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## Assessment of Kalamazoo County's Education for Employment (EFE) Programs Using 2002 Survey Data

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*Assessment of Kalamazoo County's  
Education for Employment (EFE) Programs  
Using 2002 Survey Data*

October 2002

by

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Several individuals at the Upjohn Institute contributed substantially to the study and report. Ms. Evelyn Iversen was responsible for data preparation and entry, and the report was expertly prepared by Ms. Claire Black. Of course, the usual disclaimer applies. All errors are the sole responsibility of the authors. Furthermore, all opinions expressed are solely the authors' and do not necessarily represent the Education for Employment consortium or the W. E. Upjohn Institute for Employment Research.



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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 example for students, the consortium uses a puppet show to introduce careers to districts' first graders; organizes and sponsors a career exploration day for all 8th graders in the county; offers job shadowing experiences for 10th graders; offers a variety of career and technical education programs for high school students; and provides services for community college students (through the Tech Prep program). An example of its professional development activities for teachers is the "Voyager" program, an inservice programs in which secondary school teachers work for a short time at a local business to learn how their subjects are used in the workplace. The largest share of EFE's mission, however, is the career and technical education (CTE) course work for high school students, and the CTE courses 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, and work sites. Classroom-based programs are offered in 29 occupational areas—agri-science; allied health; art and design careers; auto body; automotive technology; business services and technology; computer technology; construction trades; cosmetology and nail technician; dental assisting; drafting technology; early childhood education; electro-mechanical technology; emergency medical technician; entertainment industry technician; health occupations; heating and air conditioning; hotel, restaurant, and travel management; law enforcement; machine tool technology; marketing; network administration; opticianry; photography; radio broadcasting; teacher education; television broadcasting; veterinary science; and welding.

Of these 29 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.<sup>1</sup> The amount of commuting between high schools varies widely across these 16 programs. Two of the programs—business services technology and marketing—account for about 70 percent of the enrollment in the 16 programs (1,911 students out of 2,713).<sup>2</sup> They have enough students to be offered at most of the county high schools,<sup>3</sup> 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 802, of which 52 percent are students from the high school offering the course and 48 percent commute from other high schools.

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<sup>1</sup>A few students from parochial high schools and high schools outside the intermediate school district attend programs as well.

<sup>2</sup>All of the enrollment statistics in this section of the report pertain to Fall 2001, and come from the document “EFE Enrollment Matrix,” no date.

<sup>3</sup>BST was offered at all 11 high schools in Fall 2001 and marketing was offered at 8.

Of the 29 occupational areas, five are taught in postsecondary institutions—four at KVCC campuses and one at two different proprietary cosmetology institutions. Total high school student enrollment in these six programs in Fall 2000 was 199.

A particularly innovative type of instructional environment that EFE offers is referred to here as worksite classroom programs. There are nine 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 and a one-year health occupations program offered at a local hospital; a two-year hotel, restaurant, and travel management program offered at a hotel; 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. The ninth program is a teacher cadet program in which students are placed in classrooms as teacher aides in school buildings throughout the county. 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 378 students were enrolled in these programs in Fall 2001; that is, left their home high schools each day to take classes at worksites.

All together, EFE had 3,290 students enrolled in classroom offerings in Fall 2001; 2,713 at high schools, 199 at postsecondary institutions, and 378 at worksite settings. In a few cases, students may be enrolled in more than one program, so we estimate that there were approximately 3,100 separate students enrolled.

Supplementing classroom-based programs (which may include work-based learning experiences) is 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 2001, about 191 students, from all of the county's 11 high schools, were engaged in co-op experiences in marketing, office, trade and industrial, or agricultural 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.

### **Study and Methodology**

In Spring 2002, 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 2000-01 school year and high school graduates who had participated in EFE programs. The latter were surveyed approximately one year after graduation.<sup>4</sup>

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<sup>4</sup>A few dozen of the respondents in the follow-up survey of graduates had completed their EFE course in the junior year of high school, and were thus surveyed approximately two years 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.<sup>5</sup> Consequently, surveys were designed and conducted rather than focus groups or personal interviews.

The first survey was administered in April/May 2002 to all students in EFE classroom-based or work-based programs. The survey collects 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. We estimate that there were approximately 2,800 students enrolled at the time of the survey, and 2,099 usable responses were received (a response rate of 75 percent).

Loss in response came from classes or job placement situations where the instructor or coordinator was unable to administer the survey because of time constraints. 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 2000-01 (except for a few student who had completed their class in the prior year as explained in footnote 4.) For the most part, they had graduated from high school at the end of the 2000-01 school 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.

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<sup>5</sup>Hollenbeck (1996; 2000) provides an in depth examination of EFE students’ perspectives.

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 previous follow-up surveys. The universe for the sample was 1,281 (this is the number of unique student names that was supplied to EFE by the state data information system VEDS). However, 283 of the students could not be reached because of incorrect telephone numbers (99), disconnected telephone numbers (150), or missing telephone numbers (34) in VEDS. Furthermore, there was not enough identifying information to find current telephone numbers for the students. Of the remaining 998 students, interviews were completed with 627 students. This represents a response rate of approximately 63 percent. There were 135 refusals or terminations (about 13.5 percent), and the remaining 236 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 52 percent males and 48 percent females, about 80 percent whites and 20 percent nonwhites, and about 20 percent in a work-based program and 80 percent not participating in such an experience. (These percentages compare closely to last year's sample, which had 51 percent males, 80 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 chapter. 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 are self-reported, and as the previous section of the report pointed out, about 75 percent of the students responded to the survey.

About 23 percent of the survey respondents are freshmen or sophomores; about 35 percent are juniors; and the remaining 42 percent are seniors. This percentage distribution is approximately

**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	5.1*	8.9*	5.2*	13.1*	0.8*	8.4*	7.1
Sophomore	17.8*	13.5*	16.0	13.9	3.5*	18.9*	15.7
Junior	37.8*	32.5*	35.3	35.8	25.1*	37.2*	35.4
Senior	39.4*	45.1*	43.5*	37.2*	70.6*	35.5*	41.9
Homework (avg. hours)	2.2*	3.0*	2.5	2.8	2.5	2.6	2.6
High school grade (gpa)	2.94*	3.20*	3.11*	2.92*	3.15*	3.03*	3.05
High school activities (avg. no. of)	1.9*	2.6*	2.2	2.2	2.2	2.2	2.2
Tardies (avg. no. of)	6.2	5.8	5.7*	7.3*	6.4	6.1	6.2
Absences (avg. no. of)	5.0	4.9	5.0	4.8	5.5*	4.9*	5.0
Total percentage	52.4	47.6	80.2	19.8	19.6	80.4	100.0

*Note:* Sample size is 2,099.

\*Difference from other population group is statistically significant at the .05 level.

the same for males and females. Whites and students with work-based experiences have a larger percentage of seniors and a lower percentage of freshman compared to their counterparts. The overall percentage of EFE students who were freshmen or sophomores is smaller than last year, when it was over 28 percent. Figure 2.A.4 shows the growth in the enrollment of students in grades 9 and 10. Interestingly, the trend toward greater enrollment of students in grades 9 and 10 is reversed this year. As might be expected, the percentage of students who are participating in work-based experiences who are freshmen or sophomores is significantly smaller than their overall share of students. Just over 4 percent of the students with work-based experiences are in 9<sup>th</sup> or 10<sup>th</sup> grade.

Respondents average about 2.6 hours of (self-reported) homework per week. Females average almost an hour more per week than males (3.0 to 2.2), which is statistically significant. There are virtually no differences between whites and nonwhites, nor between students who are in



a work-based program and those who are not. The students were asked about how many extracurricular activities they engage in. On average, the students indicate that they are involved in 2.2 activities, which is significantly lower than in previous surveys suggesting that students are getting involved in fewer and fewer activities. Females report being engaged in more activities than males (2.6 to 1.9), but as with hours of homework, there are no differences in the number of activities between whites and nonwhites, nor between students who in a work-based program and those who are not.

The average (self-reported) grade point average in the sample is 3.05 (B). Among the groups, females, whites, and students in a work-based program report a higher average than their counterpart population groups. These averages are quite similar to last years' grade point averages; although they are slightly higher, especially for students in work-based programs (3.15 this year compared to 3.07 last year). 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 are 6.2 tardies and 5.0 days of absence. The average number of tardies declined from last year (6.5 to 6.2), and the average number of unexcused absences declined significantly (5.4 to 5.0). (Assuming there are about 180 days of instruction, the average number of unexcused absences works out to about 3 percent.) Females report less tardiness than males (5.8 instances, on average, as compared to 6.2), and whites report less tardiness than nonwhites (5.7 versus 7.3). There are essentially no differences by race or sex in absences, but students in work-based programs have more absences than students not in such programs.

This year's average level of tardiness (6.2) and level of absences (5.0) are the lowest values in the seven years that we have conducted this survey. As shown in figure 2.A.6, both outcomes have downward trends with only a couple of years that are exceptions.

### **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

**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	
<b><u>Information Source Used/Most Important</u></b>							
Guidance counselor advice	0.55*/0.28	0.63*/0.29	0.61/0.31	0.57/0.28	0.67*/0.35*	0.58*/0.29*	0.59/0.30
Poster	0.03/0.00	0.03/0.00	0.03/0.01*	0.03/0.02*	0.04/0.01	0.04/0.01	0.04/0.01
Academic subject teacher	0.19/0.08	0.16/0.06	0.20/0.09	0.23/0.09	0.22/0.07	0.20/0.09	0.20/0.09
Technical ed. teacher	0.06/0.01	0.08/0.02	0.08/0.02*	0.11/0.05*	0.07/0.03	0.09/0.03	0.09/0.03
Brochure	0.34*/0.13	0.39*/0.15	0.41/0.17	0.38/0.16	0.34*/0.12*	0.41*/0.17*	0.39/0.16
High school handbook	0.19*/0.06	0.23*/0.07	0.24/0.08	0.21/0.08	0.34*/0.12*	0.21*/0.07*	0.23/0.08
Friends/acquaintances	0.41*/0.26	0.49*/0.26	0.46*/0.28*	0.40*/0.19*	0.45/0.27	0.44/0.25	0.44/0.25
Brother/sister - family	0.11/0.06	0.13/0.07	0.12/0.07	0.12/0.06	0.09/0.05	0.12/0.07	0.11/0.07
EFE staff presentation	0.07/0.02	0.07/0.03	0.07/0.03	0.09/0.04	0.08/0.04	0.07/0.03	0.07/0.03
Employer	0.02*/0.01*	0.01*/0.01*	0.01/0.01	0.03/0.02	0.01/0.01	0.02/0.01	0.02/0.01
Other	0.04/0.02	0.04/0.02	0.04/0.02	0.05/0.02	0.03/0.02	0.05/0.02	0.04/0.02
<b><u>Individual Who Assisted/Most Important</u></b>							
Guidance counselor	0.54*/0.29	0.64*/0.32	0.58/0.30	0.63/0.32	0.62/0.32	0.58/0.30	0.59/0.30
Academic subject teacher	0.13/0.07	0.12/0.07	0.13/0.08	0.12/0.05	0.16*/0.08	0.12*/0.06	0.13/0.06
Technical ed. teacher	0.09/0.03	0.10/0.04	0.09*/0.03	0.14*/0.05	0.09/0.03	0.10/0.04	0.10/0.04
Other school administrator	0.03/0.01	0.03/0.01	0.02*/0.01*	0.05*/0.02*	0.02/0.00	0.03/0.01	0.03/0.01
Parent/guardian	0.29*/0.19*	0.39*/0.26*	0.34/0.22	0.33/0.23	0.37/0.23	0.33/0.21	0.33/0.21
Friends	0.40/0.24	0.39/0.21	0.41*/0.24*	0.34*/0.15*	0.38/0.20	0.39/0.23	0.39/0.22
Brother/sister - family	0.08*/0.04	0.11*/0.06	0.09/0.05	0.11/0.05	0.10/0.05	0.10/0.05	0.09/0.05
Employer	0.01/0.01	0.01/0.01	0.01/0.01	0.02/0.00	0.03*/0.01	0.01*/0.00	0.01/0.01

*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 2,099.

\*Difference from other population group is statistically significant at the .05 level.

respondents who report 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 0.55\*/0.28. This means that 55 percent of the males report that guidance counselor advice was a source of information about their EFE class, and that 28 percent of the males indicate that guidance counselor advice was among the most important sources of information. (The asterisk indicates that the 55 percent for males is a statistically significant difference from the 63 percent for females.)

The data show that a large share of the students rely on guidance counselor advice, brochures, and friends or acquaintances as sources of information about their 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 align with overall reliance. Guidance counselor advice, friends, and brochures are the most important information sources. Note that posters and employers are 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 are significant. Females report more information sources than males, and in particular, a greater reliance on guidance counselors, brochures, high school handbooks, and friends or acquaintances. There are only a couple of differences between minorities and whites. The former report a lower reliance on friends/acquaintances. Students who are in work-based programs tend to rely more heavily on guidance counselor advice and their high school handbooks, but less on brochures than do other EFE students.

The bottom panel of the table reports data concerning which individuals were most influential in the students' decisions to enroll in EFE. Guidance counselors are mentioned most often by respondents both as individuals who assisted and the most helpful individuals. Friends are next, followed closely by parents/guardians. Among the demographic groups, females tend to be assisted by guidance counselors, parents/guardians, and siblings more than do males. The only statistically significant differences between nonwhites and whites is a much higher reliance on friends for whites and a lower reliance on school administrators other than teachers or counselors. Students with work-based program experiences report a higher reliance on academic subject teachers and on employer than those without such experiences (but the fractions are very small.)

The data reported in table 2.2 are similar to last year's data. It should be noted that the percentage of students who report gaining information from each of the sources and the percentage of students for whom the source had been among the most important in both years is considerably smaller than comparable percentages from the early years of surveys—in 1996, 1997, and 1998. 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 items to gauge their opinions about various aspects of their EFE classes. Specifically, they were asked for their level of agreement or disagreement with several statements 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

**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. . .”	60	60	61	60	69*	58*	60
Disagree/strongly disagree with “This course is too hard. . .”	74*	80*	78*	73*	78	76	76
Agree/strongly agree with “I get along with other students and we work together. . .”	82	84	83	83	88*	82*	82
Agree/strongly agree with “The equipment and facilities meet the needs. . .”	74*	83*	78	80	82*	77*	78
Disagree/strongly disagree with “Not enough information. . .”	68*	74*	72	67	70	71	70
Agree/strongly agree with “This course treats everybody fairly. . .”	71*	77*	75	71	77	73	73
Agree/strongly agree with “I can get questions answered. . .”	70*	75*	74*	67*	74	72	72
Disagree/strongly disagree with “This course is disorganized.”	68*	73*	70	70	67	71	70
Average grade for course quality (converted to 4.0 scale)	3.16*	3.28*	3.25	3.16	3.27	3.21	3.21

*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.

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

The students’ levels of satisfaction are medium to high—all ranging between 60 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 60 percent of the students agree, with the highest level of agreement from students who are in work-based program experiences. Just under 70 percent of students in work-based programs agree it is one of their best classes in high school. This is statistically significantly different from the responses for students who are not in work-based programs. The next item asks for agreement or disagreement with the statement, "This class is too hard." Here, 76 percent of the students disagree. A higher proportion of females disagree than do males, and a higher proportion of whites disagree than nonwhites. It should be recognized that students would disagree with this statement if they feel that the class is too easy, or if they feel that the pace and level are appropriate. Consequently, the indicator is somewhat difficult to interpret.

The third statement is, "I get along well with other students and we work together well in the class." Overall, more than 80 percent of the students agree with this statement. No follow-up questions to explore the students' reasons for answering the items one way or another were asked, so we cannot explain differences with certainty. The next item is intended to measure student opinion about the equipment and facilities in the classrooms and work sites. The item is phrased, "The equipment and facilities meet the needs of the course." Overall, more than three-quarters of the students agree with this statement—females higher than males, and work-based program participants higher than students not in such programs.

The next survey item asks students whether they think enough information about the course has been given to students and families. Overall, about 70 percent of the students are satisfied; females report higher satisfaction levels than males. The battery of opinion items then ask about whether everyone is treated fairly in the course. Almost three-quarters of the respondents are

satisfied, with females again reporting higher levels of satisfaction. Students next indicate their agreement with the statement, “I can get questions answered easily in this class.” The results are quite similar to the previous question; overall, about 70 percent of all respondents in the sample are satisfied, but the level of agreement is lower for males and for nonwhites. The last indicator is disagreement with the statement that, “This course is disorganized.” Seventy percent of all the population groups disagree with the statement.

The average grade for course quality is given in the bottom row of the table. The sample average of 3.21 indicates that, all in all, students are quite satisfied with their classes. A significant difference in this average exists by sex, however. The grades assigned by males are lower than by females.

In general, the trends in the EFE class satisfaction indicators over the seven-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 rebound somewhat this year after dropping significantly last year.

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 2,100 students responded to the survey, so the potential number of best aspects and worst aspects that could have been named was over 6,000. In fact, over 4,500 positive aspects were named and about 2,900 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 name their books/software most often, followed next by the “real world” experiences they are having. The next most often mentioned factor is a specific teacher.

On the other side of the ledger—i.e., worst things about the course—the item that is mentioned most often is the same item that gets named most often as a positive—books/software. Of the total number of responses to this question, this response accounts for about one-fifth of the answers. Just behind it in terms of percentage frequency is that the course required too much work. Finally, specific teacher and course is “too easy” are the next most often mentioned complaints.

Aspect	Number of times mentioned	Percent
<u>Best Aspects</u>		
Equipment	300	6.6
Books/software	1,030	22.6
No homework/tests	62	1.4
Pace	283	6.2
Specific teacher	568	12.5
Work-based learning	286	6.3
Skills, experience	870	19.1
College usefulness	83	1.8
Hands-on	230	5.0
Other students	256	5.6
Other	595	13.0
Nothing	32	—
Total (except “Nothing”)	4,563	100.0
<u>Worst Aspects</u>		
Equipment problems	151	5.2
Books/software	595	20.5
Too difficult	225	7.8
Too easy, boring	312	10.8
Too much work	448	15.4
Student:teacher ratio	86	3.0
Specific teacher/staff	390	13.4
Schedule problems	142	4.9
Class environment	49	1.7
Classmates	112	3.9
Other	383	13.2
Unfair	8	0.3
No worst comments	209	—
Total (except “No worst”)	2,901	100.0

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

### **Work-Based Program Experiences**

Table 2.5 shows that just one-fifth of the sample participate in work-based program experiences. Participation rates differ by race and sex. Males and nonwhites report lower participation than females or whites. Figure 2.A.9 displays trends in participation rates by race and sex, and it shows that it has usually been the case that females and whites have higher participation rates.



**Table 2.5  
Work-Based Program Experiences**

Characteristic	Sex		Race		Total
	M	F	W	NW	
<u>Participation</u> (n = 2,017)	17*	21*	20*	15*	20
<u>If Participated:</u>					
Paid? (n = 387)	53	45	49	44	48
Average wage (n = 168)	\$ 7.76*	\$ 6.80*	\$ 7.41	\$ 6.91	\$ 7.28
Average hours (n = 325)	15.8*	12.9*	14.4	14.6	14.2
Strongly disagree/disagree with “Work is unrelated to course. . .” (n = 380)	63	56	60	57	59
Agree/strongly agree with “Mentors are supportive and answer questions. . .” (n = 370)	80	80	81	80	79

*Note:* Table entries are percentages except for wages and average hours.

\*Difference from other population group is statistically significant at the .05 level.

Just under half of the students who participate in a work-based experience receive pay, and on average, the pay is \$7.28 per hour. The proportion of males who are paid for their work-based experience is 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. Note that these has been an almost uninterrupted downward trend in this proportion for both whites and minority students.

The hourly pay differential of almost \$1.00 per hour between males and females is statistically significant (\$7.76 for males and \$6.80 for females). The work-based program experiences average about 14.2 hours per week, a sharp decrease relative to last year, when the average was 15.5 hours. Males work more than females (16 hours to 13 hours), but there is not a significant difference between racial groups. The work-based program experiences in this year’s data differ from prior years in a couple of ways. As mentioned, a smaller share (for the first time a minority) of the experiences are paid. Furthermore, average hours per week in the experience has

declined from last year by almost 10 percent. The average wage rates are very close to last year's averages, with the sample average being just \$.02 higher.

Students who are participating in work-based program experiences were asked two opinion questions to measure satisfaction with their experiences. The first item deals with the extent to which the work experience is related to the content of the EFE class that the student was taking. About three-fifths of the students disagree or strongly disagree with the statement that the work experience is "...unrelated to their EFE class." This percentage is considerably lower than it was in the last year as shown in figure 2.A.11. The second item asks for agreement with the statement that "...workplace mentors are supportive and willing to answer questions." About 80 percent of the sample agree with this statement, with no differences between male and female students 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 report that they plan to pursue an apprenticeship program after high school. About one-fifth of the entire sample report this plan. Males are significantly more likely to indicate that they plan to pursue a formal apprenticeship than females. It is not clear why such a high percentage of students have this aspiration; apparently there is a misunderstanding about what apprenticeships mean and/or how readily accessible they are.

A large percentage of the students indicate that they are planning to attend a postsecondary institution (including community colleges and four-year colleges or universities). All together, 88 percent of the sample indicate that they are planning to attend either right after high school or in the

**Table 2.6**  
**Postsecondary Plans and Relevance of EFE Class**

Plan/Relevance	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Apprenticeship program after school? (n = 1,872)	23*	19*	21	22	23	20	21
Postsecondary college, university (including community college) (n = 2,000)							
Yes, right away	73*	86*	80	77	84*	79*	79
Yes, after work	10*	7*	9	11	9	9	9
Don't know	10*	3*	7	7	5	7	7
No	6*	3*	4	6	3*	5*	5
Agree/strongly agree with "EFE class helped me to decide. . ."	40	41	40	43	47*	39*	41
Agree/strongly agree with "EFE class was helpful in choosing program. . ."	44	49	46	47	55*	44*	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.

future after a few years of work. Females report a much higher rate of planning to attend college right after high school—86 percent to 73 percent for males. Figure 2.A.12 shows the trends in planned postsecondary attendance rates, by sex. However, this difference is offset somewhat by respondents who indicate that they intended to work first, and then go to a postsecondary program. About 10 percent of males indicated this plan as opposed to 7 percent of females. Still a greater percentage of females have postsecondary aspirations. About 16 percent of the males indicate that they do not plan to go on to postsecondary or that they do not know whether they will or not. Only 6 percent of females do not know or report that they do not plan to go.

A higher percentage of students who are in a work-based program experience plan on pursuing postsecondary education than students not in such a program. The difference is 84 percent compared to 79 percent, which is statistically significant.

The students' EFE experiences apparently have an impact on their postsecondary plans. Over forty percent of students report that they agree or strongly agree 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 report that they were college bound prior to their enrollment in EFE classes. Work-based program experiences appear to have the most impact on students’ postsecondary decisions also. Just under half of the students participating in work-based program experiences agree that EFE classes helped them to decide whether or not to attend a postsecondary institution whereas only 39 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 indicate agreement with the statement that “EFE classes were helpful in choosing a particular college or program.” Students with work-based program experiences again are more likely to agree or strongly agree than their counterparts (55 percent to 44 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; 79 in 2001 and 2002. 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 2000-2002. 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. Just under half of the respondents (46 percent) indicate that they believe that they can receive college credit for their high school EFE class. Twenty-two percent

**Table 2.7**  
**Availability and Importance of Transferable College Credit**

Characteristic	Sex		Race		Work-based programs		Total
	M	F	W	NW	Yes	No	
<u>Can student receive postsecondary credit for this class?</u> (n = 2,039)							
Yes	44*	49*	48*	42*	53*	45*	46
No	22	22	22	22	23	22	22
Don't Know	34*	29*	30*	36*	24*	33*	32
<u>If yes:</u>							
College credits earned for this class (average) (n = 585)	3.3	3.1	3.1	3.1	3.4	3.1	3.2
College credit was important in decision to take this class (n = 905)	37*	47*	40*	54*	49*	40*	42
Sources of information on college credit (n = 941)							
Guidance counselor advice	33	39	36	40	47*	32*	35
Poster	3	1	2	3	2	2	2
Academic subject teacher	70	67	69*	61*	67	70	68
Technical education teacher	5	7	5	9	1*	7*	6
Brochure	13	12	13	13	19*	10*	12
High school handbook	14	13	14	11	9	15	13
Friends/acquaintances	8*	15*	12	11	12	12	12
Brother/sister - family	3	6	4	7	4	5	4
EFE staff presentation	5	7	6	7	8	5	6
Employer	0	0	0	1	0	0	0
Other	3	2	3	2	0*	3*	3
<u>Total college credits earned by end of this year (average)</u> (n = 924)	3.5*	4.0*	3.7	3.6	4.1	3.6	3.8

*Note:* Table entries are sample percentages, except for average number of college credits.

\* Difference from other population group is statistically significant at .05 level.

believe that they will not be able to receive college credit for their class, and the remaining 32 percent indicate that they do not know. This is very close to last year's data with those believing that they can receive credit having dropped slightly. Females, whites, and students in work-based programs are all more likely to believe that they can receive college credit than their population counterparts; and just the opposite groups had significantly higher "don't know" responses.

Follow-up questions are asked of the students who indicate that they can earn college credits. These affirmative respondents are asked how many credits they think they can 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—report that this factor had been important in their program enrollment decision in high school. This varies by student characteristics. Females, nonwhite students, and students who participate in work-based program experiences are more likely to indicate that the ability to earn college credits was a deciding factor for taking this course. The students believe they will be able to earn about 3.2 college credits for this course with no difference across groups.

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 are the predominant source followed by guidance counselors. Friends/acquaintances, high school handbooks, and brochures are the next 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. Over 60 percent of the sample list occupations that are classifiable into the following categories: manager/administrator, professional, technical, or school teacher. Females, particularly, have set their aspirations in these directions. Forty-three percent of the females in the sample report that they would like to be in a professional occupation when they reach 30 and another 17 percent want to be a school teacher. The comparable percentages for males are 31 and 4. On the other hand, 13 percent of males aspire to occupations in the category of craftspersons, whereas only 1 percent of women reported this

**Table 2.8  
Career Plans and Relevance of EFE Class**

Plan/Relevance	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
<u>Occupational aspiration at age 30</u>							
Clerical	0*	2*	1	1	1	1	1
Craftsperson	13*	1*	8	5	6	7	7
Farmer	1*	0*	1	0	1	1	1
Manager/administrator	7*	5*	6	6	5	6	5
Military	3*	0*	2	1	1	2	2
Operative	2*	0*	1	0	1	1	1
Professional	31*	43*	36	42	29*	39*	37
Proprietor/owner	5*	3*	4	4	5	4	4
Protective services	5*	2*	3	3	5*	3*	3
Sales	3	4	4	4	4	4	4
School teacher	4*	17*	11	8	16*	9*	10
Service	1*	5*	2*	5*	4	3	3
Technical	14*	4*	9	7	13*	8*	9
Not working	1*	0*	1	1	0	1	1
<u>Relevance of EFE Class</u>							
Agree/strongly agree with “EFE class helped me to decide on job at 30.”	40	43	42	38	51*	39*	41

*Note:* Table entries are sample percentages. Sample size for occupational aspirations is 1,937. Sample size for relevance is 1,894. Columns may not add to 100 due to rounding.

\*Difference from other population group is statistically significant at the .05 level.

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 their EFE class(es) on the students’ career aspirations. This indicator is displayed in the bottom row of table 2.8. The survey question asks 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 over 40 percent of the students agree or strongly agree with this statement, that is, indicate that their EFE class(es) had a strong influence on their career choice. These data mirror closely the data from 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 agree with the statement.

### Current Employment

The last topic covered by the survey is current employment experiences. As table 2.9 indicates, under half of the students indicate that they are currently working for pay apart from any work-based experience that they are having through EFE. Whites and females are more likely to be employed than nonwhites or males. For those with jobs, the average hours of work per week was around 15.5, and the average hourly wage was \$7.16. On average, males worked an hour more per week than females—16 to 15—and they earn a higher hourly wage—\$7.51 to \$6.84. Students with work-based experiences also average more hours per week in work (17.1 to 15.0), but their average wage is actually lower than the wage for students who do not participate in work-based programs (\$7.06 compared to \$7.21), although this difference is not statistically significant.

**Table 2.9**  
**Current Employment Characteristics**

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
<u>Currently employed?</u> (n = 1,938)	43*	50*	49*	36*	50	45	46
<u>If yes:</u>							
Average hours (n = 836)	16.0*	15.0*	15.3	16.3	17.1*	15.0*	15.5
Average pay (n = 818)	\$ 7.51*	\$ 6.84*	\$ 7.18	\$ 7.15	\$ 7.06	\$ 7.21	\$ 7.16
Use training from EFE class? (n = 862)							
A lot	11	15	13	14	14	13	13
Some	28	29	28	34	26	29	28
Hardly any	25	24	25	18	28	24	24
Never	36	32	34	34	33	34	34

*Note:* Table entries for rows 1 and 4–7 are sample percentages.

\*Difference from other population group is statistically significant at the .05 level.



Since 1996, the percentage of students who are 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 in 2001 to 46 percent this year. (See figure 2.A.14, which displays this trend and the trend by race and by 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 to 15.5. In other words, there has been a strong downward trend in the amount of (part-time) employment—both the percentage of students working and the hours per week that they work. On the other hand, hourly wages have risen—from \$5.35 to \$7.16.

We asked the students whether or not they were using the training that they had received through their EFE course in their current job (noting that the employment is part-time and not class-related.) Just over two-fifths (40 percent) of the students who are working indicate that the skills and training they had received in their EFE class are somewhat useful or useful “a lot” on their part-time jobs. The other students report that they used “hardly any” of the EFE skills and training or none at all. Indeed, over one-third of the students indicate that they never use their EFE training.

### **Summary and Trends**

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

- The average EFE student has a (self-reported) 3.05 (B) grade point average (GPA), participates in 2.2 extracurricular activities per year, and does about 2.6 hours of homework per week. The average GPA's of students increased slightly over previous year's data.
- Prior to this year, there had been a substantial upward trend in the enrollment of 9<sup>th</sup> and 10<sup>th</sup> graders in EFE. This trend is reversed in this year's enrollment data. For example, the percentage of students in 9<sup>th</sup> grade was 11 percent in last year's data and only seven percent this year.

- There was a 10 percent decrease in the percentage of students who participated in a work-based experience from about 21.5 percent to 19.6 percent. Arguably the percentage point change is not large, but the trend has been in a downward direction for several years.
- The sources of information that students rely upon and the individuals who assist in decision making about EFE classes show only a slight shift compared to previous years. The most important sources of information are guidance counselor advice, friends/acquaintances, and brochures. The individuals who are mentioned most often as assisting students are guidance counselors, parents/guardians, and friends.
- Indicators of student satisfaction with EFE classes are moderately high. They rebounded this year after dropping significantly last year. Also, the gap between whites and minorities closed significantly. Previous years' data had shown that minorities were generally less satisfied about all aspects of their EFE classes than were whites. While the gaps do not totally disappear, they are much smaller than previously. There is a significant difference between males and females, however. Males are less satisfied than females in seven of the nine components.
- 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 are higher. The hours per week for these activities decreased significantly from 15.5 hours, on average, to 14.2 hours.
- There is a decline relative to last year in the percentage of students who participate in work-based programs who agree that there is a connection to their course work in EFE, but there continues 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, remained at the same level as it was last year—88 percent, which is higher than in any of the first five years of the survey. About 80 percent of students plan 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.
- Just under half of the students indicate that they believe they can receive direct or transferable college credit for their EFE class. The other half of the students are split in half between not knowing and believing that they could not get credit. Among the students who believe that they will be eligible for college credit, about 40 percent indicate that such potential credit was an important reason for enrolling in the EFE class. On average, the students thought they could earn 3.2 college credits for the class that they were in.

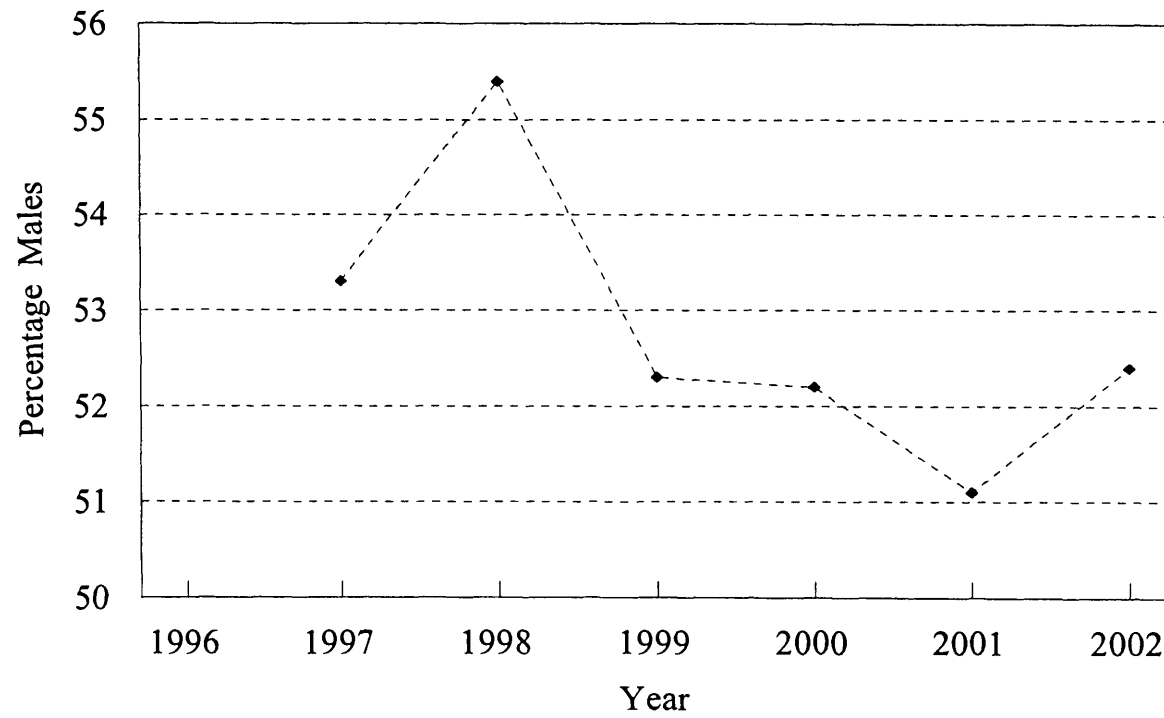
- Similar to data from last year, there is a skewed distribution for occupational aspirations. About 60 percent of the students (much higher for females) plan to be in a white collar occupation when they reach age 30. There is a slight downward change in the percentage of students who aspire to be in “white collar” occupations, and an upward 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. For the first time in the seven years of surveying current students, less than 50 percent indicate that they are holding a part-time job. Furthermore, time spent in those jobs has declined. The average weekly hours declined from over 17 to 15.5. On the other hand, average hourly wages have increased—this year by about 3.5 percent. Among the students who work, over 40 percent indicate that they use their EFE training in their part-time jobs and 34 percent report that they “never” use their EFE training in their current job.



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

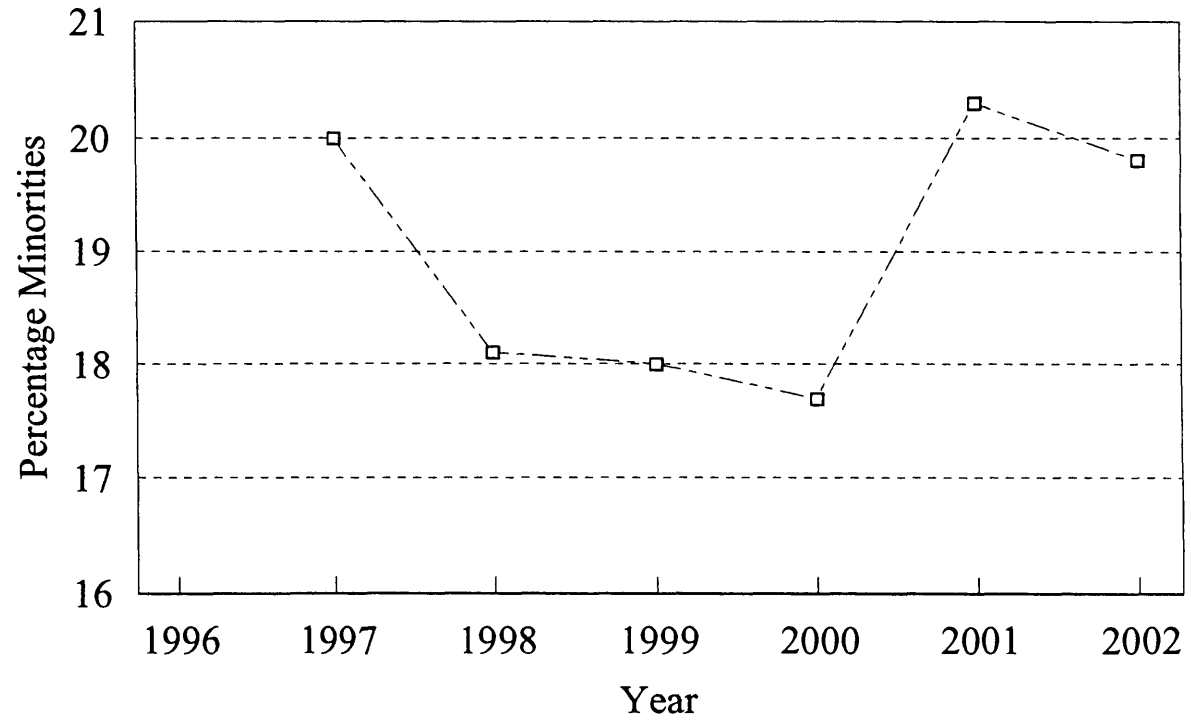


Figure 2.A.1 Gender Composition of Student Enrollment



Note: Data not available for 1996

Figure 2.A.2 Racial Composition of Student Enrollment



Note: Data not available for 1996



Figure 2.A.3 Participation in Work-Based Programs

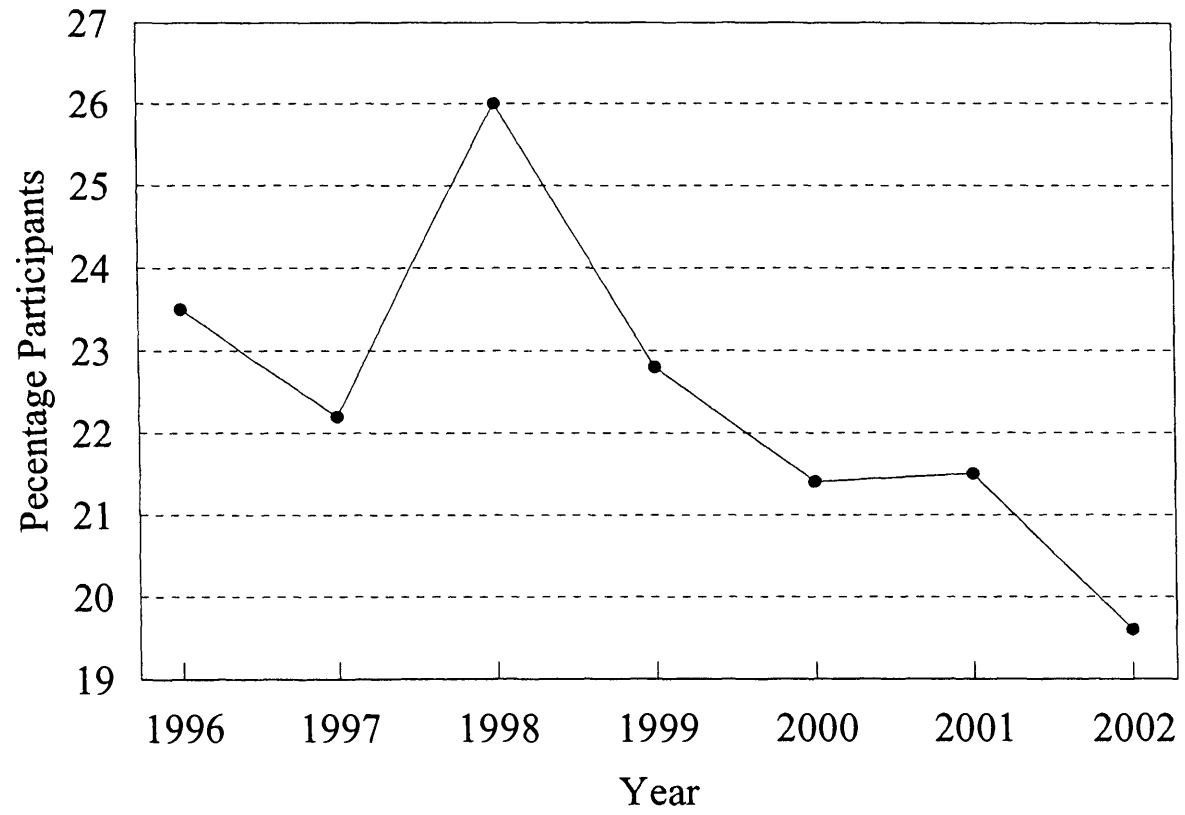
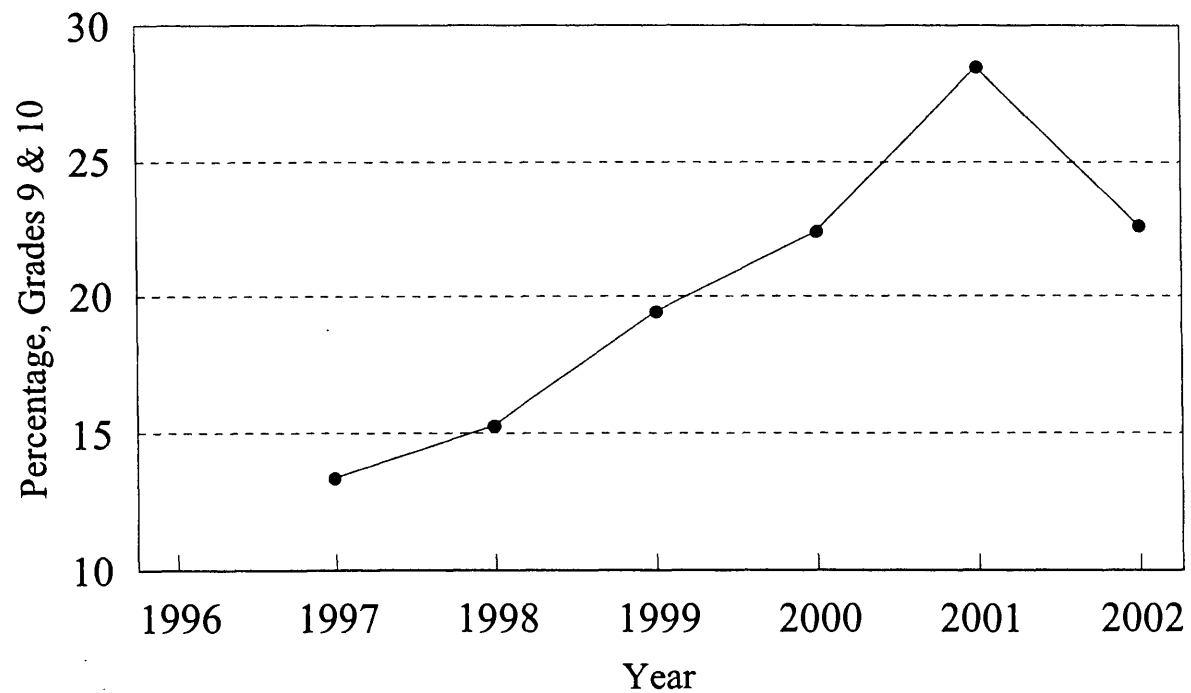
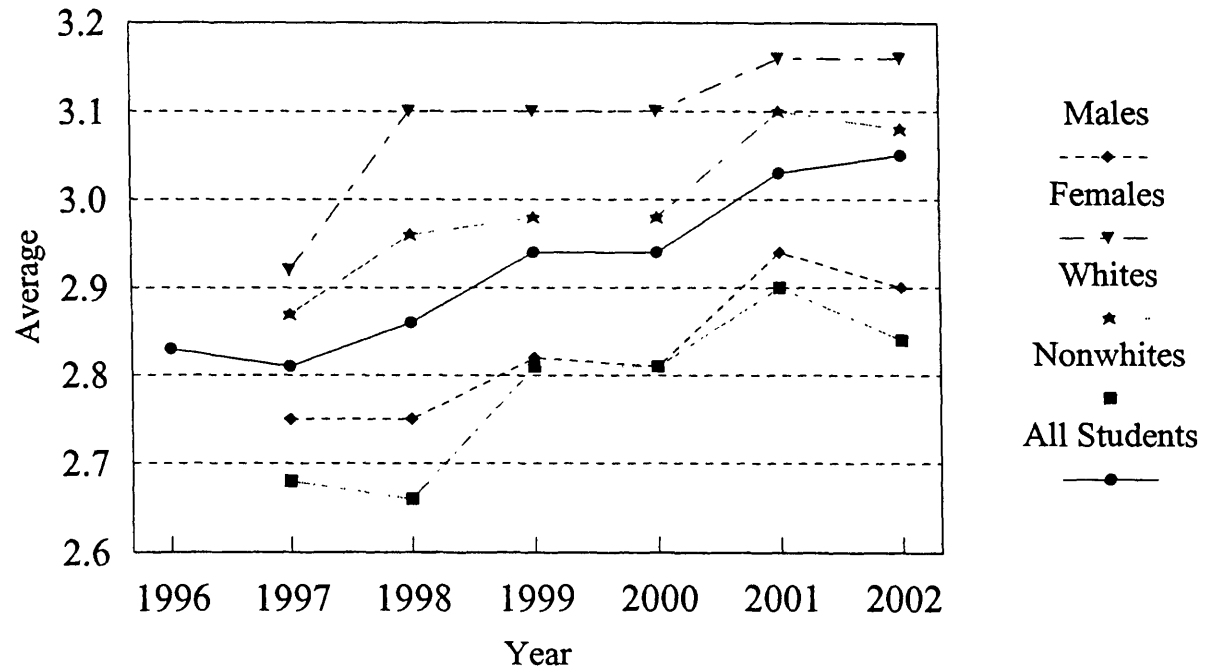


Figure 2.A.4 Enrollment of Students in Grades 9 and 10



Note: Data not available for 1996

Figure 2.A.5 Average GPA's, By Race and Sex



Note: Data by race and sex not available for 1996

Figure 2.A.6 Average Number of Incidents of Tardiness and Unexcused Absences

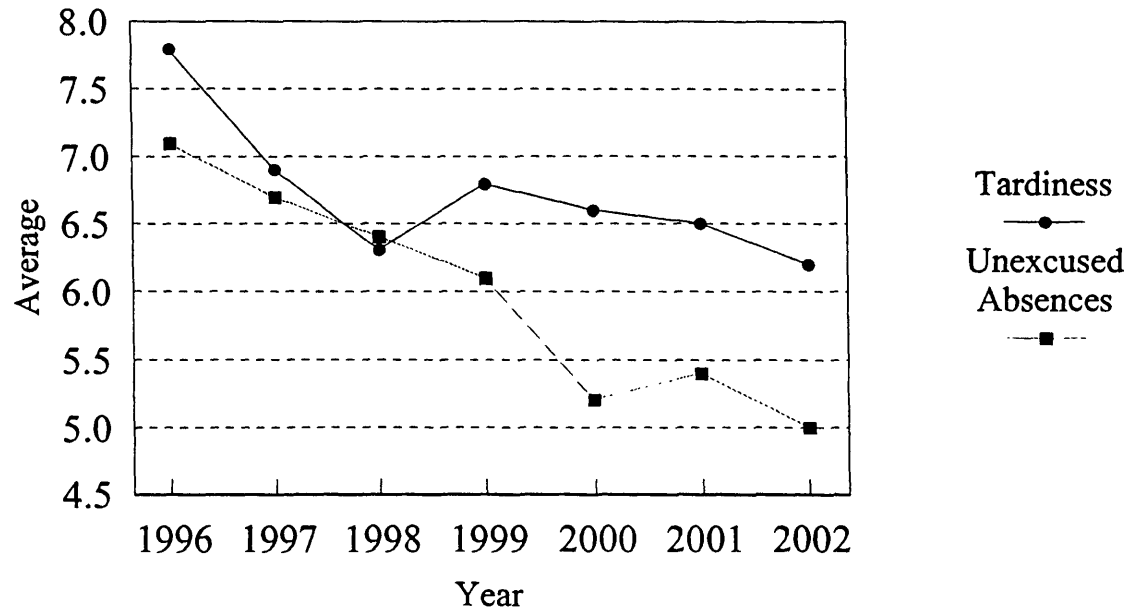


Figure 2.A.7 Indicators of Satisfaction with Aspects of EFE Classes:  
 Percentage Agreement or Disagreement with Descriptive Items

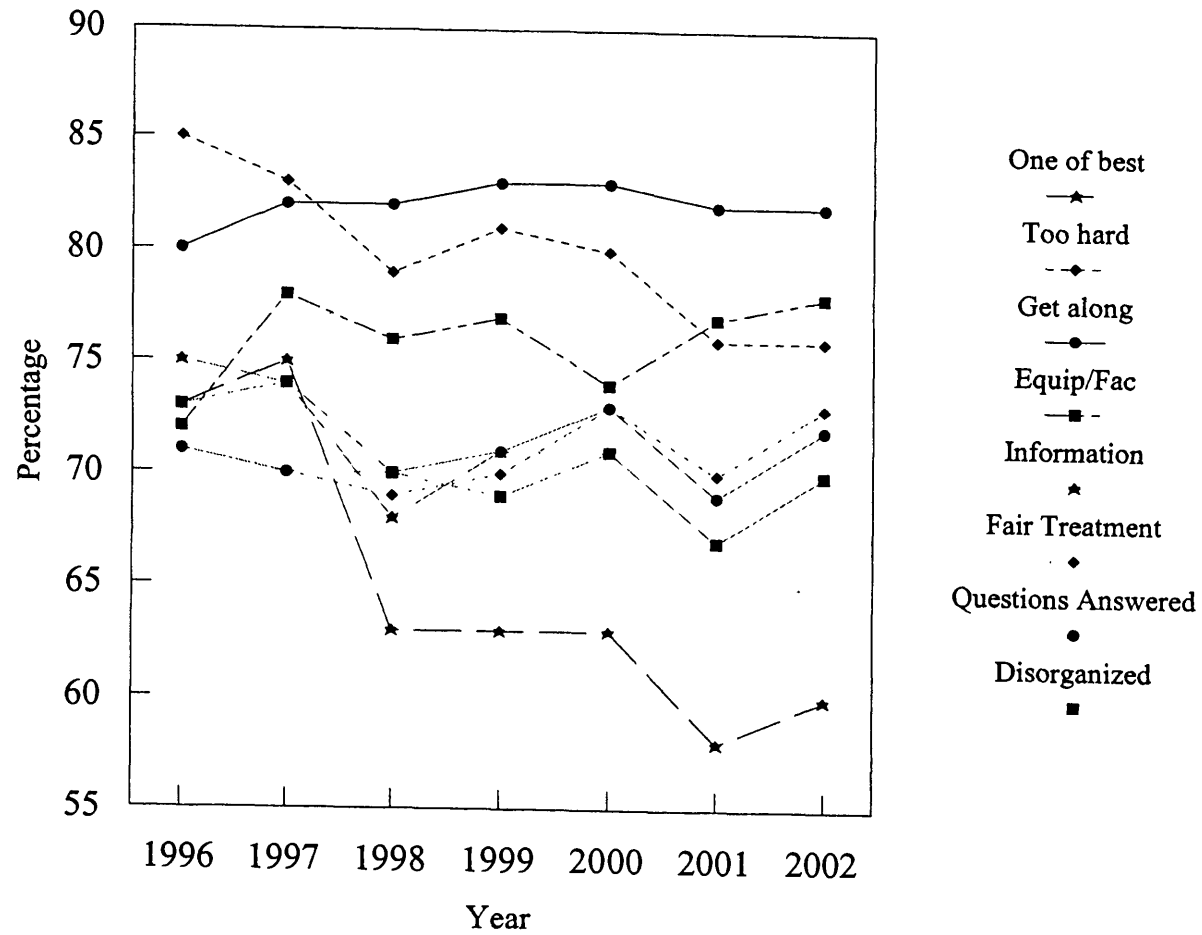
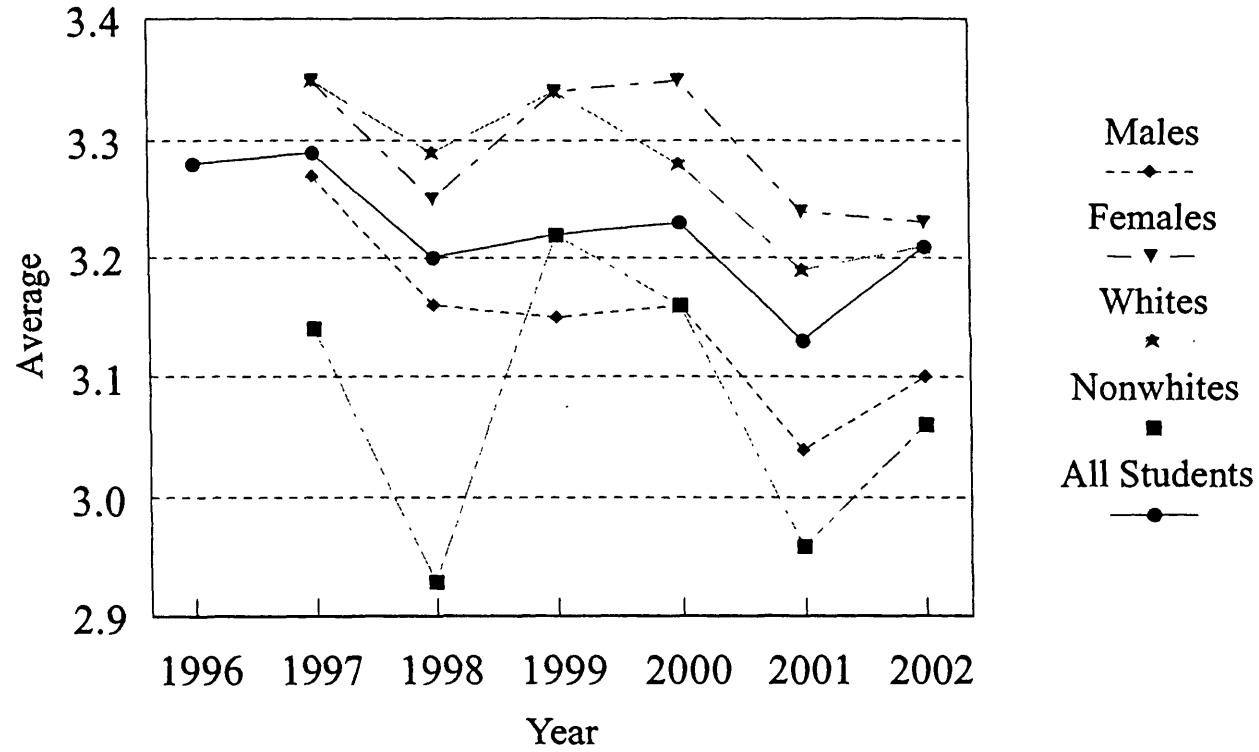
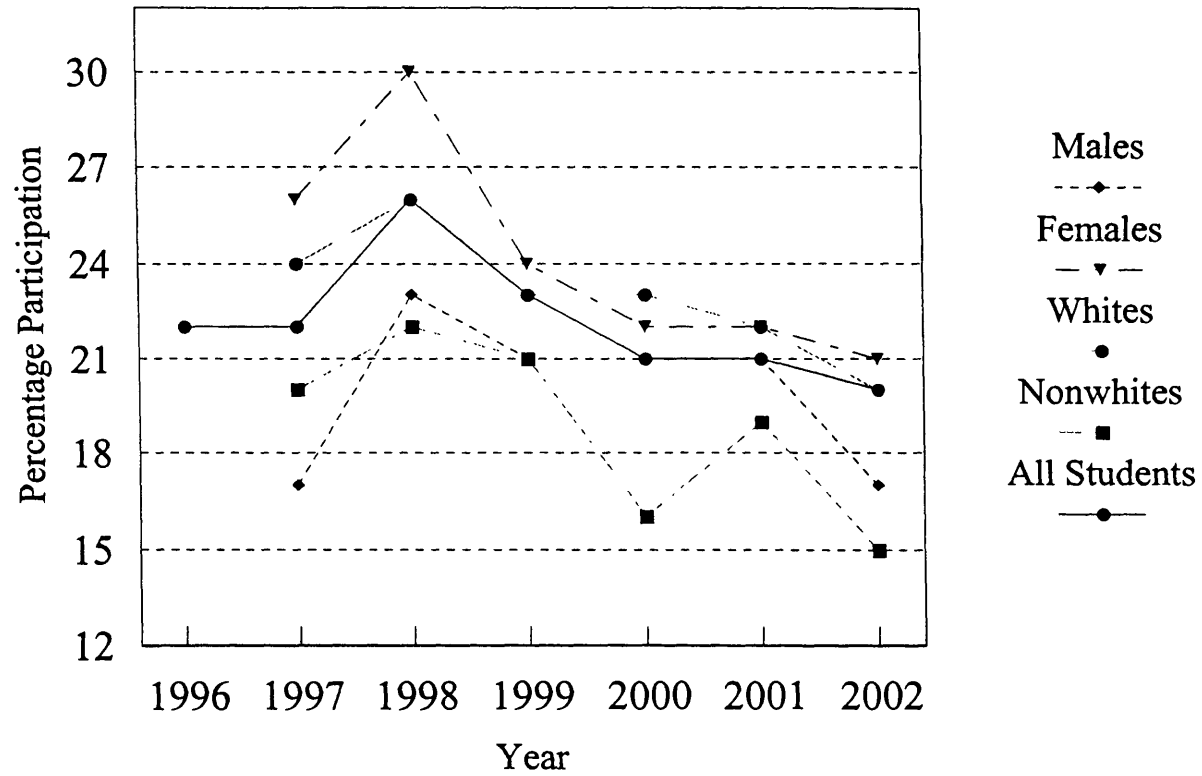


Figure 2.A.8 Student "Grades" for Course Quality, By Race and Sex



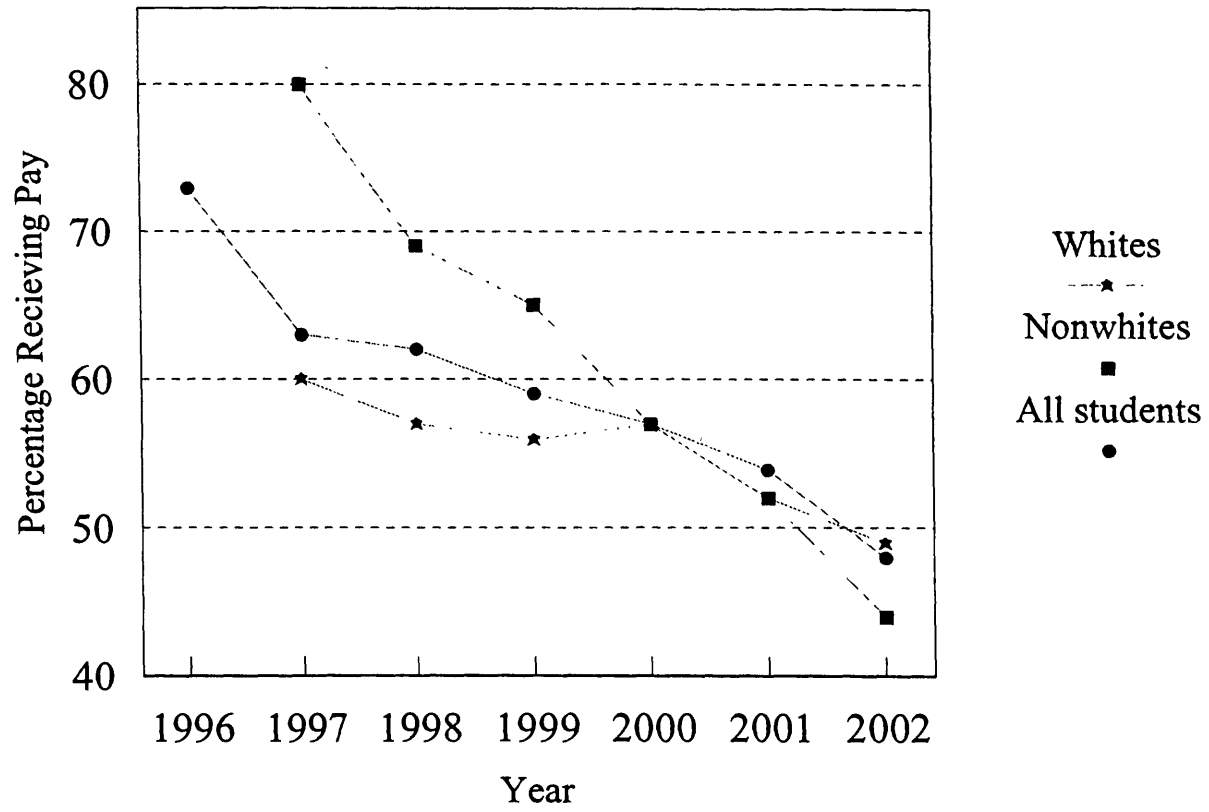
Note: Data by race and sex not available for 1996

Figure 2.A.9 Participation in Work-Based Program Experiences, By Race and Sex



Note: Data by race and sex not available for 1996

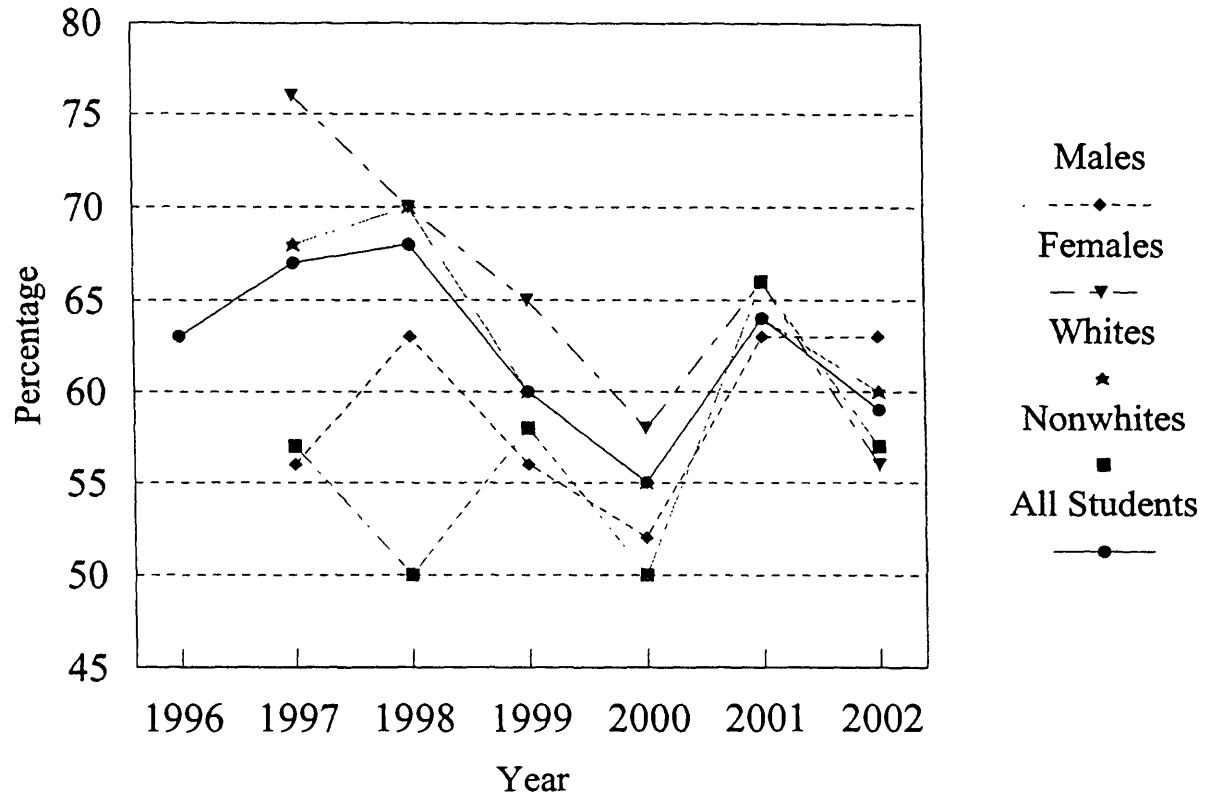
Figure 2.A.10 Percentage of Students in Work-Based Programs Receiving Pay, By Race



Note: Data by race not available for 1996

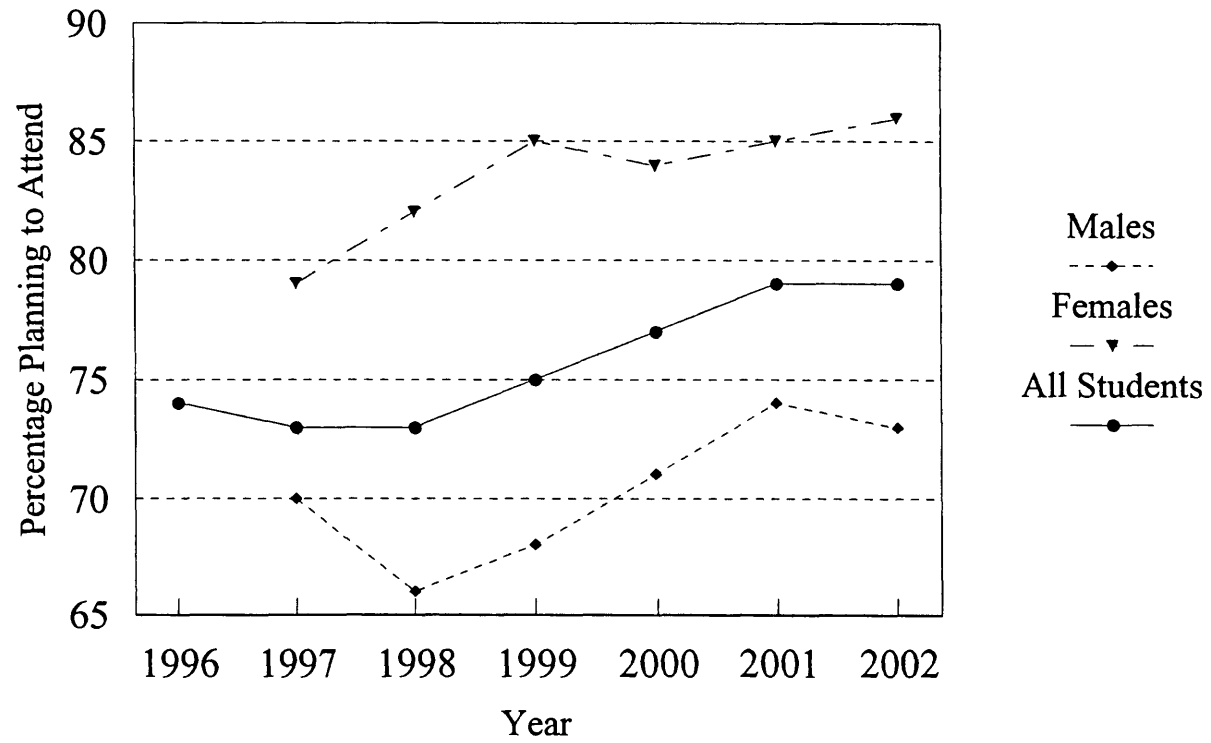


Figure 2.A.11 Percentage of Participation in Work-Based Programs who Report Experience Related to EFE, by Race and Sex



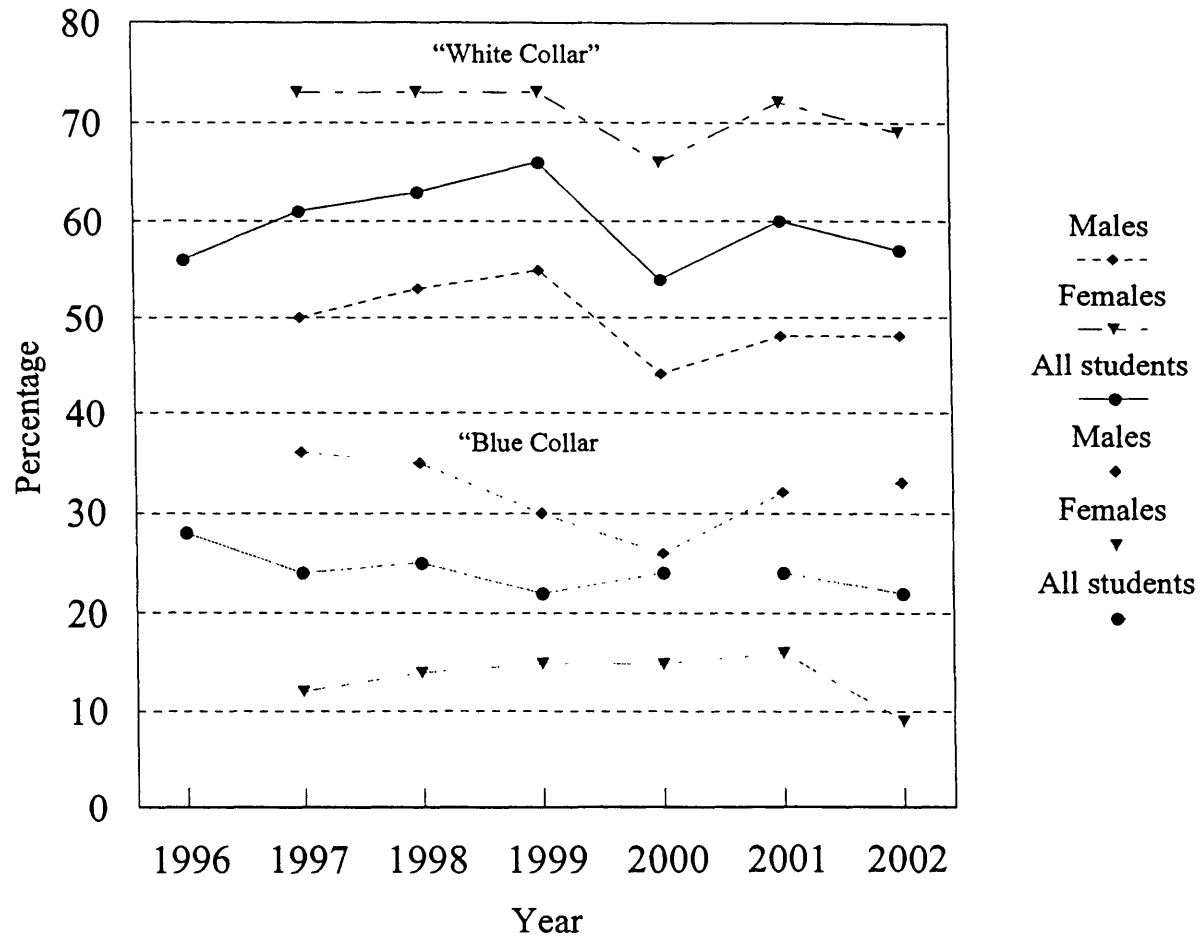
Note: Data by race and sex not available for 1996

Figure 2.A.12 Planned Postsecondary Attendance Rate, By Sex



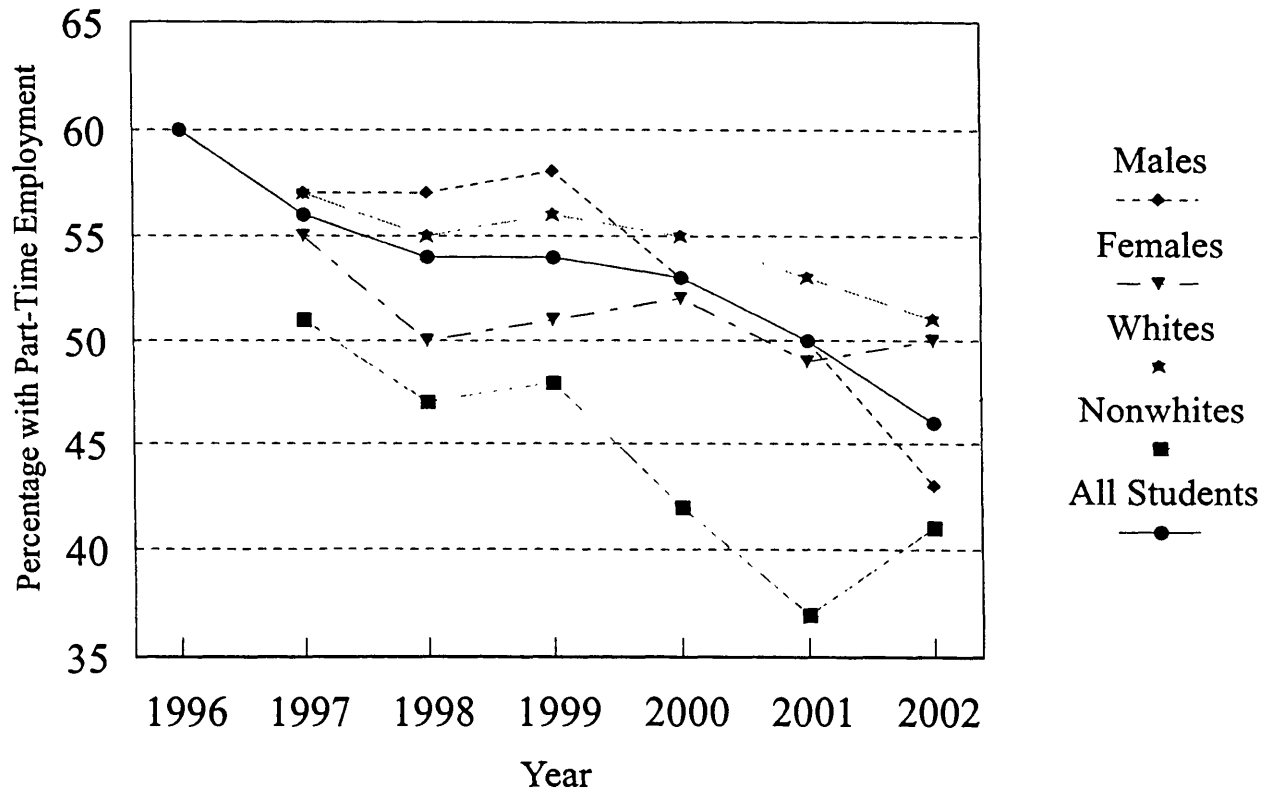
Note: Data by sex not available for 1996

Figure 2.A.13 Occupational Aspirations, By Race and Sex



Note: Data by race and sex not available for 1996.

Figure 2.A.14 Part-Time Employment Rates, By Race and 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 includes analyses of data collected by a telephone 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 is students who were classified as seniors in 2000-01 and who were enrolled in an EFE class at the end of that school year.<sup>6</sup> 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 1 percent of the students report that they did not graduate in 2001, and that they had just completed high school in 2002.

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 differences between who responds and who doesn'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

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<sup>6</sup>As noted earlier, there were some students who finished their EFE program in their junior year in 1999/2000 and were thus interviewed two years later.

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 (36 percent), attending a two-year institution (33 percent), or not attending school (including just graduated from high school): about 31 percent. The difference in the postsecondary attendance rates between males and females is statistically significant. Almost three-quarters of females indicate that they are in a 2-year or 4-year postsecondary institution, whereas only 64 percent of males are attending.

A noteworthy change in this year's data is the closing of the gap in postsecondary attendance between whites and minorities. In the previous six reports, there has been a statistically significant difference in the percentage of students attending, by race, with minorities always lagging. In this year's data, the postsecondary attendance rates do not differ statistically, and, in fact, the rate is higher for minorities.

The postsecondary attendance rate among the follow-up sample—69 percent—is higher than the last two years of data (61 percent and 63 percent, respectively), and rivals the highest rates from several years ago. The increases relative to last year hold for 2-year institutions (33 percent as opposed to 32 percent) and, especially, for 4-year institutions (36 percent as opposed to 31 percent.) The percentage of minority students who reported not pursuing postsecondary education—29 percent—represents a substantial decrease from last year, when it was 41 percent and, indeed, is less

**Table 3.1**  
**Postsecondary Experiences of EFE Completers**

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
<u>Postsecondary Status</u>							
Not attending school	34*	26*	30	29	31	29	30
Full time active duty military	3*	1*	2	3	1	3	2
Just completed high school	2	0	1	1	0	1	1
2 year institution	32	34	32	38	34	32	33
4 year institution	32*	40*	37	32	35	37	36
Sample size	321	307	542	86	232	377	628
<u>For those in 2- or 4-year postsecondary (n = 430)</u>							
Accounting/Finance	2	4	4	2	3	4	3
Business-related	20	18	20	16	15	21	19
Communications	1	3	2	2	1	2	2
Computers	9*	1*	5	4	4	5	5
Cosmetology	0	0	0	0	0	0	0
Criminal justice	2	4	3	4	4	3	3
Education	4*	15*	11	4	18*	4*	10
Engineering	13*	2*	7	11	9	6	7
Graphic/Fine Arts	7	4	5	7	3	7	5
Marketing	2	2	2	4	2	2	2
Medical-related	6*	17*	11	16	15	10	12
Agriculture	0	0	0	0	0	0	0
Liberal Arts	8	12	10	11	9	11	10
Sports/Leisure	1	0	0	2	0	1	0
Trade & Industrial	9*	0*	5	4	6	4	4
Travel & Tourism	1	0	0	2	0	1	0
Undecided	14	16	16	13	11*	19*	15
<u>Training related to named field (n =423)</u>							
A lot	30	29	29	32	37*	24*	29
Some	35	43	40	32	39	39	39
Hardly any	18	16	56	25	12*	21*	17
None	17	13	18	12	12	16	15
<u>Degree working on (n = 420)</u>							
Associate's	27	22	23	34	29	22	24
Bachelor's	59	61	60	57	54*	64*	60
Other/none/don't know	14	17	17	9	17	14	16

*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.

than the figure for white students. Figures 3.A.1 through 3.A.3 show the seven-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 plan to attend a postsecondary institution right after high school. Table 3.1 shows that about 69 percent of completers are attending. The actual rates are lower for all population groups, but the greatest discrepancy is for females. Among the current students, 86 percent of females plan to go on to postsecondary schooling right after graduation, but only 74 percent of female students in the follow-up survey are in school. The samples are, of course, different for current students versus completers. But in all years of the survey, the actual postsecondary rates of attendance never quite equal the planned rates.

The bottom three items in the table concern the postsecondary experiences of the EFE completers who report that they are attending a two- or four-year institution. The first item is the student's program or major field. Fifteen percent report that they are undecided about a major or program. A business-related major or program is given by the highest percentage of students—19 percent. The other fields with 10 or more percent of the students are medical-related programs, education, and liberal arts. The students' choices across fields are very similar to last year; no substantial changes or trends are evident. As in past years' data, there are substantial differences by gender. Males are more likely to be in computer-related, engineering, and trade and industrial programs/majors than are females. Conversely, females are more likely to be in education and



medical-related programs. Students with work-based program experiences are more likely to be in education.

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. Almost 70 percent of the survey respondents who are in postsecondary programs and who have decided upon a program indicate that it is related to their EFE class “a lot” or “somewhat.” There are 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 are 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 years. (See figure 3.A.4.) This year’s percentage is a slight increase that partially reverses what been a steady decrease. 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 both 2001 and 2002.

About a quarter of the students currently attending in a postsecondary institution report that they are pursuing an associate’s degree. About three-fifths, with almost no variation across the groups, are pursuing a bachelor’s degree. One-sixth are pursuing other degrees or are apparently undecided about what degree they are 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 (45 percent) of the respondents indicate that, when they were in high school, they believed they could have received college credit for their high school EFE class. Thirty-four percent indicate that they believed that they would not be able to receive college credit. The other 20 percent indicate that they did not know. Whites and students who participated in a work-based program are more apt to report that they believed that they could earn college credits than are nonwhites and students who had not been in a work-based program.

We asked those students who believed that they could have received college whether they had actually arranged to do so. Less than half of the respondents this year in contrast to 56 percent last year report that they had. On average, these students had earned 5.0 credits. Students who had been in work-based program experiences and were aware of the possibility of receiving college

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

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
<b>Could student have received credit? (n = 441)</b>							
Yes	46	45	48*	26*	59*	38*	45
No	34	35	32*	51*	25*	41*	34
Don't know	20	21	20	23	16	21	20
<b>If yes:</b>							
<b>Have you arranged to receive credit? (n = 188)</b>							
Yes	49	44	47	40	52	40	46
No	51	56	53	60	48	60	54
Average credits (n = 64)	4.3	5.8	5.0	4.7	5.8	4.0	5.0
<b>Important in program enrollment? (n = 196)</b>							
Yes	38	44	41	49	49	33	41
No	62	56	59	51	51	67	59
<b>Important in postsecondary enrollment? (n = 193)</b>							
Yes	35	34	33	53	38	31	35
No	65	66	67	47	62	69	65

*Note:* Except for average credits, table entries are sample percentages.

\* Differences between population groups is statistically significant at the .05 level.

credits were more likely to have arranged for those credits; they received 5.8 credits, on average, compared to 4.0 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 40 percent—reported that this factor had been an important factor in their program enrollment decision in high school. This share varied substantially across students who had or who had not participated in a work-based program.

### **Employment Status**

A major emphasis of the follow-up survey is 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 repeated the schedule that was followed last year; it 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 may not be comparable to data collected in earlier years. Second, these data represent an amalgam of part-time work experiences of students, Summer jobs for students, and full-time or part-time employment of high school graduates who are not attending postsecondary institutions. All together, table 3.3 shows that approximately three-quarters of the survey respondents indicate that they are currently working for pay. This rate (73 percent) is lower than in all previous years, which were 82, 85, 87, 88, 83, and 75 percent for 1996, 1997, 1998, 1999, 2000, and 2001 respectively. Note that in the first five years, the survey was conducted later in the year and so it might be expected that a larger share of students were employed because of

Characteristic	Sex		Race		Work-based program		Postsecondary			Total
	M	F	W	NW	Yes	No	2-yr	4-yr	No	
<u>Employment rate</u> (n =627)	76	70	73	72	79*	69*	84*	55*	81*	73
<u>If employed:</u>										
Usual hours/week (n = 442)	29.6*	26.6*	28.3	26.9	29.8*	27.1*	27.4*	19.8*	35.9*	28.1
Hourly wage (n = 407)	\$8.92*	\$7.76*	\$8.42	\$7.98	\$8.78*	\$8.08*	\$8.05	\$8.07	\$8.96	\$8.36
<u>EFE training - relatedness</u> (n = 448)										
A lot	23	25	25	21	34*	17*	26	25	21	24
Some	28	01	29	26	27	30	24	31	34	29
Hardly any	20	22	22	16	21	21	20	20	23	21
None	29	23	24*	38*	18*	32*	30	28	23	26
<u>Unemployment rate</u> (n = 548)	14.6	16.2	15.2	16.0	10.6*	19.1*	6.9*	25.7*	14.7*	15.3

*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.

Summer employment. However, this year's employment rate is even lower than last year's results, when the employment rate was 75 percent. This may be because of the softened economy. Students who had participated in work-based programs in high school and those attending 2-year colleges or no college have much higher employment rates than students who had not participated in work-based programs, and those attending 4-year colleges.

The average work week for employed individuals is about 28 hours, a 10 percent decline from last year. This difference may reflect a higher percentage of students in 4-year institutions who are more likely to have part-time employment. Indeed, their average hours per week are only 20. Respondents who did not go on to college average about 36 hours per week, which is about 8 hours more per week on average, than for individuals who are at two-year institutions. Males and students who had been in work-based programs also averaged more hours per week.

The average hourly wage this year is \$8.36, which is about 1 percent higher than in 2001. The average for males is higher than females—\$8.92 to \$7.76, a difference that is statistically significant. The average wage for individuals not pursuing postsecondary education in this year’s data is quite a bit higher than the hourly wage reported by college attendees. This is noteworthy because in the last three years, individuals who had not gone to college were receiving wages that were just equal to or less than the average wage for college attendees. This year’s data and the data from the early years of the survey—1996 and 1997—suggest that some individuals did not pursue college because they had reasonable paying alternatives.

We also asked respondents about how related the training in their EFE classes was to their current job. Over half of the respondents indicate that it was relevant (“a lot” or “some”); conversely just under half indicate that their EFE training had “hardly any” or “no” relatedness to their current job. The “relatedness” items are virtually identical to last year, and the long-term trend (shown in figure 3.A.5) is relatively flat at a level of just over half. The percentage of respondents who indicated that their EFE training was related “a lot” to their current employment increased slightly from 23 to 24 percent. Among the population groups, students who had work-based program experiences in high school are significantly more likely to report that their employment is training-related than students who had not been in a work-based program. Minorities and students who had not participated in work-based programs indicate higher percentages in which the EFE training-relatedness is “none.”

The unemployment rate is defined as the share of the labor force who is not working for pay and is looking for employment. For the sample as a whole, the unemployment rate is 15.3 percent, which is 10 percent higher than last year’s rate of 13.9 percent. This likely reflects the soft labor

market caused by the current economic recession. The differences in the unemployment rates by group are interesting. In prior years' reports, we have noted significant differences by race; for example in last year's data, the minority unemployment rate was over 28 percent, whereas the unemployment rate for whites was 11.5 percent. Just as with other characteristics noted in this report, the gap between whites and minorities has virtually disappeared. It is now 16 percent versus 15.2 percent. However note that students in 4-year colleges and students who did not participate in work-based programs in high school have significantly higher unemployment rates than do students in 2-year colleges or students who did not pursue postsecondary education and students who did not participate in work-based programs. For example, the unemployment rate for students who had been in a work-based program is 10.6 percent compared to 19.1 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 recall more incidents of tardiness or absences in their senior year of high school than the current students report (in table 2.1). 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 are almost precisely the same as those reported last year, but still considerably higher than in the earlier years of the data. This year's average of 6.8 tardies per year is identical to last year's figure. This average is lower than

**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 = 598)	7.8*	5.9*	6.7	7.8	6.9	6.9	6.3*	6.1*	8.4*	6.8
Average number of absences (n = 600)	5.9	5.6	5.6	6.0	5.4	6.1	5.7*	4.7*	7.2*	5.8
Average GPA (n = 619)	3.04*	3.24*	3.17*	2.91*	3.19*	3.09*	3.05*	3.55*	2.74*	3.13

\*Significantly different from other population at the .05 level.

in 2000 when it was 7.1. However, prior to that year, the three previous years were 5.6, 6.1, and 6.3. For unexcused absences, this year's average of 5.8 is slightly higher than last year's figure of 5.7, but is considerably 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, 3.13, is close to the average GPA for current students, which suggests some validity in reporting. Males report having had 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 than students in 2-year colleges or not attending college.

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 provide assessments of classes they are enrolled in at the time of the survey. The completers report 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-eight percent of the respondents agree with this statement. Ninety-one percent of the respondents disagree with the

**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...”	66	71	68	70	71	66	63*	72*	70*	68
Disagree/strongly disagree with “These classes are too hard...”	90	91	91	88	92	90	89	94	89	91
Agree/strongly disagree with “I got along with other students and we worked together...”	93	95	94	96	95	93	94	94	94	94
Agree/strongly agree with “The equipment and facilities were excellent.”	78	83	82*	71*	81	79	79	86	77	80
Disagree/strongly disagree with “not enough information...”	81	86	84	77	85	82	82*	88*	80*	83
Agree/strongly agree with “The program treated everybody fairly.”	93	88	91	87	88	92	92*	93*	86*	90
Agree/strongly agree with “I could get questions answered...”	91	88	90	87	88	91	90	93	86	88
Disagree/strongly disagree with “the program seemed disorganized.”	82	79	80	82	76*	83*	79*	87*	74*	80
Letter grade for program quality	3.33	3.37	3.39*	3.14*	3.44*	3.30*	3.31*	3.57*	3.16*	3.35

*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 628. Approximately 30 cases are missing for each item.

\*Difference between population groups is statistically significant at the .05 level.

statement that “these classes were too hard,” and 94 percent of the sample agree with the statement, “I got along well with other students and we worked together frequently.” Responses to the next item are less positive. Eighty percent of the sample agree the “equipment and facilities were excellent.”



Almost 80–90 percent or more of the students have positive responses to the final four items, compared to 65–70 percent for current students. About five-sixths of the respondents (83 percent) disagree with the statement that “not enough information was provided to students or their parents.” Ninety percent of the respondents agree that “the program treated everybody fairly,” and that they “could get questions answered and problems easily resolved.” Finally, 80 percent of the respondents disagree with the statement that “the program seemed disorganized.”

These satisfaction indicators are slightly more positive than in last year’s data, although the relative satisfaction among the items is identical. (That is, higher levels of satisfaction are garnered for the second, third, sixth, and seventh items, and relatively lower levels of satisfaction are 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, is 3.35, 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 are mentioned the most often among the best aspects are specific teachers or staff members and the opportunity to participate in work-based learning opportunities. Two other aspects that are mentioned a fair number of times are other students/teamwork and the technical or employability skills learned. Far fewer negatives are mentioned. Among the complaints, the most often mentioned items are that the class was disorganized and logistical problems such as transportation or scheduling.

**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	47	Equipment, classroom environment	31
Books, software	17	Books, software	3
Pace	28	Pace: too easy	39
Hands-on instruction	55	Pace: too fast	19
Specific teacher	182	Pace: too much work	36
Small class size, individual attention	26	Specific teacher	1
Technical or employability skills learned	68	Class size too large	17
Work-based experience/real world	118	Transportation/schedule	57
College usefulness	24	Classmates behavior	36
Interesting/fun	49	Disorganized	75
Other students, team work	94	Work experience	11
Everything about the class	16	Unfair treatment	6
Vocational clubs	22	Specific activity or project	23
Other	132	Grading policy	15
Nothing, no best thing, don't know	1	Other	59
<b>Total</b>	<b>878</b>	<b>Total</b>	<b>428</b>

The EFE completers were also asked to recall whether they had participated in work-based experiences. As shown in table 3.7, just under 40 percent indicate that they had participated in a work-based program. (See figure 3.A.8.) For the first time in the seven years of the survey, the gap between females and males in work-based program participation was closed. In all of the prior years, females were more likely to have been participants than were males. There is a disturbing gap between whites and nonwhites, however, that is statistically significant.

The percentage of students from the follow-up survey who report that they had participated in work-based programs (38 percent) is higher than the 20 percent of current students who report that they are participating in work-based programs. However, it is still lower than the 49 percent of

**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	
<u>Participation</u> (n = 609)	37	39	40*	26*	39	36	39	38
<u>If participated:</u> (n = 230)								
Paid?	55	44	50	48	41	51	58	50
Disagree/strongly disagree with “Work was unrelated...”	64	74	68	77	75*	73*	57*	69
Agree/strongly agree with “Mentors were supportive and answered my questions.”	90	93	92	86	94	89	89	92

*Note:* Table entries are sample percentages.

\* Differences between population groups is statistically significant at the .05 level.

respondents in 1998 who had reported being in a work-based program. Of those who report that they had participated in a work-based program, exactly half indicate that it had been a paid experience.

Almost 70 percent of the respondents who had been in work-based programs disagree with the opinion question that “the work was unrelated to the EFE class.” Females, nonwhites, and students in postsecondary institutions had higher levels of (dis)agreement than did males, whites, or students who didn’t go to college. About 92 percent agree that “workplace mentors were supportive and answered my questions.” There are no differences among population groups on this item, however.

### **EFE Outcomes**

Two performance indicators using employment and educational outcomes are presented in table 3.8. The first indicator measures how many EFE completers are either attending college or are employed one year after completing their high school course(s). Ninety-four percent of the sample meet these criteria. These percentages do not differ by race, sex, or whether students had

**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 = 628)	94	94	94	95	96	93	100*	100*	81*	94
Training-related postsecondary attendance or employment (n = 615)	61	67	65	58	72*	59*	76*	71*	44*	64

*Note:* Table entries are sample percentages.

\* Difference between population groups is statistically significant at the .05 level.

participated in work-based programs. (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.) This indicator is slightly higher than its value in 2001, and thus reverses a downward four-year trend. (See figure 3.A.9.)

One criticism of this standard is that it is not difficult to meet. A telephone interview of almost any population of 19-year-olds near the end of a school year would likely yield a high percentage of respondents who are 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 are 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 are employed in a job where their EFE course work is related. About 64 percent of the sample meet these criteria. Much more variation is exhibited in this indicator than in the first one. Females and whites have higher values than males and nonwhites, but these differences are not statistically significant. However, the substantial differences between students who had been in a work-based program and those who had not, and between students in postsecondary institutions and those who are not, are significant. The

discrepancy is startling in some instances. For example, 76 percent of 2-year college students are in a training-related education or employment situation, whereas only 44 percent of individuals who do not attend college have such an outcome.

### **Summary and Trends**

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

- Students who completed high school about a year ago and had taken an EFE class are approximately equally divided 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 substantial increase in students attending a 4-year college and a substantial decrease in those not attending school.

Females are more likely than males to be attending a 2-year or 4-year institution. Unlike previous years, there is no significant difference in the postsecondary attendance rates of minorities and whites. In fact, the percentage of nonwhites attending college is slightly greater than the percentage for whites.

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

The percentage of students who report that their EFE training is related "a lot" or "some" to their postsecondary field/program increased after it had been declining for four years.

- Almost half of the students indicate that they could have received college credit for the EFE classes that they took in high school. Of those, less than half report that they had arranged to receive such credit. About 40 percent of the students who indicate that they could get college credit for their high school course indicate that it had been an important reason for enrolling in the EFE class, and about 35 percent report that transfer of college credits had been an important consideration in selecting a postsecondary institution.
- The employment rate of completers of 73 percent is lower than any of the previous follow-up surveys. Individuals who indicated that they had not been in a work-based program in high school and students in 4-year colleges have much lower employment rates than their population counterparts. The average work week is about 28 hours (about 10 percent lower than last year). The average wage increased by about 1 percent to \$8.36 per hour.

- The completers report 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 are few differences between population groups in the satisfaction data.
- Despite a weak economy, the performance indicators for EFE remain high, and are even increased relative to last year. The percentage of follow-up students employed or in a postsecondary program is 94 percent, and the percentage of follow-up students who have training-related employment or who are in a training-related postsecondary program is 64 percent.

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





Figure 3.A.1 Postsecondary Attendance, By Type of Institution

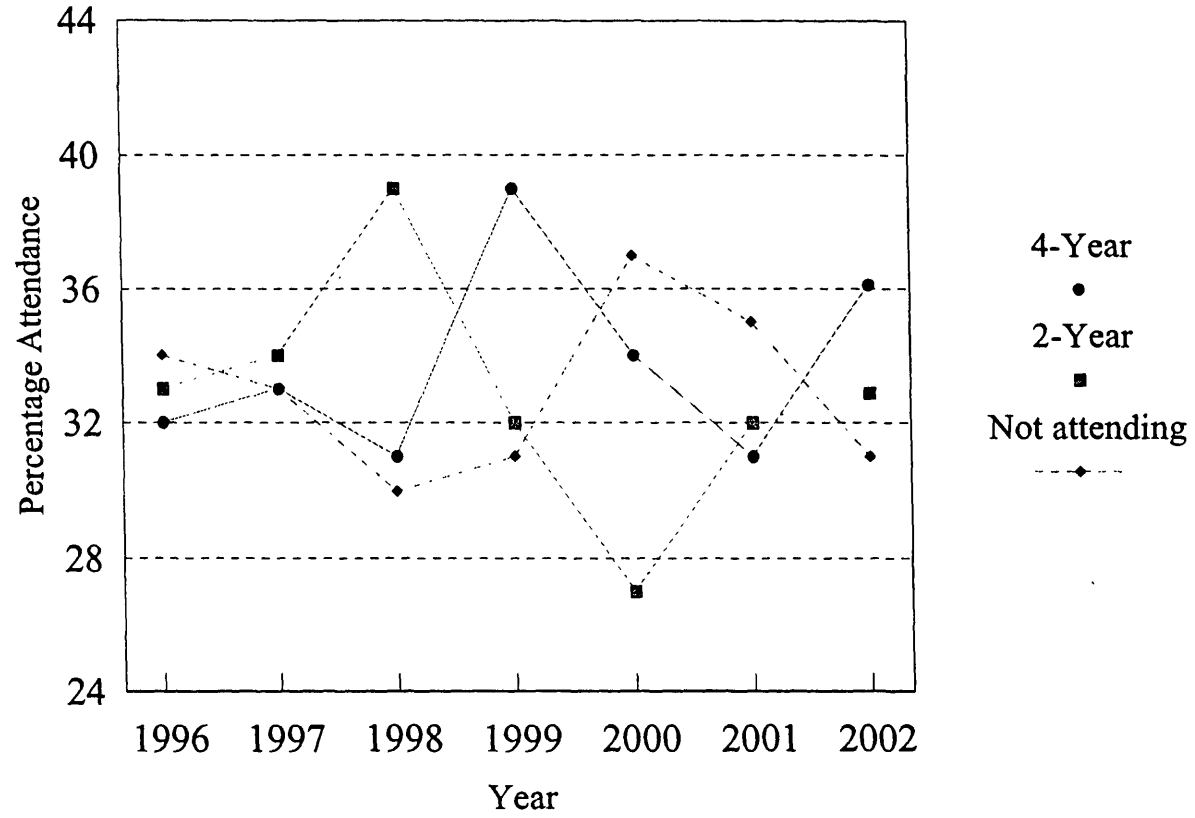


Figure 3.A.2 Racial Composition of Students Not Attending Postsecondary Schooling

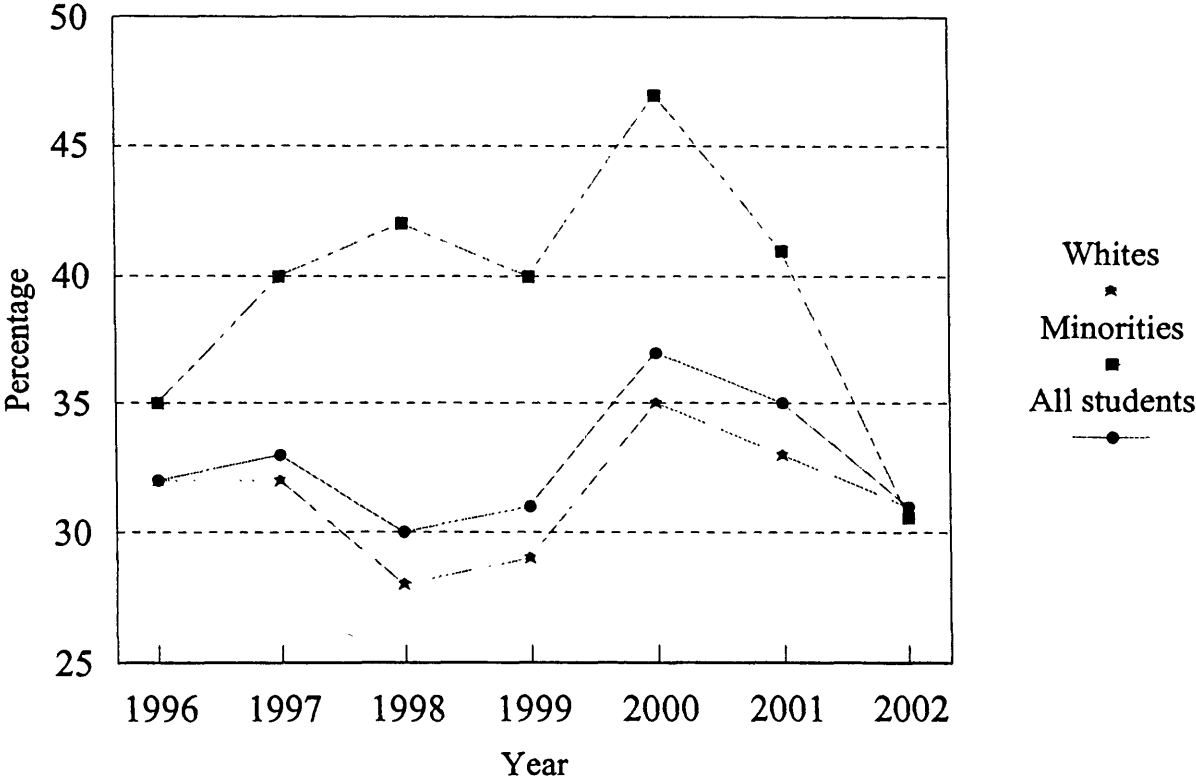


Figure 3.A.3 Postsecondary Attendance, By Institution Type and Sex

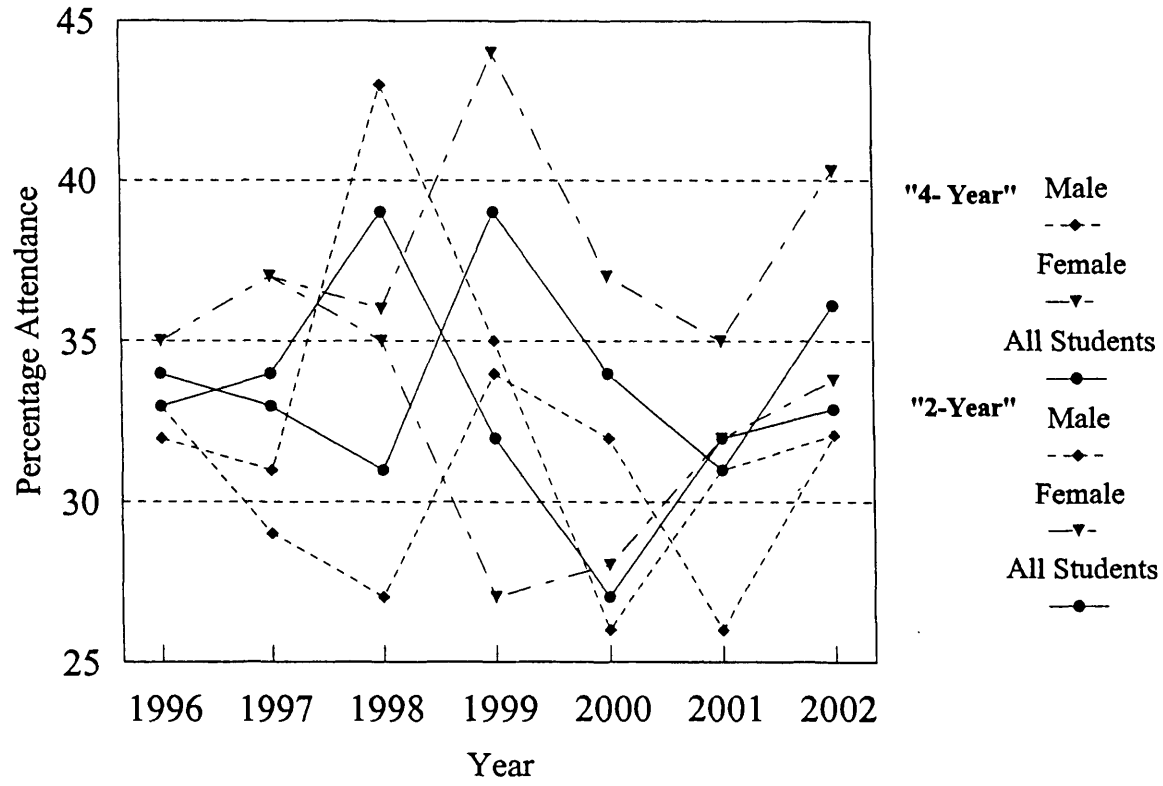


Figure 3.A.4 Percentage of Students in Postsecondary Schooling who Report their Major/Program is Related to EFE Class(es), By Extent of Relatedness

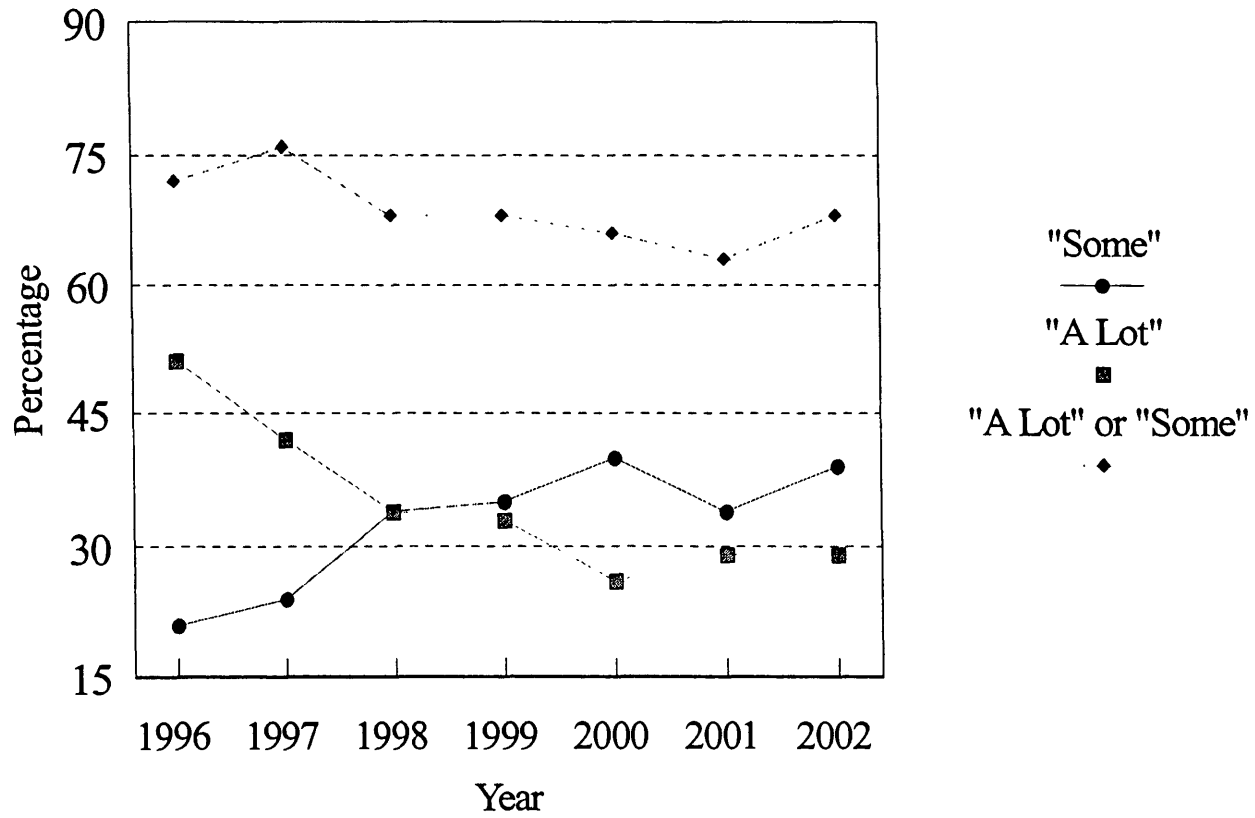


Figure 3.A.5 Employment Rate, By Training Relatedness

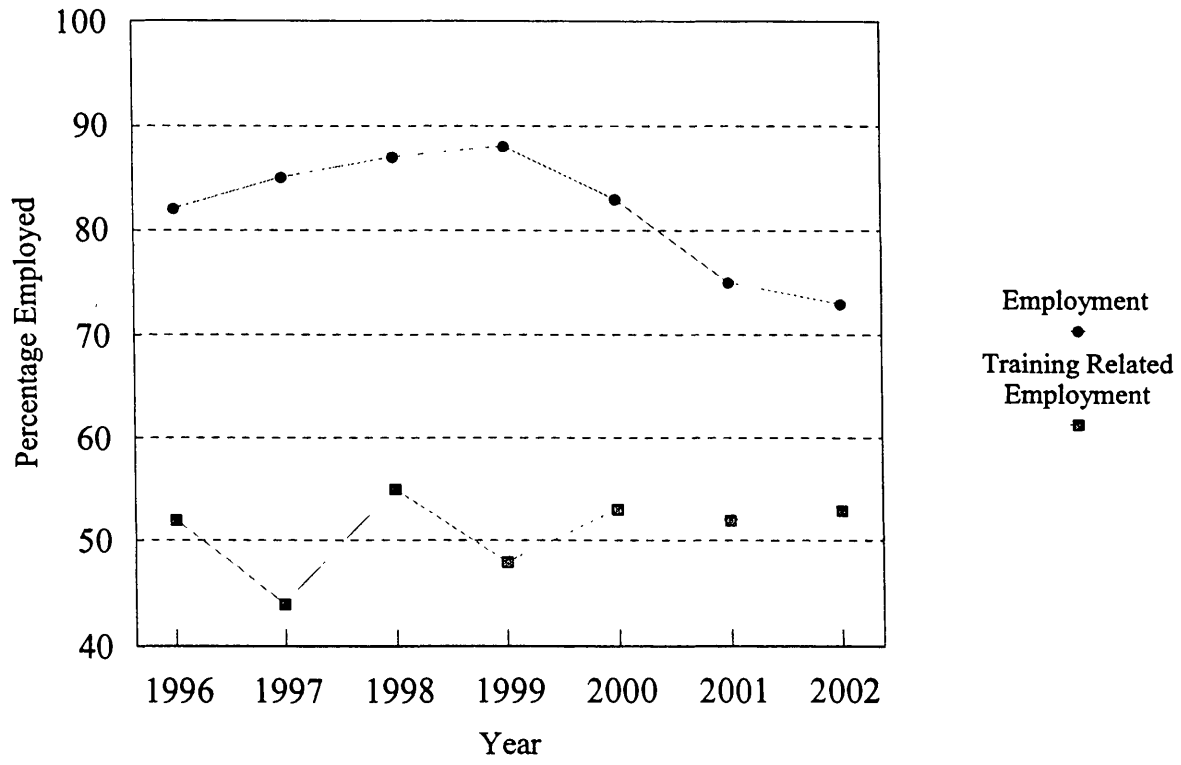
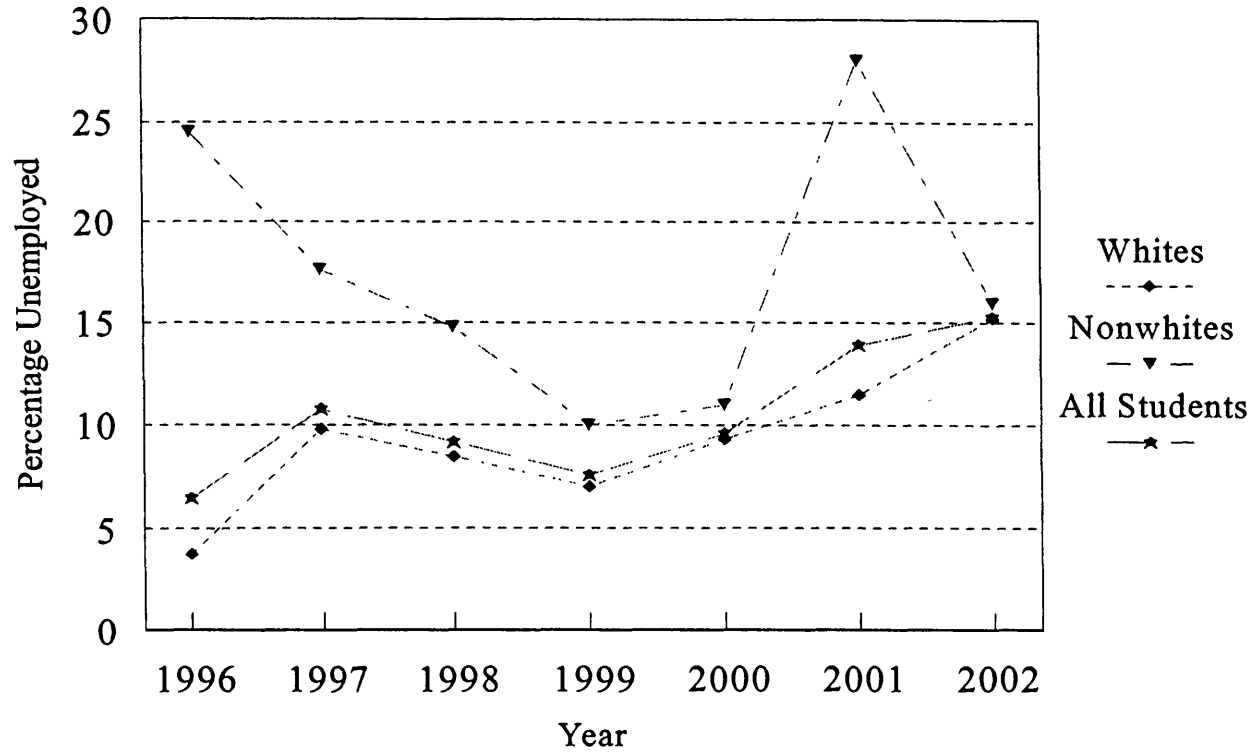


Figure 3.A.6 Unemployment Rate, By Race



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

Figure 3.A.7 Indicators of Satisfaction with Aspects of EFE Classes:  
 Percentage Agreement or Disagreement with Descriptive Items

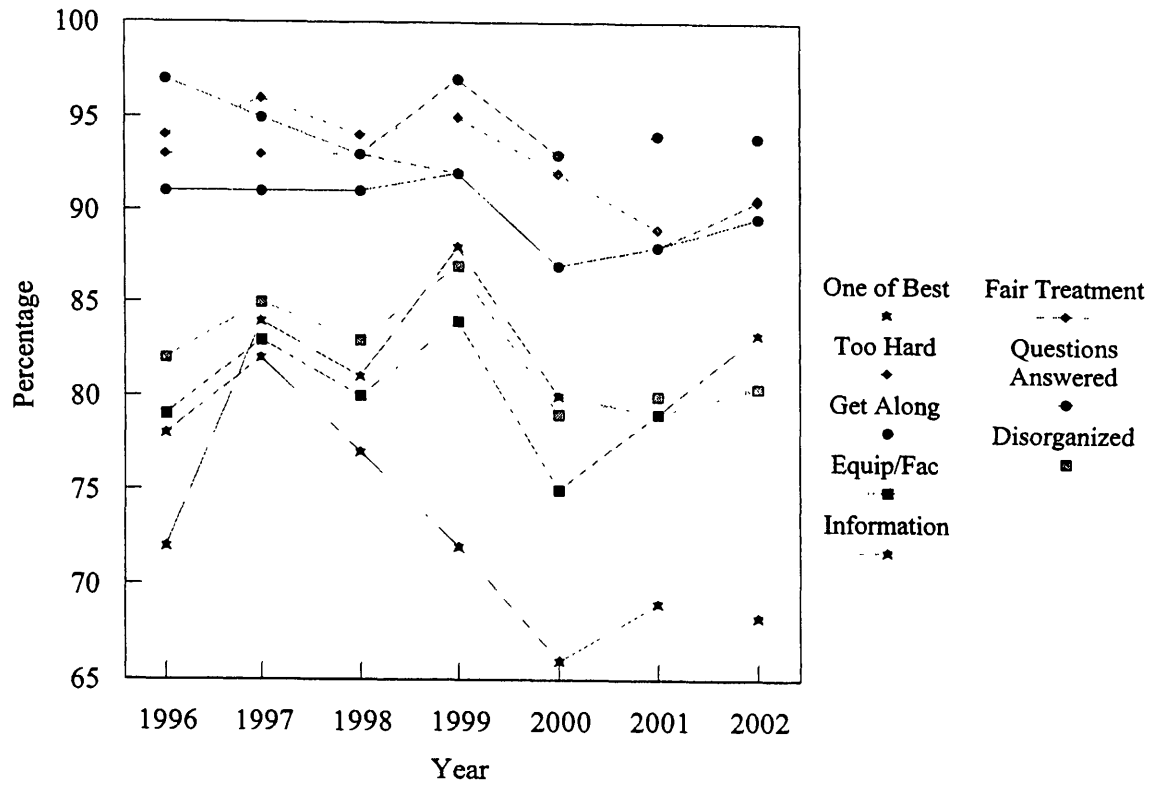


Figure 3.A.8 Participation in Work-Based Program Experiences, By Sex

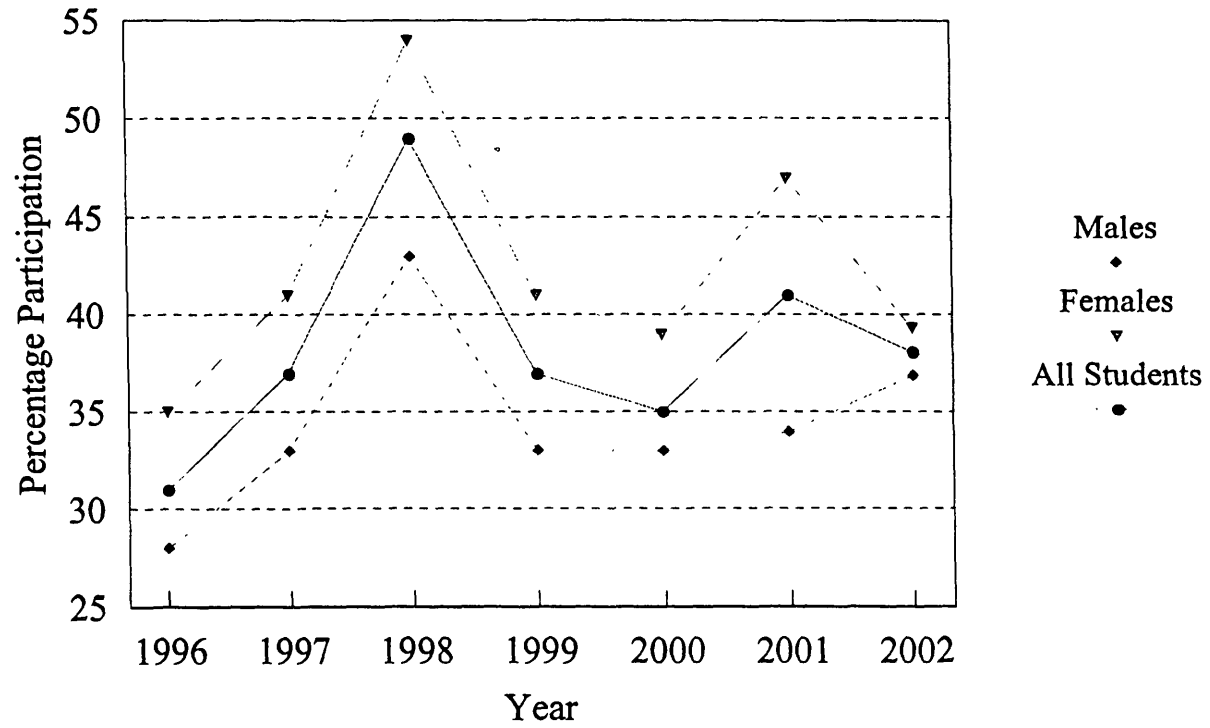
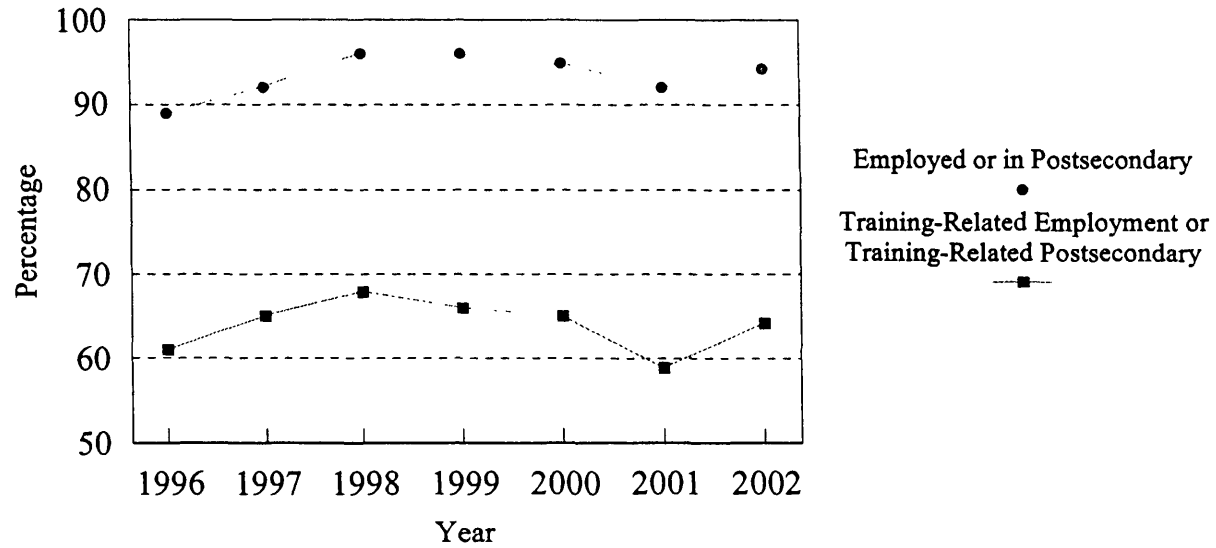




Figure 3.A.9 EFE Performance Indicators by Type of Outcome





#### 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 demographically representative by race and sex.*

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 changed only slightly. The percentage of EFE students who classify themselves as minorities is just under 20 percent, which is in line with countywide data. According to 1999 data, about 78 percent of the K-12 students in the county were white.

*The percentage of students in EFE who are 9<sup>th</sup> or 10<sup>th</sup> graders declined this year for the first time in six years. They account for about 23 percent of overall enrollment.*

Previous reports had documented a substantial increase in enrollment of students in 9<sup>th</sup> or 10<sup>th</sup> grade. There had been almost a 100 percent increase between 1997 and 2001, when it was about 30 percent. This year's data show a sharp drop in the enrollment of freshmen and sophomores. EFE administrators should track this enrollment in the future to see if the decline persists. In any case, the CTE classes are, for the most part, designed for 11<sup>th</sup> and 12<sup>th</sup> graders, so the question can still be raised of whether the courses are appropriate for the younger students.

*Students enrolled in EFE classes participate in fewer extracurricular activities than previously and they work less outside of school.*

The number of activities that students in which students indicated they participated declined sharply this year.<sup>7</sup> In prior years, the average had been around 2.6, but this year it dropped to 2.2. Furthermore, for the first time, less than half of the students reported working at a part-time job, and for those students who do hold a part-time job, the average hours of employment per week declined by more than 10 percent. All in all, students seem to have more free time, or alternatively, the activities that they are getting involved in require more of their time.

### **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 than students who do not participate in these activities.*

The data in table 2.3 shows that students in work-based learning experiences tend to have more favorable opinions about EFE than students who are not participating in these experiences. For example, about 70 percent of the work-based learning participant rated their EFE class as “one of the best in high school.” Only 58 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 presents data on student outcomes for EFE program completers. Completers who indicated that they had participated in work-based programs while in high school are more likely to have used college credit earned while in high school, have a higher employment rate and lower unemployment rate, and earn higher wages than the other survey respondents who indicated that they had not participated in a work-based program in high school.

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<sup>7</sup>This may be correlated with a smaller percentage of 9<sup>th</sup> and 10<sup>th</sup> graders who tend to be involved in more activities.

*Less than 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 indicate that they participate in a work-based program dropped by about 10 percent to less than 20 percent in this year's survey compared to last year's. (Note that this is about a 25 percent decline since 1998). Similarly, the percentage of completers who indicate that they had participated in a work-based program while in high school dropped by almost 10 percent (from 41 percent to 38 percent). 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-based program experience. More importantly, it appears as though educational outcomes are more favorable for students who participate 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 both surveys, respondents were asked several questions about their satisfaction with various aspects of EFE classes and programs. As shown in table 2.3, between 60 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'.

*Among the quality indicators about which respondents provided data, an item of special concern is the percentage of students who indicate that their EFE class “was one of the best classes they had taken in high school.”*

One of the items on the surveys asks students whether their EFE class “was one of their best classes in high school.” There has been a significant five-year downward trend in this statistic for both current students and completers. The trend is reversed slightly this year for current students, increasing from 59 to 60. But it continues downward for completers, dropping from 69 to 68. The fact that this rating is far lower than any of the other quality ratings given by students and the downward trends should be a concern to EFE administrators.

### **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 88 percent of EFE students indicate that they plan to enroll in a postsecondary institution either right after high school or after working for a few years. This percentage has increased over the years. The follow-up survey (table 3.1) shows that 69 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.

*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.*

The percentage of students who hold a part-time job has decreased significantly, but it is still almost 50 percent. 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**

*The data in this report show a narrowing of the differences in characteristics, satisfaction, and outcomes between males and females, but there continues to be a gap. Females' grade point averages and number of extracurricular activities engaged in are higher. Their ratings of course quality 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.

*The differences between white and minority students have been narrowed considerably and eliminated for some outcomes.*

Perhaps the most favorable results from this year's study are the considerable narrowing, and in some cases, elimination of the gaps between whites and nonwhites in satisfaction about EFE programs and in employment and educational outcomes. Table 2.3 shows that, in general, nonwhites

are less satisfied with their EFE class experiences than are whites, but relative to previous reports, the differences have narrowed considerably. Last year, the average grade assigned for course quality was 2.96 for nonwhites and 3.19 for whites; this year the statistics are 3.16 and 3.25.

In table 2.6, the percent of minorities who plan to go to college (immediately after high school or after working for a few years) is 88 percent compared to 89 percent for whites. Table 3.1 shows that the percentage of nonwhites pursuing postsecondary education among the EFE completers is actually higher than the percentage for whites. Finally, table 3.3 shows that there is virtually no difference in the employment or unemployment rates between whites and nonwhites. This is quite remarkable in light of the fact that the gap in the unemployment rate among completers in last year's data was almost 17 percentage points (28 versus 11 percent.)

All in all, EFE administrators should be highly encouraged by the dissolution of the racial gaps in educational and employment outcomes.

### **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. Despite an economy in recession, they increased compared to last year. The share of respondents who are in a training-related postsecondary program or training-related job increased from 59 percent to 64 percent in a year.*

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, and EFE administrators can tout that they even increased this year despite a poor economy.

### 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, virtual disappearance 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.