.3

Postsecondary Attendance, By Institution Type and Sex

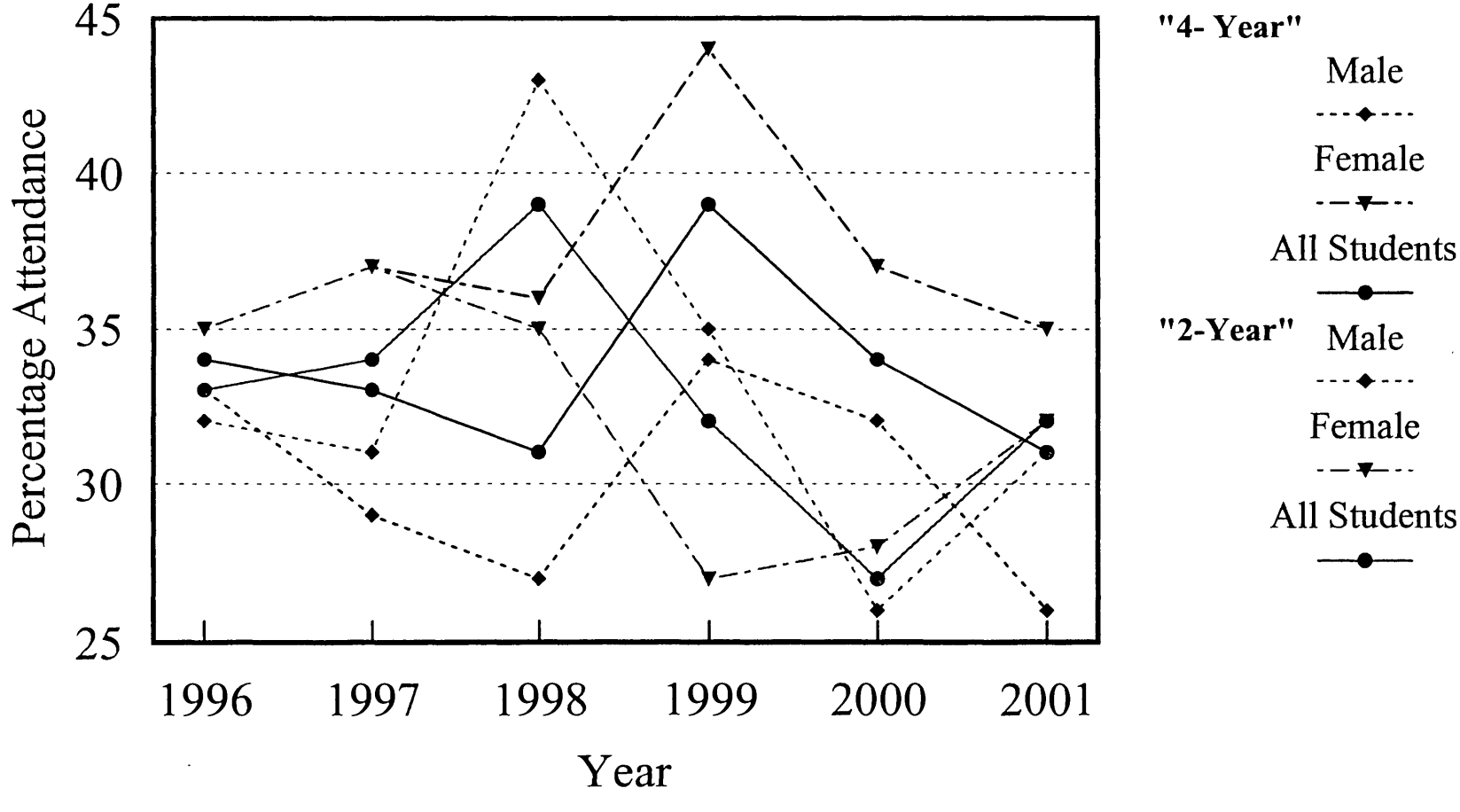


Figure 3.A.4

Percentage of Students in Postsecondary Schooling who Report their Major/Program is Related to EFE Class(es), By Extent of Relatedness

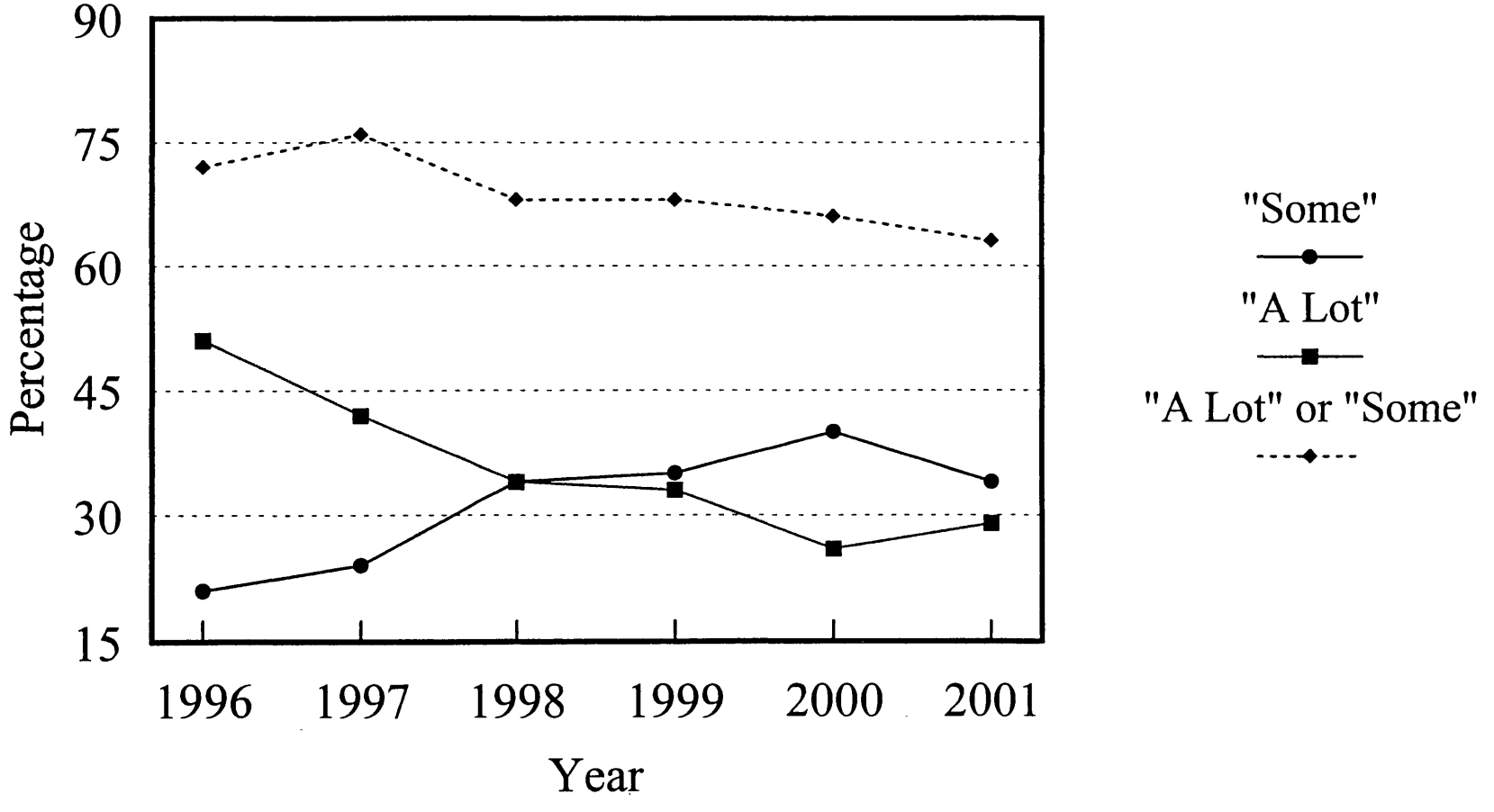


Figure 3.A.5

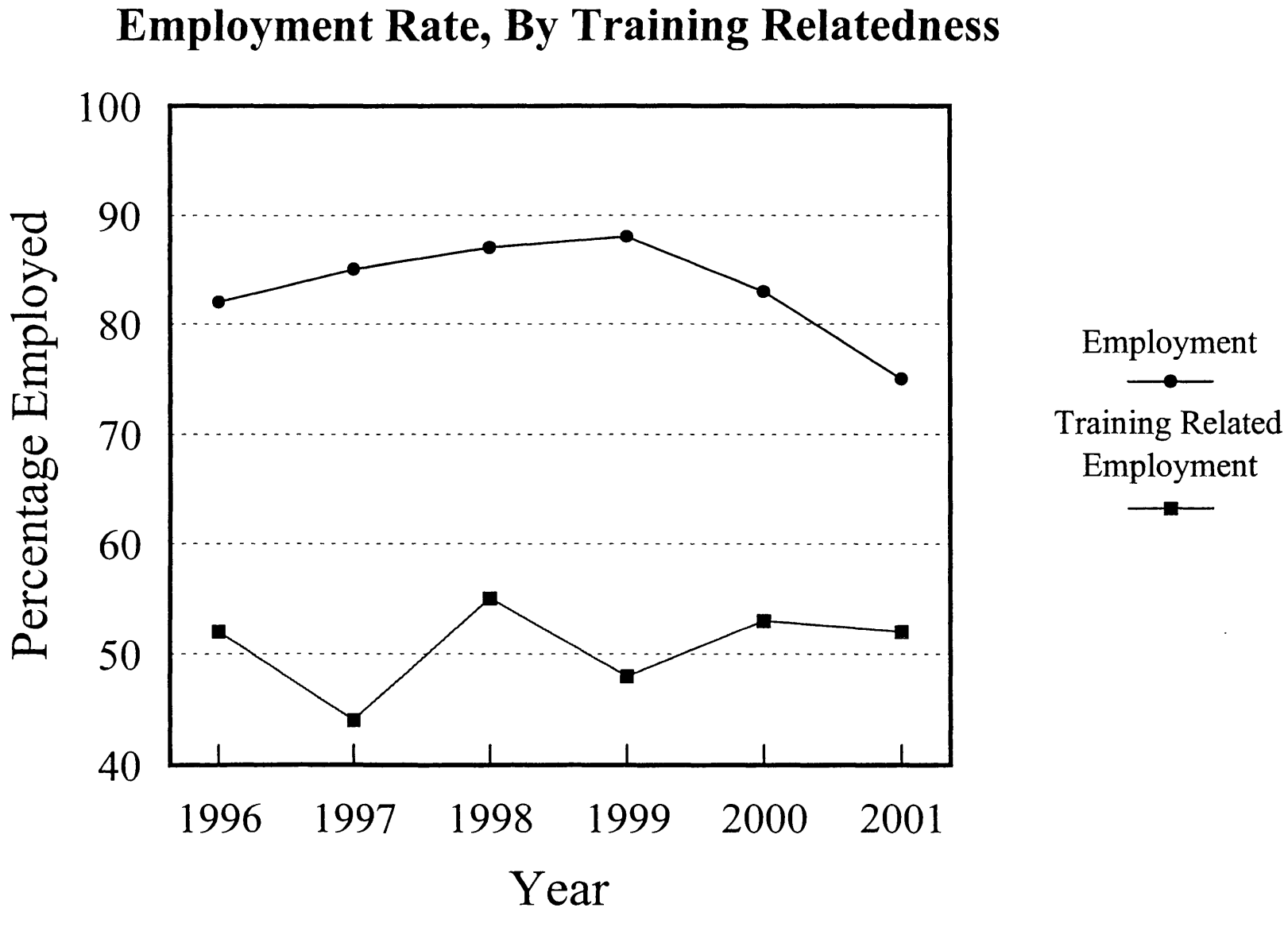

Employment Rate, By Training Relatedness
Percentage Employed
100
90
80
70
60
50
40
1996
1997
1998
1999
2000
2001
Year
Employment
Training Related Employment

Figure 3.A.6

Note: Unemployment is defined as not working for pay and not actively looking for a job

Figure 3.A.7

Indicators of Satisfaction with Aspects of EFE Classes: Percentage Agreement or Disagreement with Descriptive Items

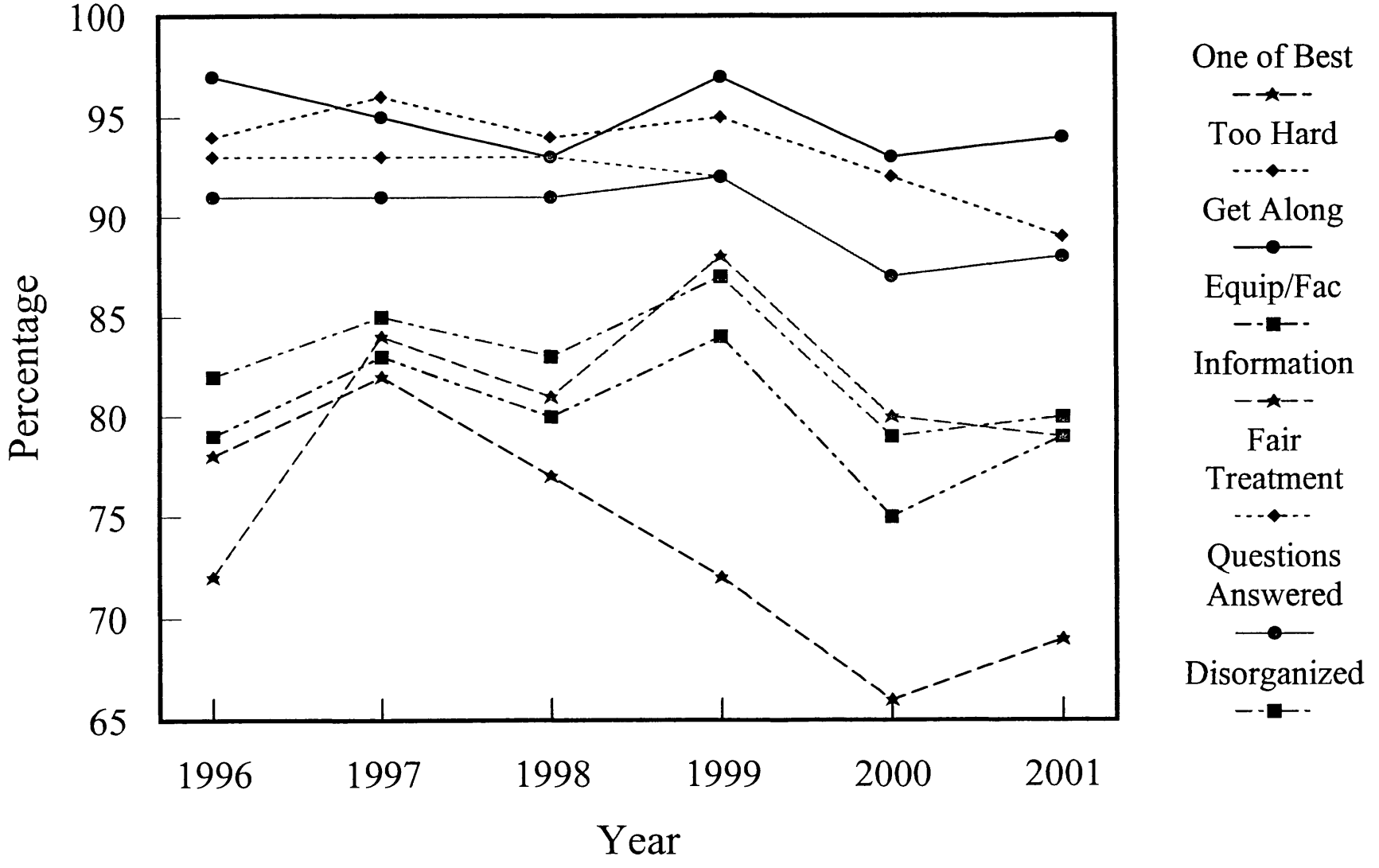


Figure 3.A.8

Participation in Work-Based Program Experiences, By Sex

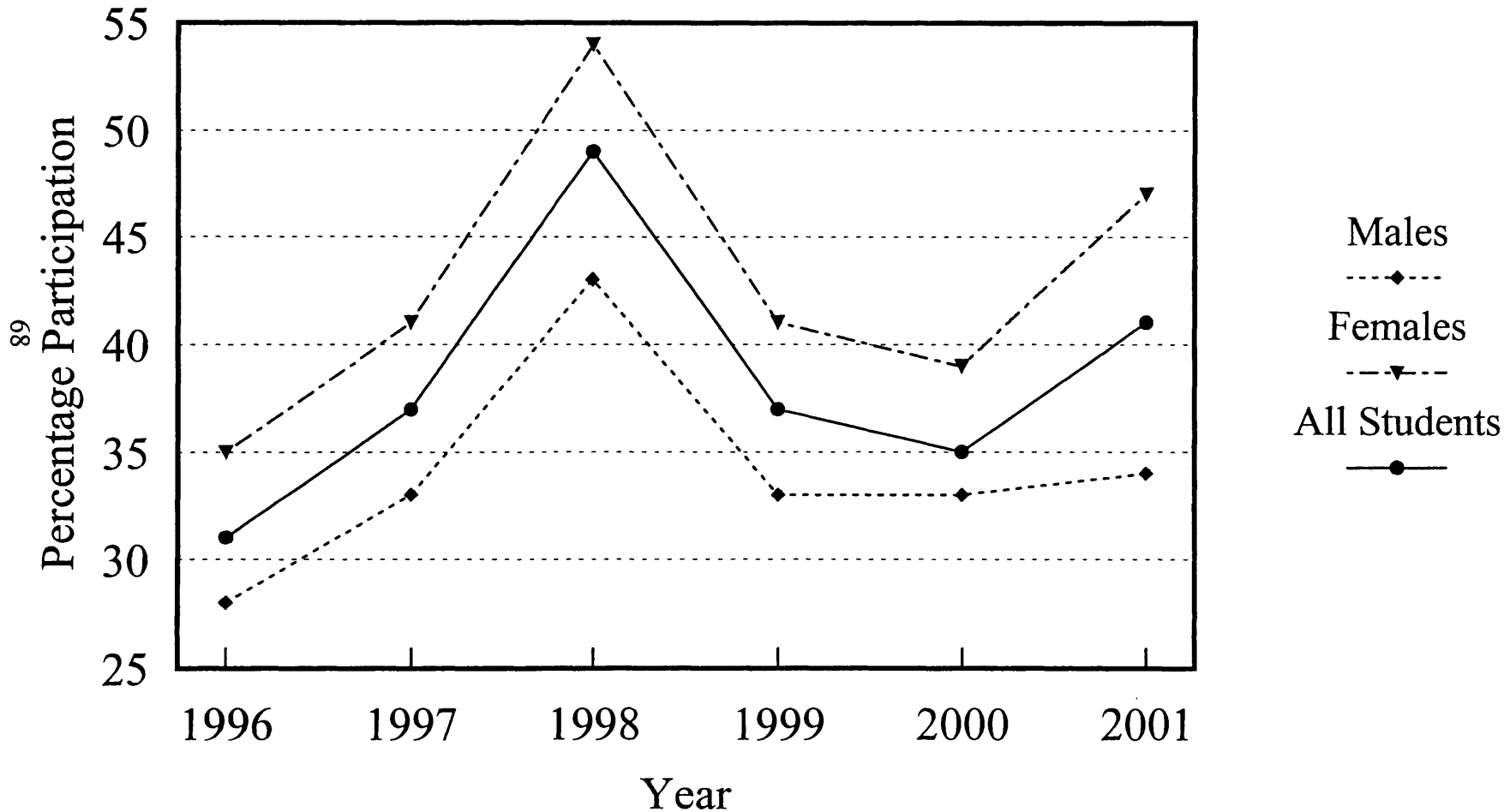
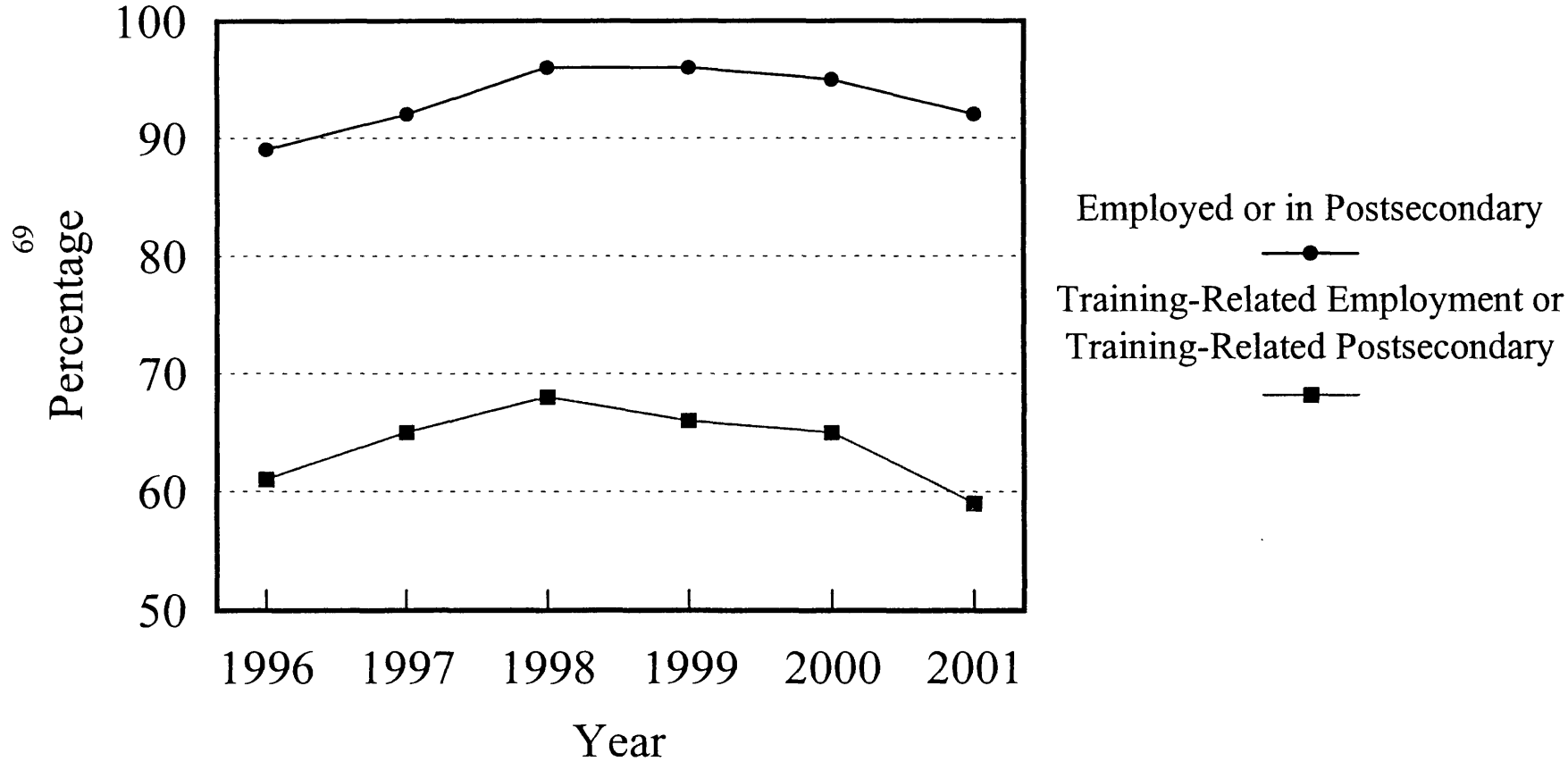


Figure 3.A.9

EFE Performance Outcomes, By Type of Outcome



4. Findings and Recommendations

The purposes of this last section are to highlight the major findings from the data analyses and to offer recommendations to EFE administrators to consider as they shape their programs and practices in the future.

Who Enrolls in EFE?

The enrollment in EFE is gender-balanced. Gender equity efforts by EFE seem to have been effective.

EFE is attracting both males and females in approximately equal numbers. For the last three years, the proportion of males and females has been right around 50 percent, and has been unchanged.

The enrollment in EFE is also racially-representative. The percentage of minorities in EFE programs increased substantially this year. This percentage closely mirrors the racial composition of the K-12 headcount in the county.

The percentage of EFE students who classify themselves as minorities had decreased three years in a row prior to this year, but the increase observed in the data this year offsets the three-year decline. According to 1999 data, about 78 percent of the K-12 students in the county were white, and according to the survey data, just under 80 percent of the EFE students are white.

The percentage of students in EFE who are freshmen or sophomores has increased substantially. EFE should investigate to see if these students are continuing to choose EFE classes in their junior and senior years. Furthermore, EFE should consider expanding its curricula to include 3rd and 4th year offerings.

Almost 30 percent of the respondents to the survey of current students identified themselves as freshmen or sophomores. This is almost a 100 percent increase since 1997. This trend may be explained by the adoption of block scheduling at some high schools in the county, which allows

students to take more elective classes, and by an increase in enrollment in basic BST classes. EFE administrators should determine whether the career and technical education interests of those students are being met in their junior and senior years, and should consider expanding the EFE curricula to include 3rd and 4th year offerings in some fields.

Work-Based Learning Experiences

Students who participate in work-based learning experiences seem to have better outcomes and more favorable opinions about their EFE experiences.

The data in table 2.3 shows that students in work-based learning experiences have much more favorable opinions about EFE than students who are not participating in these experiences. For example, over 70 percent of the work-based learning participant rated their EFE class as "one of the best in high school." Only 56 percent of the other students made that same statement. Furthermore, a higher percentage of students in work-based programs aspire to attend a postsecondary institution right after high school. Chapter 3 presented data on student outcomes for EFE program completers. Students who indicated that they had participated in work-based programs were more likely to be in college, had a higher employment rate, had higher wages, and had a lower unemployment rate than other survey respondents who indicated that they had not participated in a work-based program in high school.

About 20 percent of EFE students indicate that they participate in a work-based learning experience. In contrast, a recent five-year plan for EFE set a goal of having at least 50 percent of students who participated in EFE had a work site experience.

The percentage of current students who indicated that they participate in a work-based program stayed constant at about 21 percent in this year's and last year's surveys. (Note that this is about a 20 percent decline since 1998). On the other hand, the percentage of completers who

indicated that they had participated in a work site experience when they were taking their EFE class increased substantially from 35 to 41 percent. Having this year's percentage remain constant despite a much larger enrollment of 9th and 10th graders and having the percentage increase substantially for EFE completers suggest that participation rates in work-based learning are holding their own, and are maybe increasing. EFE administrators need to continue to emphasize work-based learning in order to meet the goal of the five-year plan of the EFE Council, which calls for at least half of EFE students to participate in a work site experience. More importantly, it appears as though educational outcomes are more favorable for students who participated in a work-based program, and so maximizing participation in work-based programs serves students well.

Stakeholder Satisfaction

EFE programs receive satisfaction ratings that indicate very high levels of customer (stakeholder) satisfaction.

In all of the surveys that were conducted, respondents were asked several questions about their satisfaction with various aspects of EFE classes and programs. As shown in table 2.3, between 59 and 82 percent of current students were pleased with various aspects of their EFE classes. Furthermore, the students gave their classes a B+ for quality. EFE completers were asked for their opinions about the same aspects of their EFE classes as current students were, and table 3.5 shows that their (recalled) levels of satisfaction were even higher than current students'.

*Whereas the **levels** of customer (stakeholder) satisfaction were moderately high, the **trends** were less positive (particularly among current EFE students). Virtually all of the indicators of satisfaction were lower in 2001 than they had been in 2000 for current students. The picture is not nearly so bleak for EFE completers, for whom the satisfaction ratings were slightly higher in 2001 than they had been in 2000.*

Substantial percentages of EFE students and completers were quite satisfied with the programs and experiences in which they had been involved. However, it is somewhat disconcerting that quality indicators for seven out of the eight characteristics about EFE programs declined in this year's data compared to last year's. Five of the seven declined by 4 or more percentage points. The picture is not nearly so bleak for EFE completers, for whom the satisfaction ratings were slightly higher in 2001 than they had been in 2000, although the improvements are not nearly as large as the negative changes for current students. It should be noted that as EFE reaches more and more students, it will be harder and harder to sustain continual increases in the level of satisfaction of students. Students who otherwise would not have taken EFE classes are now enrolling. Therefore, EFE has to work harder just to maintain the same level of satisfaction.

Among the quality indicators about which respondents provided data, two items of special concern were the continuation of downward trends in the percentage of students who indicated that their EFE class "was one of the best classes they had taken in high school" and the decline in the grade level that students assigned tho their programs.

One of the items on the surveys asked students (both current students and completers) whether their EFE class "was one of their best classes in high school." There has been a five-year downward trend in this statistic, and for the first time, the overall percentage dropped below 60 percent. Second, students give a course quality grade to their EFE class, and this grade, on average, dropped by about 3 percent from 3.23 to 3.13 (on 4-point scale.)

Postsecondary Attendance

A high share of the students who enroll in EFE classes want to pursue postsecondary education at two- and four-year institutions, and a high percentage actually do.

About 85 percent of EFE students indicated that they planned to enroll in a postsecondary institution either right after high school or after working for a few years. This percentage has

remained quite stable over the years. The follow-up survey (table 3.1) shows that 63 percent of completers actually enrolled in postsecondary education right after high school. Oftentimes, parents and students misperceive EFE as being for non-college bound students. Thus it is important to provide them this evidence to show that such a stereotype is simply not correct.

> *The percentage of completers who went on to 4-year colleges dropped substantially this year. However, the decrease was more than offset by an increase in the percentage of students who enrolled in a 2-year institution.*

Unlike the first four years of follow-up survey data, the last two years of data from program completers show that less than two-thirds of the respondents indicated that they were attending a two- or four-year college. In this year's data from EFE completers, there was a slight increase in postsecondary attendance rates—a substantial decrease in the enrollment rate at 4-year institutions and an even larger increase in the enrollment rate at 2-year institutions.

> *A large share of EFE students hold part-time jobs that could be a significant learning resource, if an appropriate mechanism to integrate these experiences into the curriculum could be devised.*

Around 50 percent of current EFE students worked in part-time (or full-time) jobs according to the survey data. Given the apparent advantages that work-based experiences provide to students who participate in them, it would seem that there would be some benefit to try to integrate some of the workplace learning that must be taking place in part-time jobs into the curriculum. It is not clear how such integration could occur, however. At a minimum, both EFE and other subject matter teachers should be asking students about their out-of-school activities, including employment, and tailoring instruction to those activities as appropriate situations arise. However, there may be more formal mechanisms for integration.

Equity Issues

There continues to be a substantial difference in the characteristics of females who participate in EFE from those of males. Females' grade point averages and number of extracurricular activities engaged in are higher. Furthermore, the percentage of females who plan to attend postsecondary schooling is much higher.

The last two reports noted that EFE is attracting females who are "above average" students—they had higher grades, participated in more extracurricular activities, and had a higher percentage who planned to attend postsecondary schooling than their male classmates. The data for this year is quite similar. In addition to the higher grades and activities, females tend to be more satisfied with EFE than males. The lower levels of satisfaction of males may be reflective of lower achievement in and less attachment to schooling, in general. If these characterizations are correct, the obvious recommendation is that "average" or "below average" females may be a target market for EFE outreach, as might "above average" males.

Substantial gaps exist between minority and white students in program satisfaction and outcomes. Minorities have a lower rate of college attendance and a higher unemployment rate.

Table 2.3 shows that nonwhites are far less satisfied with their EFE class experiences than are whites. The average grade assigned for course quality was 2.96 for nonwhites and 3.19 for whites. The "satisfaction" indicator is lower for "I get along with other students and we work together...;" "This course treats everybody fairly...;" and "I can get questions answered..." Table 3.5 shows virtually identical gaps between whites and nonwhites in the satisfaction data provided by EFE completers. Furthermore, note that postsecondary attendance rates are lower for nonwhites (table 3.1); employment rates and wages are lower for nonwhites (table 3.3); and the unemployment rate is much higher for nonwhites—28.0 percent compared to 11.5 percent.

Outcomes

The career aspirations of EFE students are skewed toward white collar, professional occupations. EFE might consider an effort to inform students and parents about the employment and earnings payoffs to clerical, craftsperson, and technician occupations.

As shown in table 2.8, the career plans of EFE students are skewed toward professional and managerial occupations. Only about one-quarter of the current students see themselves in clerical, crafts, or technician jobs when they are 30 years old. Over 60 percent aspire to manager, professional, school teacher, or ownership occupations. The occupational distribution in the labor force is almost exactly opposite of these aspirations—only one-fifth of jobs are in professional or managerial occupations. Thus there is a serious mismatch between the aspirations of EFE students and where they will end up in their careers. Some of this mismatch might be ameliorated by better or more widely disseminated information on the employment and earnings prospects of certain occupations. In particular, many analysts are forecasting dire shortages and consequent wage growth in jobs that require less than a baccalaureate degree, such as technicians.

The EFE performance indicators are quite high, although they have slipped from where they were last year. The percentage of follow-up survey respondents who were employed or in school–92 percent–declined from a level of 95 percent last year. The share of respondents who are in a training-related postsecondary program or training-related job was under 60 percent for the first time since this survey was fielded over the last six years.

The bottom-line for EFE is the extent to which it improves the career prospects of its students. A one-year follow-up survey may be a premature means for drawing conclusions about students' ultimate careers and education choices. Nevertheless, surveys of graduates have shown that EFE has done well each year in postsecondary attendance and employment outcomes, although these indicators declined somewhat this year.

Caveats

This assessment does not examine the important issue of student academic achievement.

Finally, it should be recognized that the career and technical education courses that EFE offers in high school are part of the educational system in the county, and that the primary outcome of this system is academic achievement. All students need to be educated to their full potential. The data that indicate that EFE students have high planned and actual rates of postsecondary attendance suggest that academic achievement is being reached. But, EFE needs to evaluate the performance of its students on assessments that measure academic achievement. EFE might consider an assessment system that documents pre- and post-learning. Under the competitive pressures that are being thrust upon education, the future of EFE may ultimately depend on its ability to document enhanced student learning.

The data collection efforts for this study did not include any 'control' group. All of the statistics refer only to students who were affiliated with EFE. It is unknown how these students and graduates would compare to non-EFE students and graduates.

This report has documented a substantial level of satisfaction with EFE classes (although that satisfaction has arguably declined), a reappearance of gaps between whites and minorities in levels of satisfaction and outcomes, and high rates of postsecondary attendance and employment. In order to fully understand and evaluate these results, we should have some benchmark or measure of how well students who are not in EFE do in the labor market and in postsecondary settings. The results for the EFE students and completers look good, so we have a tendency to conclude that EFE is a prime contributor to these outcomes. However, we cannot rigorously attribute the positive outcomes to EFE without some context of how these students would be doing in the absence of EFE.

Consequently, we recommend that EFE administrators consider broadening their data collection efforts in future years to include non-EFE student outcomes.