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Assessment of Kalamazoo County's Education for Employment (EFE) Programs Using 1999 Survey Data

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by

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1. EFE Programs

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

EFE classifies programs as either (1) school-based programs or (2) work-based programs. But this simple dichotomy does not do justice to the wide variety of offerings. The school-based programs comprise 18 occupational clusters–accounting/computing; agri-science; auto body; automotive technology; business services technology; child care; commercial design; computer technology; construction trades; drafting technology; electro-mechanical technology; graphic

arts/printing technology; heating and air conditioning; machine tool technology; manufacturing cluster; marketing; photography; and radio broadcasting. Each of the 11 high schools in the county plus KVCC and Western Michigan University (WMU) offer courses in one or more of these clusters and students from any of the high schools may enroll in them.[1] Approximately 20 percent of the students enrolled in these school-based programs come from a high school other than the one where the course is offered. However, this statistic is skewed by two programs–business services technology and marketing. These programs are, by far, the largest programs in terms of enrollment and have enough students to be offered at most of the county high schools.[2] Because of the wide availability of these two programs, only a little over one percent of their students come from other high schools. On the other hand, almost 50 percent of the students in the other 16 classroom programs leave their home high schools to attend the EFE class at another high school.

EFE offers four types of work-based programs. The first type, referred to here as **worksite-based classroom programs**, involves formal class work at worksite settings. EFE has established programs in eight occupational areas. 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 & science technology program and a one-year health careers program offered at a local hospital, a two-year hospitality program offered at a hotel, a two-year law enforcement program offered at a community probation facility, a one-year opticianry program at an optical manufacturer, a plastics program at a plastics manufacturer, an entertainment industry technician program at a

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

[2]BST was offered at 10 high schools in Fall 1998 and marketing was offered at 8.

community auditorium facility, a one-year television production and broadcasting program at a community cable access center, and a cosmetology program that is offered at three different local beauty academies. In all cases, these innovative programs extend beyond classroom instruction to actual experiential learning. As with other EFE course offerings, these programs are open to and attended by students from all 11 high schools in the consortium. For most of the programs, the facilities are able to accommodate all the students who are interested in enrolling. In one or two, however, space and instructor availability constrain the programs, so that "slots" are allocated across districts. A total of 273 students were enrolled in these programs in Fall 1998; that is, left their home high schools each day to take classes at worksites.

The second type of work-based program is called **workforce entry**, 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 and the workforce entry activity is meant to enhance the school-based program. In Fall 1998, about 212 students from all 11 high schools in the county were engaged in workforce entry experiences in marketing, office, or trade and industrial programs. The intent of these experiences is to supplement and contextualize the school-based program by providing actual employment in the occupational cluster that is being taught.

The third type of work-based program is called **business/industry worksite training**. This program provides students with experiences that are like workforce entry (or co-op). They may be paid or unpaid positions that are offered to students interested either in (1) occupational areas that do not have sufficient student interest to fill a (school-based program) class or (2) occupational areas that are not traditionally taught at the high school level. In Fall 1998, virtually all of the business/industry worksite training was in the teacher externship program to explore teaching as an

occupation. Clearly, this is an occupational area that is not traditionally taught in secondary schools. However, EFE has found these externships to be an excellent way for students to gauge their interest in teaching as a career. A total of 143 students were enrolled in teacher externships in Fall 1998. In addition, one student was in veterinarian assistance. In past years, EFE has placed students in paralegal, aviation, and a few other occupational areas where there was not enough enrollment to fill a class.

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

The final type of work-based program that EFE has operated in past years is **apprenticeships**. Individuals with apprenticeships are working for pay outside of school just as the co-op students are. However, in this case, the employers have agreed to provide the students with the experience and postsecondary education requirements of a formal U.S. Department of Labor-approved apprenticeship leading to journeyperson status. In Fall 1998, EFE did not have any students in formal apprenticeships. Typically, the consortium will have a small number (always less than 10) students in such apprenticeships.

In Spring 1999, EFE contracted with the Upjohn Institute to conduct data collection activities that provided information from three key stakeholder groups: students enrolled in EFE programs

as of the second semester of the 1998-99 school year, parents of students enrolled in EFE programs, and high school graduates who had participated in EFE programs. The latter were surveyed approximately one year after graduation.

The next section of the paper provides detail about the survey design and methods that were used to collect the data. This is followed by a section that presents findings from the survey of current students. Next, data from the parent survey are discussed. Then, findings from the follow-up survey of high school graduates are analyzed. The final section of the paper summarizes the major findings from the data collection activities and offers some recommendations for the EFE program to consider.

2. Methods

The intent of the data collection efforts conducted through this study was to obtain a statistically valid, broad "snapshot" of the various stakeholder groups rather than an in depth analysis of a few individuals.[3] Consequently, surveys were designed and conducted rather than focus groups or personal interviews.

The first survey was administered in May 1999 to all students in EFE classes or work-based programs. The survey collected data about the students' high school experiences, the information that they used to decide to enroll in the EFE class or program, their experiences in and opinions about the class/program, their knowledge and use of transferable college credits, and their career and postsecondary plans. There were approximately 2,500 students enrolled at the time of the survey, and 1,652 usable responses were received (a response rate of about 65 percent).

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

The second survey was a sample survey of parents/guardians of current EFE students that was conducted through the mail. A random sample of 500 parents were selected to receive the survey. Responses were received from 181. This is a 36 percent response rate, which is substantially

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

above average for a mail survey. The subjects covered in this brief survey included information about enrollment in the EFE class or program, opinions about the class/program, and general reactions to the EFE consortium.

The final survey was a telephone follow-up of students who had completed their EFE class during the second semester of 1997-98. For the most part, they were individuals who had graduated from high school at the end of the 1997-98 school year and who had been enrolled in an EFE class or program at the end of that year. The State of Michigan mandates and regulates this survey because funding decisions for career and technical education in the State are partially determined by its data. The main purpose of the survey is to measure postsecondary and employment outcomes. As in prior years, EFE chose to add a few questions to the State's survey that were aimed at gauging satisfaction with the EFE classes/programs.

The response rate for the survey was quite satisfactory. The number of respondents exceeded the samples that resulted from the previous follow-up survey. The universe for the sample was 1,108 (this is the number of unique student names that was supplied to EFE by the state data information system VEDS). However, 319 of the students could not be reached because of incorrect telephone numbers, disconnected telephone numbers, or missing telephone numbers in VEDS. Furthermore, there was not enough identifying information to find current telephone numbers for the students. Of the remaining 789 students, interviews were completed with 515 students. This represents a response rate of approximately 65 percent. There were 41 refusals or terminations (about 5 percent), and the remaining 233 nonrespondents were simply not reached within ten calls.

3. 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 82 percent whites and 18 percent nonwhites, and about 23 percent in a work-based program and 77 percent not participating in such an experience. (These percentages compare to last year's sample that had 55 percent males, 82 percent whites, and 26 percent in a work-based program experience.) The appendix to this chapter has time series graphs for a number of the statistics presented in this report. Figures 3.A.1-3.A.3 show the trends in gender, race, and work-based program participation.

High School Experiences

Table 3.1 provides summary data about the students' overall experiences in high school. Note that all of the data were self-reported, and as the previous section of the report pointed out, about 65 percent of the students responded to the survey.

About 19 percent of the survey respondents were freshmen or sophomores; about 36 percent were juniors; and the remaining 44 percent were seniors. This percentage distribution is

Table 3.1
High School Experiences and Characteristics of EFE Students

Characteristics	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Class standing:							
Freshman	2.7%	4.5%	3.2%	5.6%	0.3%*	4.2%*	3.4%
Sophomore	16.3	15.7	16.7	13.0	5.8*	18.6*	16.0
Junior	35.9	36.5	36.6	33.5	22.1*	40.1*	36.4
Senior	45.1	43.3	43.4	48.0	71.8*	36.3*	44.3
Homework (avg. hours)	2.1*	3.1*	2.5*	3.0*	2.5	2.7	2.6
High school grade (gpa)	2.82*	3.10*	2.98*	2.81*	2.99	2.94	2.94 (B)
High school activities (avg. no. of)	2.4*	3.1*	2.6*	3.1*	2.7	2.7	2.7
Tardies (avg. no. of)	7.2*	6.2*	6.4*	7.8*	6.7	6.8	6.8
Absences (avg. no. of)	6.3	5.7	5.8*	6.8*	6.7*	5.9*	6.1
Total percentage	52.3%	47.7	82.0%	18.0	22.8%	77.2	100.0%

Note: Sample size is 1,652.
*Difference from other population group is statistically significant at the .05 level.

approximately the same for males and females, and for whites and nonwhites. The overall percentage of EFE students who were freshmen or sophomores is larger than last year, when it was just over 15 percent. Figure 3.A.4 shows the growth in the enrollment of students in grades 9 and 10. As might be expected, the percentage of students who were participating in work-based experiences who were freshmen or sophomores was significantly smaller than their overall share of students. Only about 6 percent of the students with work-based experiences were in 9th or 10th grade.

Respondents averaged about 2.6 hours of homework per week. Females averaged a full hour more per week than males (3.1 to 2.1), which was statistically significant. Nonwhites also reported that they averaged more homework than whites, and this difference–3.0 to 2.5–was also significant. The students were asked about how many extracurricular activities they engaged in. On average,

the students indicated that they were involved in 2.7 activities. Females reported being engaged in more activities than males (3.1 to 2.4), nonwhites also reported more activities than whites (3.1 to 2.6). Note that there was no difference in the average number of activities for students who did or did not have a work-based program. The average (self-reported) grade point average in the sample was 2.94 (B). Among the groups, females and whites reported a higher average than males and nonwhites, respectively. These averages were higher than previous years, particularly for minorities and for males. Figure 3.A.5 displays the trends in grade point average for EFE students, by race and sex.

The last items in the table are average number of unexcused absences and tardiness during the school year. The overall averages for the entire sample were 6.8 tardies and 6.1 days of absence. (Assuming there were about 180 days of instruction, these averages work out to about 3 percent.) Females had less tardiness than males (6.2 instances on average as compared to 7.2), whites had less tardiness than nonwhites (6.4 versus 7.8). Nonwhites had more absences than whites, and individuals with work-based program experiences had more absences than individuals who did not have a work-based program experience as part of their EFE program.

This year's average level of tardiness reversed a downward trend that had appeared in the prior three year's of data. The (self-reported) instances of tardiness had decreased from 7.8 to 6.9 to 6.3 between 1996 to 1998, but this year it increased back up to 6.8. On the other hand, the mean level of absences continued a healthy downward trend. The average level of absences has dropped from 7.1 to 6.7 to 6.4 to 6.1 between 1996 and 1999. (See figure 3.A.6.)

Table 3.2
Sources of Information and Individuals Who Assisted in Decisionmaking About EFE Class

Source/Individual	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Information Source Used/Most Important							
Guidance counselor advice	.53*/.24*	.64*/.31*	.59/.26*	.59/.33*	.66*/.29	.56*/.27	.58/.27
Poster	.03/.01	.04/.00	.03*/.01	.05*/.01	.04/.00	.03/.01	.03/.05
Academic subject teacher	.11/.03	.13/.04	.12/.04	.12/.05	.10/.02	.12/.04	.12/.04
Technical ed. teacher	.24*/.08*	.29*/.11*	.25/.09*	.29/.13*	.34*/.13*	.23*/.09*	.26/.10
Brochure	.10/.03	.12/.03	.10/.03	.14/.02	.12/.03	.10/.03	.11/.03
High school handbook	.49*/.22*	.60*/.27*	.56*/.25	.50*/.24	.48*/.21	.56*/.25	.54/.24
Friends/acquaintances	.43*/.24*	.51*/.28*	.49*/.28*	.41*/.18*	.44/.23	.48/.27	.47/.26
Brother/sister - family	.09*/.05*	.14*/.08*	.12/.07	.09/.05	.07*/.03*	.13*/.08*	.11/.06
EFE staff presentation	.06*/.03*	.12*/.06*	.09/.04	.11/.06	.14*/.07	.08*/.04	.09/.05
Employer	.04/.02	.03/.01	.03*/.01	.07*/.03	.05/.02	.03/.01	.04/.02
Other	.07/.03	.04/.02	.05/.03*	.05/.01*	.05/.03	.05/.02	.05/.02
Individual Who Assisted/Most Important							
Guidance counselor	.50*/.24*	.62*/.30*	.56/.26	.57/.30	.60/.29	.55/.27	.55/.27
Academic subject teacher	.08*/.04	.11*/.04	.09/.04	.11/.04	.07/.05	.09/.04	.09/.04
Technical ed. teacher	.12/.06	.14/.06	.13/.06	.14/.06	.17*/.08*	.12*/.05*	.13/.06
Other school administrator	.02/.02	.03/.01	.02*/.01	.05*/.02	.02/.02	.03/.01	.02/.01
Parent/guardian	.34*/.21*	.45*/.29*	.40/.25	.37/.26	.38/.22	.39/.26	.38/.24
Friends	.39/.24	.41/.22	.42*/.24*	.34*/.16*	.38/.20	.41/.24	.40/.22
Brother/sister - family	.09*/.05*	.14*/.08*	.12/.06	.11/.05	.09/.03*	.12/.07*	.11/.06
Employer	.03*/.01*	.02*/.00*	.02*/.01	.04*/.01	.03*/.02*	.01*/.01*	.02/.01

Notes: Table entries are the proportion of the sample who used the information source (top panel) or who got assistance from the individual (bottom panel) followed by the proportion of the sample who reported that the information source or individual was among the most important. Sample size is 1,652.
*Difference from other population group is statistically significant at the .05 level.

EFE Enrollment Decisionmaking

Students were asked about how they learned about the EFE class that they were enrolled in: sources of information and individuals. Table 3.2 presents summary data for these issues. The entries in the table are composed of two numbers. The first represents the proportion of the respondents who reported that they used each of the information sources or got assistance from particular individuals. The second number, after the slash, is the proportion of students who said that

each source of information or individual was among the most important. For example the first entry in the table is .53*/.24*. This means that 53 percent of the males reported that guidance counselor advice was a source of information about their EFE class, and that 24 percent of the males indicated that guidance counselor advice was among the most important sources of information. (The asterisks indicate that the 53 percent and 24 percent for males are statistically significant differences from the 64 percent and 31 percent for females.)

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

A number of the differences in the proportions among the sex, race, and work-based experience groups were significant. Females reported more information sources than males, and in particular, a greater reliance on guidance counselors, high school handbooks, technical education teachers, EFE staff presentations, siblings, and friends/acquaintances. There were only a few differences between minorities and whites. The former reported a lower reliance on friends/acquaintances and high school handbooks, and a greater reliance on employers. Students who were in work-based programs tended to rely more heavily on guidance counselor advice,

technical education teachers, and EFE presentations than did other EFE students; but they relied less on high school handbooks and siblings.

The bottom panel of the table reports data concerning which individuals were influential in the students' decisions to enroll in EFE. Guidance counselors were mentioned most often by respondents both as individuals who assisted and the most helpful individuals. Friends were next followed closely by parents/guardians. Among the groups, females reported that they tended to be assisted by guidance counselors, parents/guardians, academic subject teachers, and friends more than did males. The only statistically significant difference between nonwhites and whites was a much higher reliance on friends for whites. There were virtually no differences between students with work-based program experiences and those without such experiences in terms of assisting parties.

Last year's report noted that there had been a substantial decline in reliance on information from all sources relative to the preceding two years. The percentage of students who reported gaining information from each of the sources and the percentage of students for whom the source had been among the most important had gotten considerably smaller than comparable percentages from the 1996 and 1997 data. The data reported in table 3.2 are very similar to last year's data, i.e., they continue to be much smaller than the earlier years. This is consistent with the hypothesis that EFE classes have become familiar to students, and so the students are less reliant on external sources for information or decisionmaking.

Opinions About EFE Classes

The students were presented with a number of survey items to gauge their opinions about their EFE classes. Specifically, they were asked for their level of agreement or disagreement with

several statements of opinion about different aspects of the course, they were asked to assign a letter grade (from A to F) to assess the course, and they were asked open-ended questions about the three best and three worst things about the class. Table 3.3 provides summary information about the statements of opinion and the letter grade. The top portion of the table presents the proportion of students who agreed or strongly agreed with various statements about their EFE class. (Note that some of the questions were worded negatively; in this case, the indicators represent the percentage

Table 3.3
EFE Class Satisfaction Indicators

	Sex		Race		Work-based program		
Indicator	M	F	W	NW	Yes	No	Total
Agree/strongly agree with "This course is one of the best. . ."	61*	66*	64	65	66	63	63
Disagree/strongly disagree with "This course is too hard. . ."	79*	85*	83*	77*	79	82	81
Agree/strongly agree with "I get along with other students and we work together. . ."	83	85	84	82	79*	85*	83
Agree/strongly agree with "The equipment and facilities meet the needs. . ."	73*	83*	78	71	71*	79*	77
Disagree/strongly disagree with "Not enough information. . ."	70*	76*	73	72	67*	73*	71
Agree/strongly agree with "This course treats everybody fairly. . ."	68	72	71	68	64*	72*	70
Agree/strongly agree with "I can get questions answered. . ."	71	72	73	69	64*	73*	71
Disagree/strongly disagree with "This course is disorganized."	69	70	70	70	61*	71*	69
Average grade for course quality (converted to 4.0 scale)	3.15*	3.34*	3.25	3.22	3.17	3.25	3.22 (B+)

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 1,652. Approximately 50 cases are missing for each item. Sample size for average letter grade is 1,591.
*Difference from other population group is statistically significant at the .05 level.

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

Note that the levels of satisfaction are medium to high–all ranging between 63 and 83 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 five-eighths of the students agreed, with the highest level of agreement from students who were in work-based program experiences. Females were more likely to have agreed with this item than were males. The next item asked for agreement or disagreement with the statement, "This class is too hard." Here, around 80 percent of the students disagreed. A higher proportion of females disagreed than did males, and a higher proportion of whites disagreed than nonwhites. It should be recognized that students would disagree with this statement if they felt that the class was too easy or if they felt that the pace and level were appropriate. Consequently, the indicator is somewhat difficult to interpret.

The third statement was, "I get along well with other students and we work together well in the class." Overall, more than 80 percent, about five out of six, of the students agreed with this statement. A lower percentage of students with work-based program experience agreed with this statement than other EFE students. No follow-up questions to explore the students' reasons for answering the items one way or another were asked, so we can't explain differences with certainty. But it may be the case that some of the work-based program experiences involve only a single student, and so there would be little opportunity to work together or get along. The next item was intended to measure student opinion about the equipment and facilities in the classrooms and worksites. The item was phrased, "The equipment and facilities meet the needs of the course."

Overall, about three-quarters of the students agreed with this statement, but males and students with work-based program experiences were in less agreement.

The next survey item asked students whether they thought enough information about the course had been given to students and families. Overall, about 70 percent of the students were satisfied, but as with the previous item, males and students with work-based program experiences were in less agreement. Next, the battery of opinion items asked about whether everyone was treated fairly in the course. Seventy percent of the respondents were satisfied, but the level of agreement was much lower for students with work-based program experiences.

Students were asked for their agreement with the statement, "I can get questions answered easily in this class." The results were quite similar to the previous question; overall, just over 70 percent of all respondents in the sample were satisfied, but the level of agreement was lower for students with work-based program experiences. The last indicator was disagreement with the statement that, "This course is disorganized." Around two-thirds of all of the population groups disagreed with the statement; and again the group that had significantly lower levels of satisfaction were students with a work-based program experience.

The average grade for course quality is given in the bottom row of the table. The sample average of 3.22 indicates that, all in all, students were quite satisfied with their classes. A significant differences in this average exists between males and females, however. The assigned grades are lower for males, 3.15, than for any of the other groups. These data suggest that males, particularly those with work-based program experiences, may not have achieved as much comfort in the EFE classes as their classmates.

In general, the EFE class satisfaction indicators are slightly higher that those in 1998, but lower than in 1996 or 1997. Interestingly, the indicators for the nonwhite subgroup of EFE students were much higher than last year, and about the same as the levels in 1996 and 1997. In 1997 and 1998, there was a significant discrepancy between whites and nonwhites that has disappeared entirely in this year's data. Figure 3.A.7 displays the trends in satisfaction indicators for current students, and Figure 3.A.8 shows the averages for course quality grades, by race and sex.

Table 3.4
EFE Class Best and Worst Aspects

Aspect	Number of times mentioned	Percent
Best Aspects		
Equipment	159	4.5
Books/software	435	12.3
No homework/tests	56	1.6
Pace	265	7.5
Specific teacher	464	13.1
Work-based learning	194	5.5
Skills, experience	863	24.4
College usefulness	34	1.0
Hands-on	118	3.3
Other students	252	7.1
Other	686	19.4
Nothing	18	0.5
Total	3,544	100.0
Worst Aspects		
Equipment problems	116	5.0
Books/software	290	12.6
Too difficult	78	3.4
Too easy, boring	271	11.7
Too much work	358	15.5
Student:teacher ratio	50	2.2
Specific teacher/staff	340	14.7
Schedule problems	107	4.6
Class environment	59	2.6
Classmates	87	3.8
Other	380	16.5
Unfair	29	1.3
No worst comments	143	6.2
Total	2,308	100.0

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

Table 3.4 provides data about the students' responses to the open-ended questions about the best and worst aspects of their EFE classes. About 1650 students responded to the survey, so the potential number of best aspects and worst aspects that could have been named was almost 5,000. In fact, over 3,500 positive aspects were named and just over 2,300 worst aspects were named. This, in itself, is a good sign. Respondents could more easily name positive characteristics than negative

ones. Among the best aspects, students were most appreciative of the skills they were learning and the "real world" experiences they were having. The next most often mentioned factor was a specific teacher or other staff person. The books/software was the third highest rated positive aspect.

On the other side of the ledger–i.e., worst things about the course–the item that was mentioned most often was that the course required too much work. Of the total number of responses to this question, this response was received about 15 percent of the time. Just behind it in terms of percentage frequency was a problem with a specific teacher or staff person. Finally, books/software and course was "too easy" were the next most often mentioned complaints.

Work-Based Program Experiences

Table 3.5 shows that a little under one-quarter of the sample participated in work-based program experiences. The percentages were higher for females than males (as they were in 1997 and 1998) and for whites than nonwhites, although neither of these differences were statistically significant. (See Figure 3.A.9 for trends in participation rates by race and sex.) About three-fifths of the students who participated in a work-based experience received pay, and on average, the pay was $6.64 per hour. The proportion of males who were paid for their work-based experience is quite a bit higher than the proportion of females, and the proportion of nonwhites who were paid exceeded the proportion of whites who were paid, although again neither difference was statistically significant. Figure 3.A.10 shows the trend in the percentage of students in work-based program experiences who received pay, by race.

The hourly pay differential of almost $0.80 per hour between males and females was significant ($6.81 for males and $6.03 for females). The work-based program experiences averaged

Table 3.5
Work-Based Program Experiences

Characteristic	Sex		Race		Total
	M	F	W	NW	
Participation (n = 1,600)	21	24	23	21	23
If Participated:					
Paid? (n=357)	62	53	56	65	59
Average wage (n=194)	$6.81*	$6.03*	$6.53	$6.34	$6.64
Average hours (n=313)	17.8*	14.5*	15.8	17.2	16.3
Strongly disagree/disagree with "Work is unrelated to course. . ." (n=351)	56	65	60	58	60
Agree/strongly agree with "Mentors are supportive and answer questions. . ." (n=347)	80	84	84*	72*	82

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

just over 16 hours per week. Males worked more than females (18 hours to 14.5 hours), but there was not a significant difference between racial groups. The work-based program experiences for this year were quite similar to last year. About the same proportion of students received pay and the hours per week were about the same. The actual hourly wage earned was higher this year by about 8 percent, undoubtedly caused by the tight labor market.

Students who were participating in work-based program experiences were asked two opinion questions to measure satisfaction with their experiences. The first item dealt with the extent to which the work experience was related to the content of the EFE class that the student was taking. Approximately three-fifths of the students disagreed or strongly disagreed with the statement that the work experience was "...unrelated to their EFE class." This percentage is substantially lower than it was in the last two years. (See Figure 3.A.11.) Furthermore, the level of disagreement, which in this case is the positive indicator, was much lower for males than females. The second item asked for agreement with the statement that "...workplace mentors are supportive and willing to answer

Table 3.6
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=1,482)	27*	21*	23*	29*	28*	22*	24
Postsecondary college, university (including community college) (n=1,600)							
Yes, right away	68*	85*	76	76	79	75	76
Yes, after work	12*	7*	10	9	10	10	10
Don't know	11*	4*	8	7	5	9	8
No	8*	3*	6	7	5	6	6
Agree/strongly agree with "EFE class helped me to decide. . ."	43	42	41*	50*	51*	40*	43
Agree/strongly agree with "EFE class was helpful in choosing program. . ."	42*	50*	45*	53*	52*	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.

questions." Over 80 percent of the sample agreed with this statement. A large and significant difference holds between whites and nonwhites, with the former reporting a much higher level of agreement.

Postsecondary and Career Plans

The next general topic is postsecondary and career plans. Table 3.6 presents summary data about postsecondary plans. A surprisingly high proportion of students reported that they planned to pursue an apprenticeship program after high school. About a quarter of the entire sample reported this plan. Males were significantly more likely to indicate that they planned to pursue a formal apprenticeship than females. It is not clear why such a high percentage of students had this aspiration; apparently there is a misunderstanding about what apprenticeships mean and/or how readily accessible they are.

A very large percentage of the students indicated that they were planning to attend a postsecondary institution (including community colleges and four-year colleges or universities). All together, 86 percent of the sample indicated that they were planning to attend either right after high school or in the future after a few years of work. Females reported a much higher rate of planning to attend college right after high school–85 percent to 68 percent for males (this is approximately the same differential that occurred in last year's student data as well). Figure 3.A.12 shows the trends in planned postsecondary attendance rates, by sex. However, this difference was offset somewhat by respondents who indicated that they intended to work first, and then go to a postsecondary program. About 12 percent of males indicated this plan as opposed to 7 percent of females. Still a greater percentage of females had postsecondary aspirations. About 20 percent of the males indicated that they did not plan to go on to postsecondary or that they did not know whether they would or not. Only 7 percent of females did not know or reported that they did not plan to go. There were no racial differences in postsecondary plans that were statistically significant. About 85 percent of whites and nonwhites planned to attend a postsecondary program either right after high school, or after working for a few years. Similarly, there were no differences in postsecondary plans for students who had participated in a work-based program experience from those who hadn't.

The students' EFE experiences had an impact on their postsecondary plans. Over forty percent of students reported that they agreed or strongly agreed with the statement that "EFE classes helped me to decide whether or not to attend postsecondary schooling." While this seems like a modest impact, it should be noted that the majority of students reported that they were college bound prior to their enrollment in EFE classes. Nonwhites were significantly more likely to have indicated

that EFE helped them with the decision to go on to postsecondary schooling–half of these students agreed with the statement, whereas about 40 percent of white students agreed. Apparently work-based program experiences had an impact on students' postsecondary decisions also. Over 50 percent of students participating in work-based program experiences agreed that EFE classes helped them to decide whether or not to attend a postsecondary institution whereas only 40 percent of the remainder of students were influenced.

We also asked whether EFE classes had been influential in choosing a *particular* institution or postsecondary program. Just under half of the respondents indicated agreement with the statement that "EFE classes had been helpful in choosing a particular college or program." In this case, females, nonwhites, and students in work-based program experiences were more likely to agree or strongly agree with this statement than were their counterparts. For each of these three groups, 50 percent or more responded in agreement with the statement as compared to 45 percent or less for males, whites, or students who had not participated in a work-based program.

The apprenticeship and postsecondary plan data have remained virtually unchanged over the last two years. The percentage of students who plan to go on to postsecondary schooling right after high school was 74 in 1996; 73 in 1997 and 1998; and 76 in 1999. The percentage of students who plan to go on to postsecondary schooling after working for awhile was 11 in 1996-1998 and 10 in 1999. The extent to which EFE influences postsecondary plans rebounded this year to levels that were similar to the 1996 and 1997 data, whereas the percentages had declined slightly last year.

Most of the items on the student survey have not changed since 1996; however, last year 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 3.7

Table 3.7
Availability and Importance of Transferable College Credit

Characteristic	Sex		Race		Work-based programs		Total
	M	F	W	NW	Yes	No	
Can student receive postsecondary credit for this class? (n=1,595)							
Yes	43*	55*	50	48	52	49	49
No	25*	19*	22	22	24	22	22
Don't Know	32*	25*	28	30	24*	30*	28
If yes: (n=792)							
College credits earned for this class (average) (n=425)	2.6	2.6	2.7	2.5	2.9	2.5	2.6
College credit was important in decision to take this class (n=767)	33	39	33*	58*	42	35	37
Sources of information on college credit (n=792)							
Guidance counselor advice	31	32	28*	46*	36	30	31
Poster	1	1	0	2	1	1	1
Academic subject teacher	24*	17*	20	20	18	22	21
Technical education teacher	44*	61*	54	47	53	51	51
Brochure	5	5	4	5	6	4	4
High school handbook	14	18	15	21	16	16	16
Friends/acquaintances	9	13	11	14	9	12	11
Brother/sister - family	2*	4*	3	3	1	4	3
EFE staff presentation	6	7	6	7	5	6	6
Employer	1	0	1	0	2	0	1
Other	8	6	7	4	10	6	6
Total college credits earned by end of this year (average) (n=684)	2.8*	3.6*	3.2	3.1	3.5*	3.0*	3.1

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

presents a summary of these data. Overall, just under half of the respondents (49 percent) indicated that they believed that they could receive college credit for their high school EFE class. Twenty-two percent believed that they would not be able to receive college credit for this class, and the remaining 28 percent indicated that they did not know. This was a slight change from last year when 46 percent of the students knew they could receive college credit; 23 percent reported that they could not receive credit; and 31 percent didn't know. Thus there was a very slight increase in the

percentage of students who felt they could receive college credit for their EFE course. Females were more likely to have believed that they could receive college credit than males. The differences by race and by whether the student had a work-site experience were not significant.

We asked the students who indicated that they knew they could earn college credits how many credits they thought they could earn for this course and whether the potential to earn college credit was an important factor in deciding to enroll in the program. A substantial share–just under 40 percent–reported that this factor had been important in their program enrollment decision in high school. This share varied substantially across student characteristics. Nonwhite students and students who had participated in work-based program experiences were more likely to indicate that the ability to earn college credits was a deciding factor for taking this course. Note that the difference between nonwhites and whites was 58 percent versus 33 percent. The students believed they would be able to earn about 3 college credits for this course.

The respondents were also asked to indicate sources of information about the ability to earn transferable college credits in their EFE course. The technical education teachers were the predominant source. Guidance counselors and academic subject teachers were the next two most often mentioned sources.

Table 3.8 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 aspire to the following occupations: manager/administrator, professional, technical, or school teacher. Females, particularly, have set their aspirations in these directions. Exactly half of the females in the sample reported that they would like to be in a professional occupation when they reach 30 and another 12 percent wanted to be a school teacher. Less than a 30 percent and 3 percent

Table 3.8
Career Plans and Relevance of EFE Class

Plan/Relevance	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Occupational aspiration at age 30							
Clerical	1*	6*	3	5	4	3	3
Craftsperson	14*	3*	10*	4*	9	9	9
Farmer	2*	0*	1	1	1	1	1
Manager/administrator	9	7	8	9	10	8	8
Military	3*	0*	2	2	1	2	2
Operative	3*	0*	1	1	2	1	1
Professional	29*	50*	39	39	36	41	39
Proprietor/owner	6	6	5	9	6	6	6
Protective services	6*	3*	5	3	7*	4*	4
Sales	4	3	3	5	2	4	3
School teacher	3*	12*	9	7	8	9	9
Service	2*	5*	3	2	4	3	3
Technical	14*	5*	10	8	6*	10*	10
Not working	2	1	2	2	2	2	2
Relevance of EFE Class							
Agree/strongly agree with "EFE class helped me to decide on job at 30."	36	44	40	43	50*	38*	40

Note: Table entries are sample percentages. Sample size for occupational aspirations is 1,532. Sample size for relevance is 1,502. Columns may not add to 100 due to rounding.
*Difference from other population group is statistically significant at the .05 level.

of males shared those aspirations. On the other hand, one in seven males aspired to be craftspersons, whereas only 3 percent of women reported this aspiration. Figure 3.A.13 shows the trends in the males' and females' aspirations to "white collar" and "blue collar" occupations.

As we did for postsecondary plans, we asked about the influence of EFE on the students' career aspirations. This indicator is displayed in the bottom row of table 3.8. The survey question asked the students to agree or disagree with the statement that the "My participation in this class or other EFE classes helped me to decide what job or career I would like to have when I'm 30." Overall, 40 percent of the students agreed or strongly agreed with this statement, that is, indicated that their EFE class had had a strong influence on their career choice. Students in a work-based

program experience were more likely to agree with the statement than other EFE students. These data mirror closely the occupational aspirations of last year's sample of students.

Current Employment

The last topic covered by the survey is current employment experiences. As table 3.9 indicates, 54 percent of the students indicated that they were currently working for pay apart from any work-based experience that they are having through EFE. Males and whites had a higher employment rate than females and nonwhites, respectively. Somewhat surprisingly, students without a work-based program experience were only slightly more likely to be employed than those with a work-based program experience. For those with jobs, the average hours of work per week was around 18, and the average hourly wage was $6.43. Males worked more hours per week than females–18.9 to 16.6–and they earned a higher hourly wage–$6.77 to $6.02. Otherwise there were no statistically significant differences between the groups.

Table 3.9
Current Employment Characteristics

	Sex		Race		Work-based program		
Characteristic	M	F	W	NW	Yes	No	Total
Currently employed? (n=1,545)	58*	51*	56*	48*	55	54	54
If yes:							
Average hours (n=781)	18.9*	16.6*	17.6	18.8	18.3	17.7	17.8
Average pay (n=764)	$6.77*	$6.02*	$6.47	$6.21	$6.68	$6.37	$6.43
Use training from EFE class? (n=808)							
A lot	16	18	16	22	23*	15*	17
Some	30	31	31	31	32	30	30
Hardly any	17	20	19	16	19	19	19
Never	37*	30*	34	31	26*	36*	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 were employed has declined or stayed the same, from 60 percent to 56 percent to 54 percent in both 1998 and 1999. (See Figure 3.A.14, which displays this trend and the trend by race and sex.) The average hours per week for employed students has also declined or stayed the same–from 18.7 to 18.2 to 17.7 to 17.8. On the other hand, hourly wages have risen–from $5.35 to $6.43.

We asked the students whether or not they were using the training that they had received through their EFE course in their current job. Just under half–47 percent–of the students who were working indicated that the skills and training they had received in their EFE class were somewhat useful or useful "a lot" on their part-time jobs. The other students reported that they used "hardly any" of the EFE skills and training or none at all. Indeed, over one-third of the students indicated that they never use their EFE training. Males and students who had not participated in a work-based program experience were more likely to report that they never used their EFE training in their current jobs.

Summary and Trends

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

- The average EFE student has a (self-reported) 2.94 (B) grade point average (GPA), participates in 2.7 extracurricular activities per year, and does about 2.6 hours of homework per week. The average GPA of males and of minorities reported in this year's data have increased significantly over previous year's data.

  There has been a trend toward more freshman and sophomore enrollment in EFE, and a gradual increase in the number of activities in which students engage. In last year's report, we pointed out downward trends in (self-reported) tardiness and unexcused absences. The data collected in 1999 reversed the trend in tardiness, but continued the downward trend in unexcused absences.

- The sources of information that students relied upon and the individuals who assisted in decisionmaking about EFE classes were quite similar to the 1998 data. The most important sources of information were guidance counselor advice, high school handbooks, and friends/acquaintances. The individuals who were mentioned most often as assisting the students were guidance counselors, parents/guardians, and friends. Both years of data indicated that students had fewer sources of information about EFE courses and involved fewer people in making their enrollment decisions than in the prior two years. This may imply that EFE classes have become quite familiar to students.

- Indicators of student satisfaction with EFE classes were reasonably high. They rose somewhat from last year, when they had fallen relative to 1996 and 1997. Significant was the closing of a gap between whites and nonwhites in satisfaction levels; in previous years, this gap had been quite large. This year, students in work-based program experiences tended to have lower satisfaction indicators.

- The percentage of students who participated in work-based programs decreased slightly from last year. In 1998, this percentage was 26 and it dropped to 23. There continues to be a downward trend in the percentage of students who participate in work-based programs who get paid, but for those who do get paid, the wage rates were higher. The hours per week for these activities have remained the same–around 16.5 hours on average.

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

- The percentage of students who plan to attend a postsecondary institution either right after high school, or after working for a few years, has remained right around 85 percent for all four years of the survey. About three-quarters of the students planned to enter a postsecondary institution right away after high school, whereas about 10 percent plan to attend more schooling after working for a few years. The planned rate of attendance is higher for females, and lower for males. 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 indicated that they could receive direct or transferable college credit for their EFE class. The other half of the students was about split in half between not knowing and believing that they could not get credit. Among the students who believed that they would be eligible for college credit, about 40 percent indicated that such potential credit was an important reason for enrolling in the EFE class. On average, the students thought they could earn 3 college credits for the class that they were in.

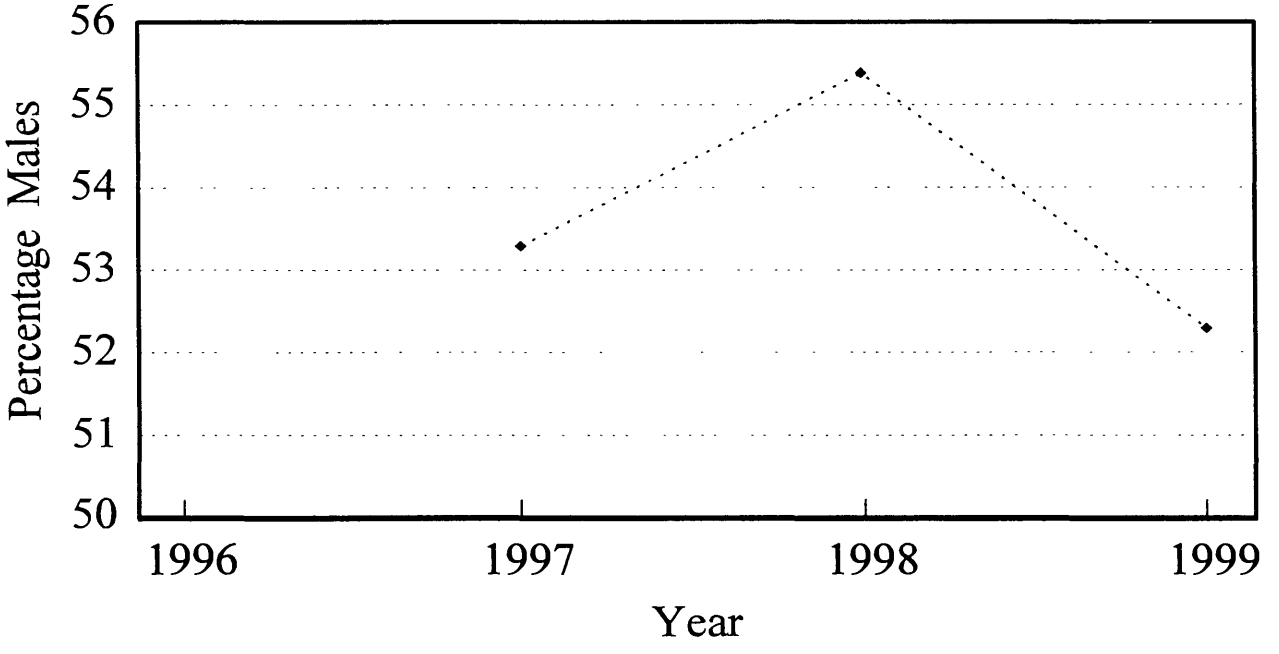
- Occupational aspirations were heavily skewed toward white collar/professional occupations. As with the previous years of data, over 60 percent of the students (much higher for females)

planned to be in a white collar occupation when they reached age 30. There is a slight upward trend in the percentage of students who aspire to be in "white collar" occupations, and a slight downward trend 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, and average hours of work per week have gone down over time. Average hourly wages have increased. Among the students who work, about half indicated that they use their EFE training in their part-time jobs and about one-third reported that they "never" used their EFE training in their current job.

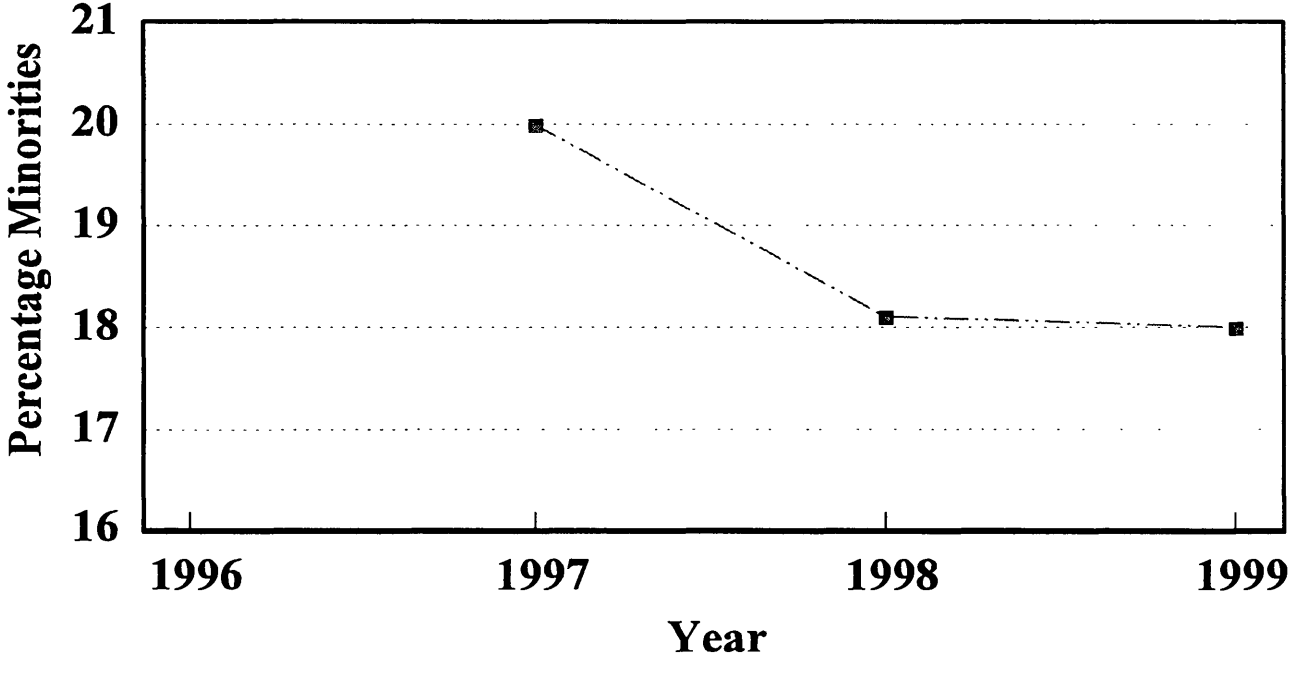
Appendix: Time Series Graphs of Characteristics and Experiences of Current Students

Figure 3.A.1
Gender Composition of Student Enrollment



Note: Data not available for 1996

Figure 3.A.2
Racial Composition of Student Enrollment



Note: Data not available for 1996

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

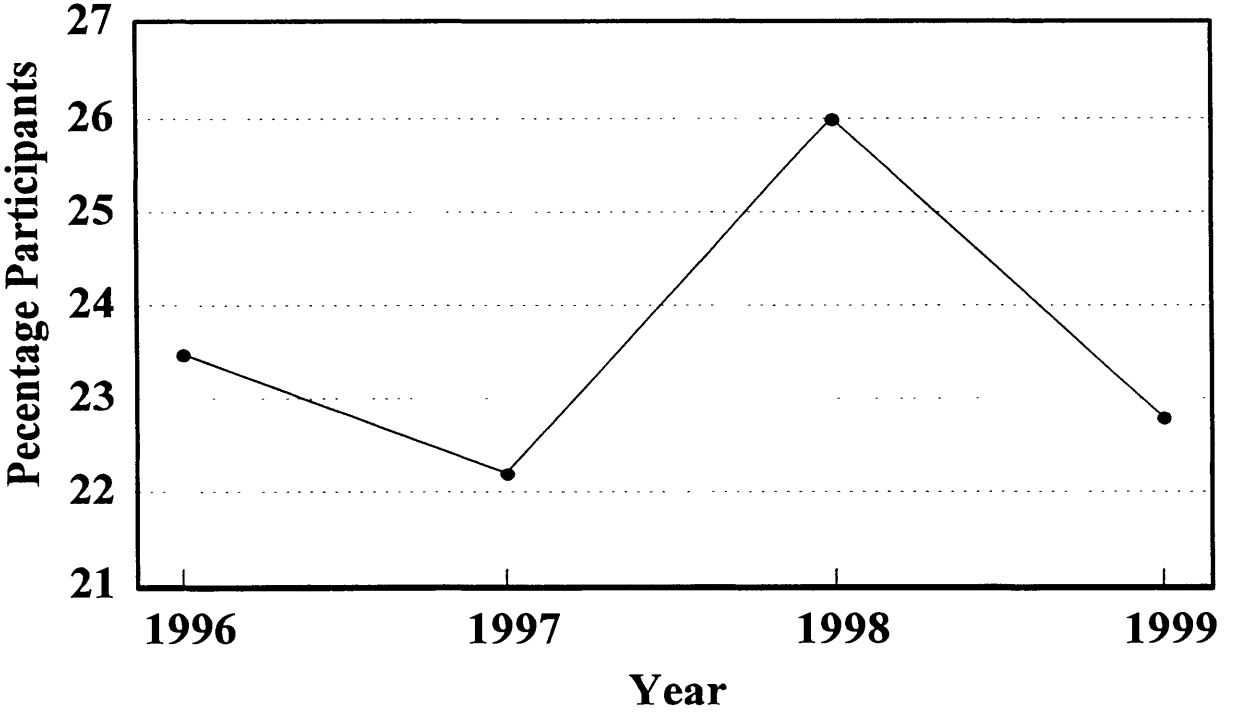
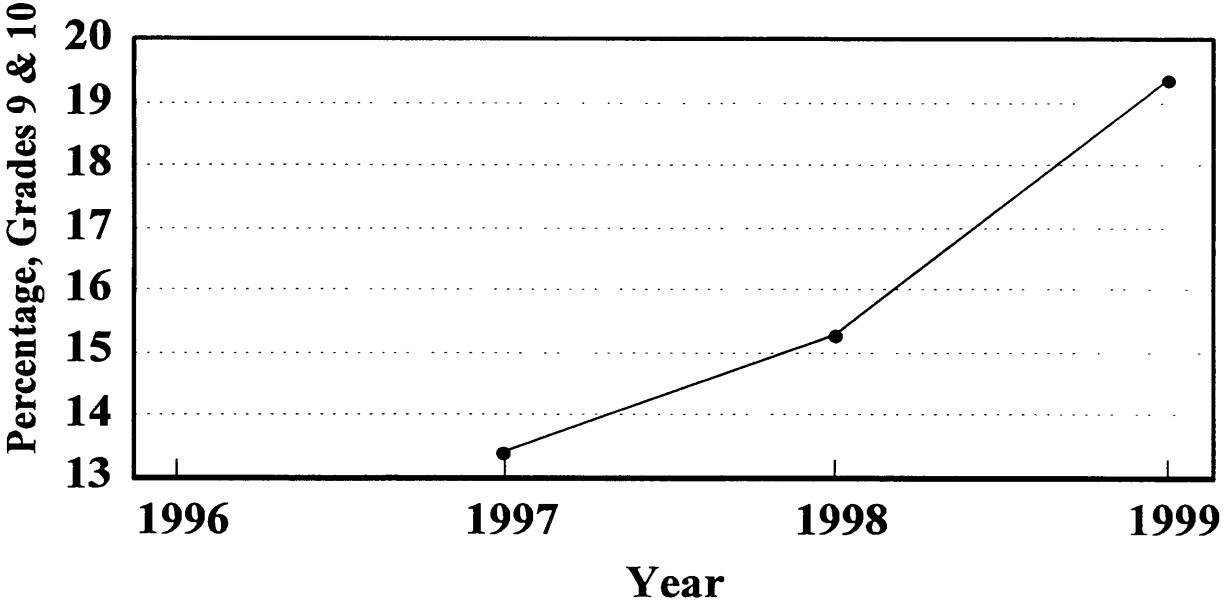
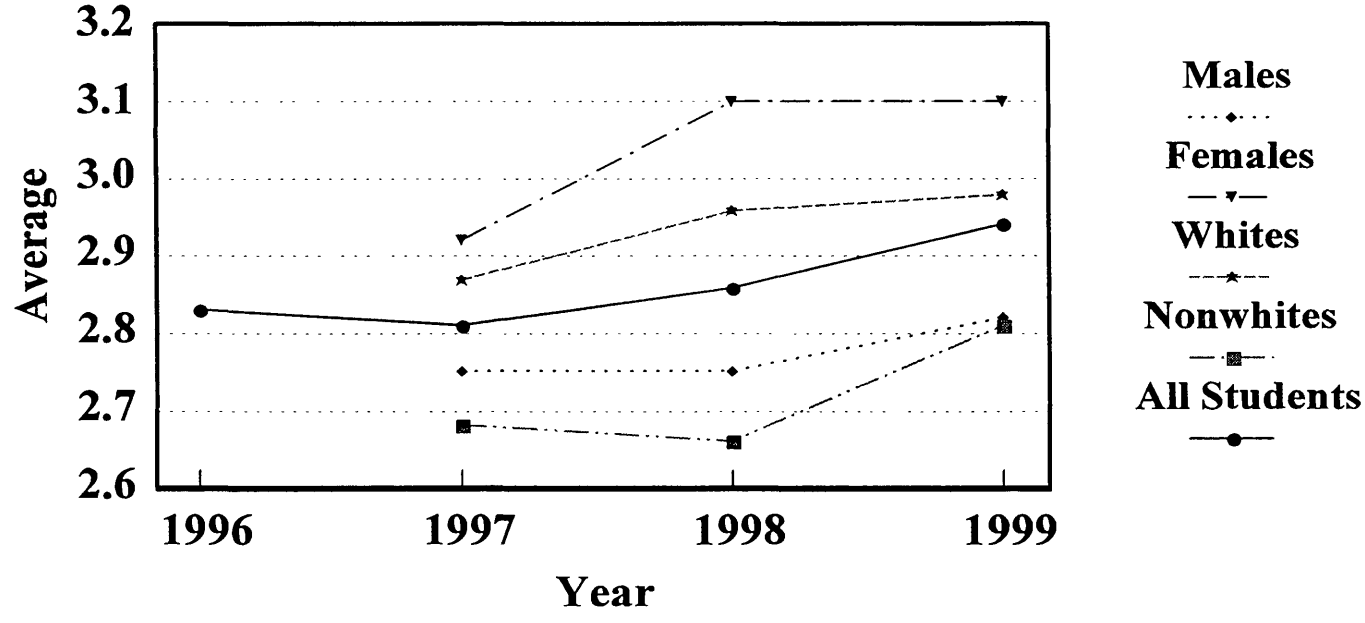


Figure 3.A.4
Enrollment of Students in Grades 9 and 10



Note: Data not available for 1996

Figure 3.A.5
Average GPA's, By Race and Sex



Note: Data by race and sex not available for 1996

Figure 3.A.6
Average Number of Incidents of Tardiness and Unexcused Absences

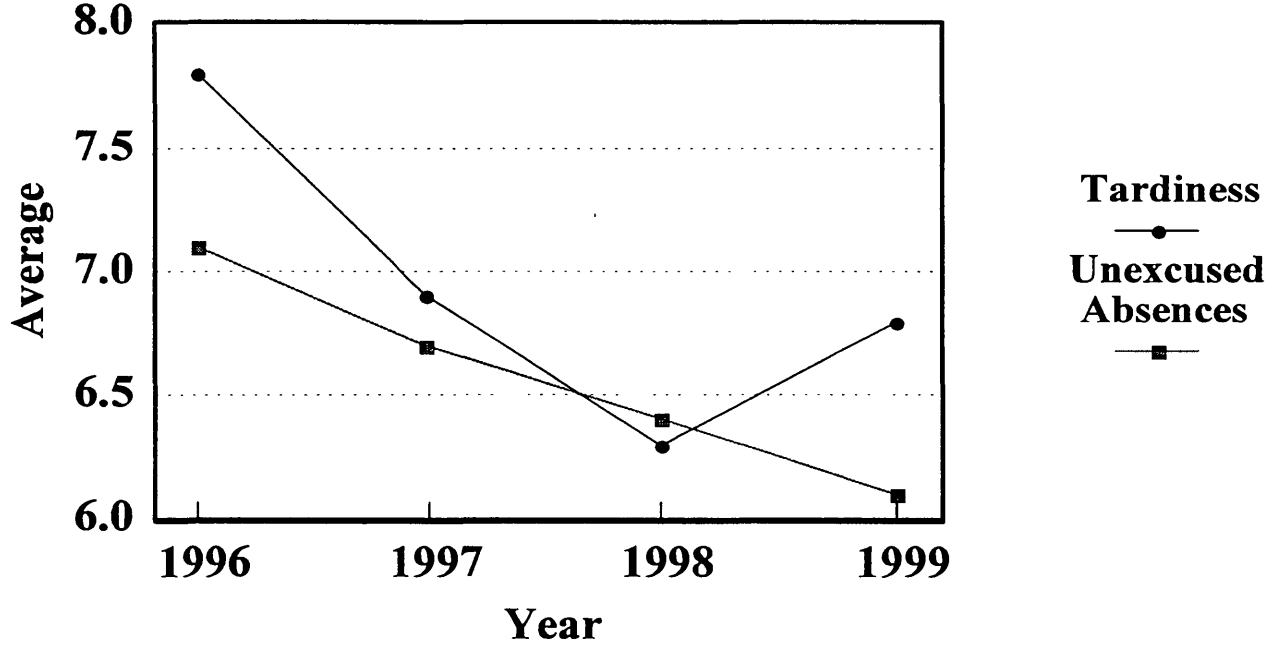


Figure 3.A.7

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

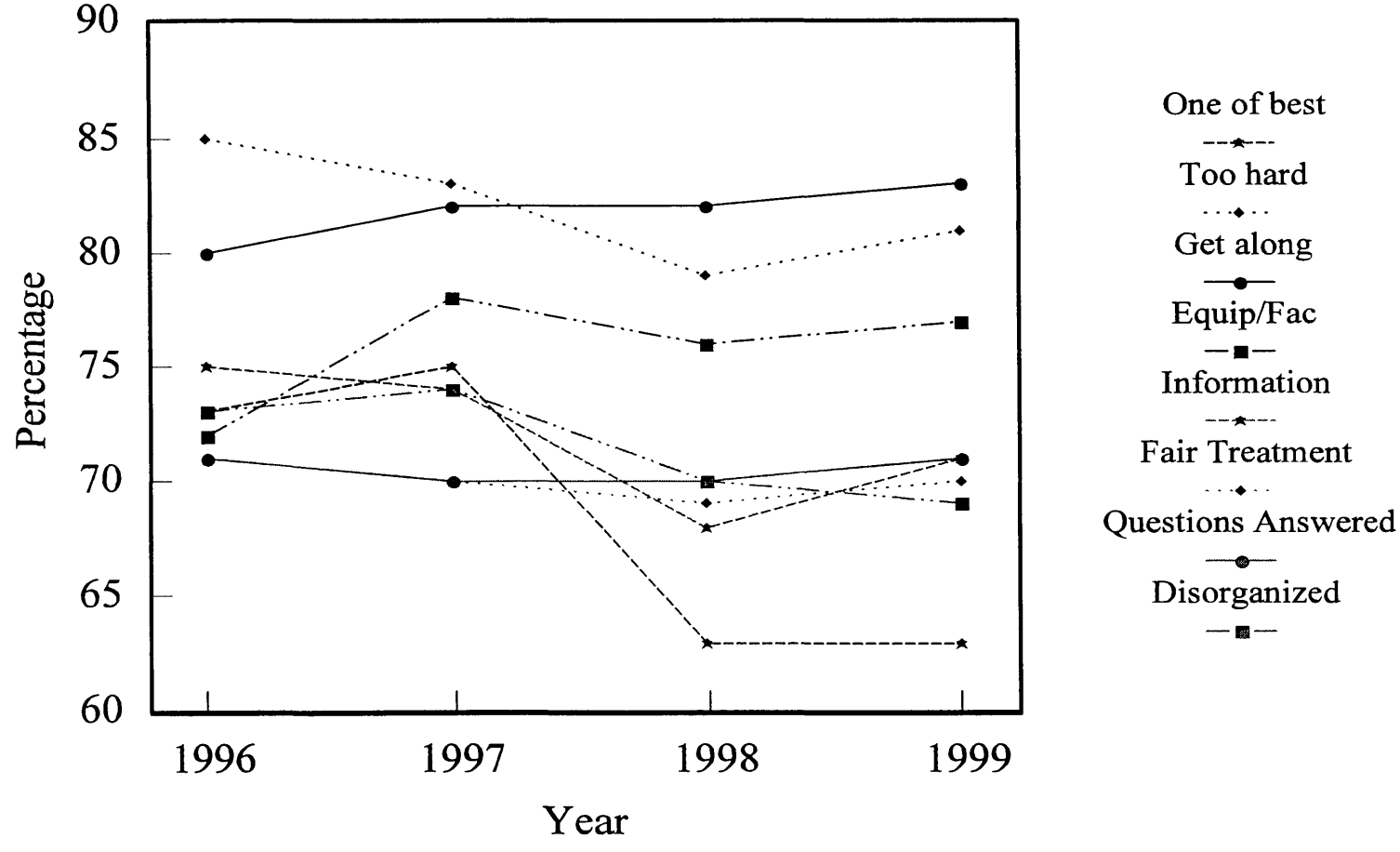
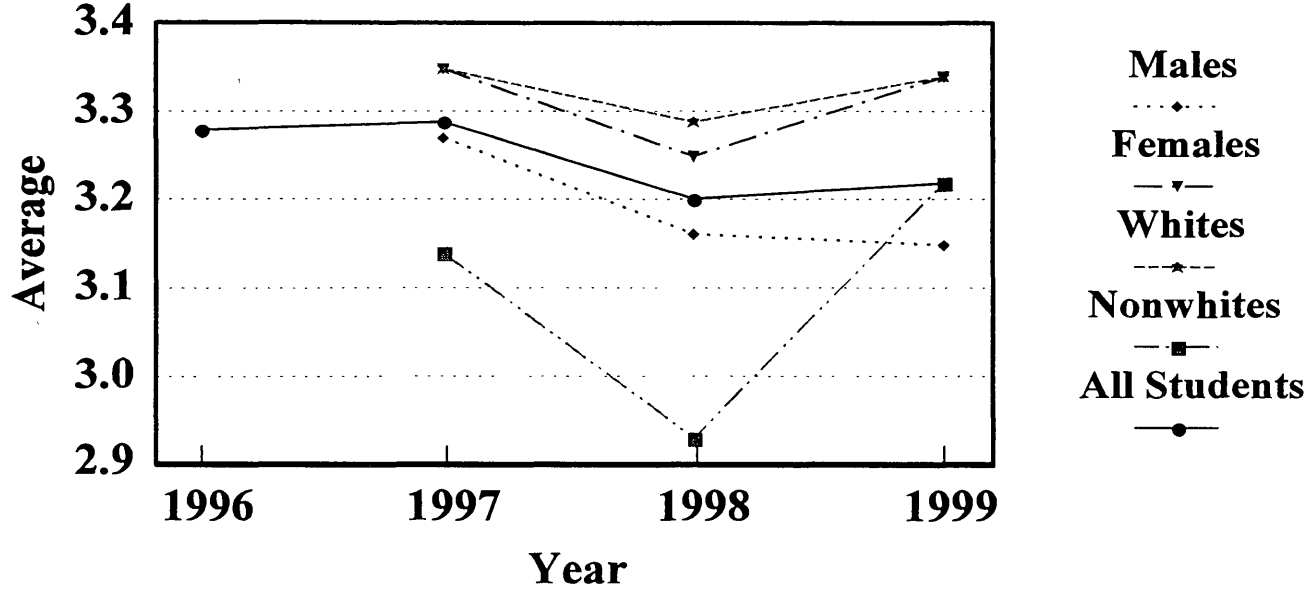


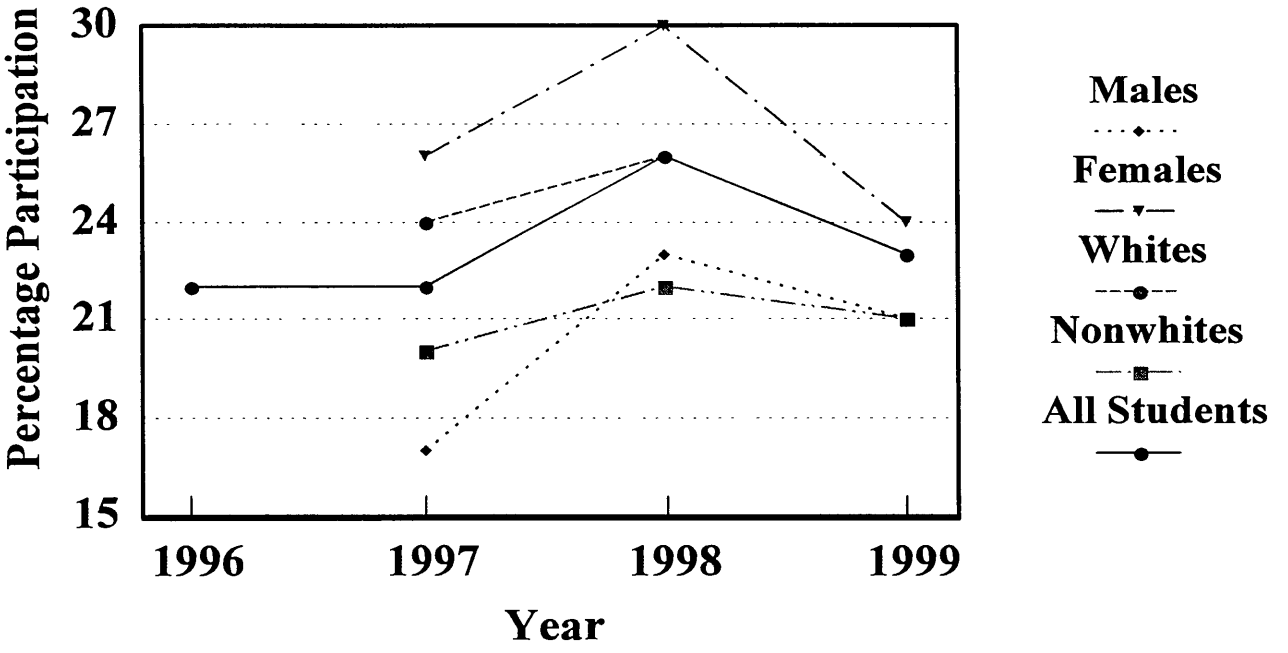
Figure 3.A.8
Student "Grades" for Course Quality, By Race and Sex



Note: Data by race & sex not available for 1996

Figure 3.A.9

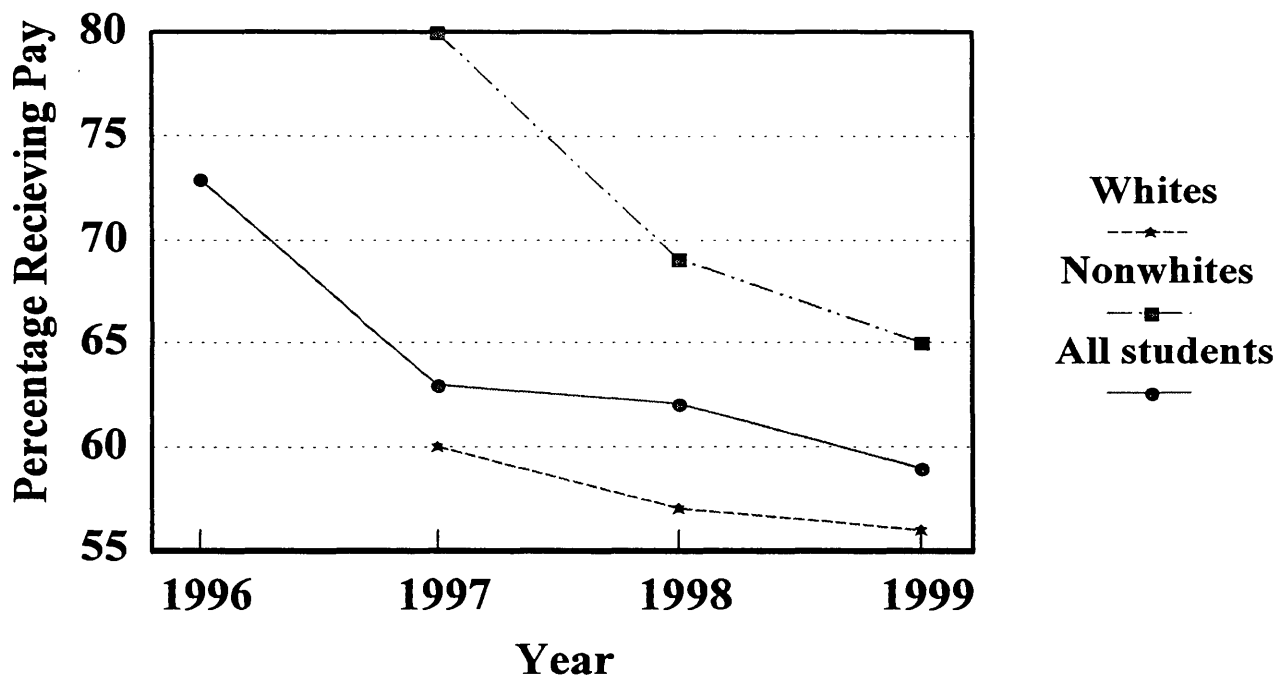
Participation in Work-Based Program Experiences, By Race and Sex



Note: Data by race and sex not available for 1996

Figure 3.A.10

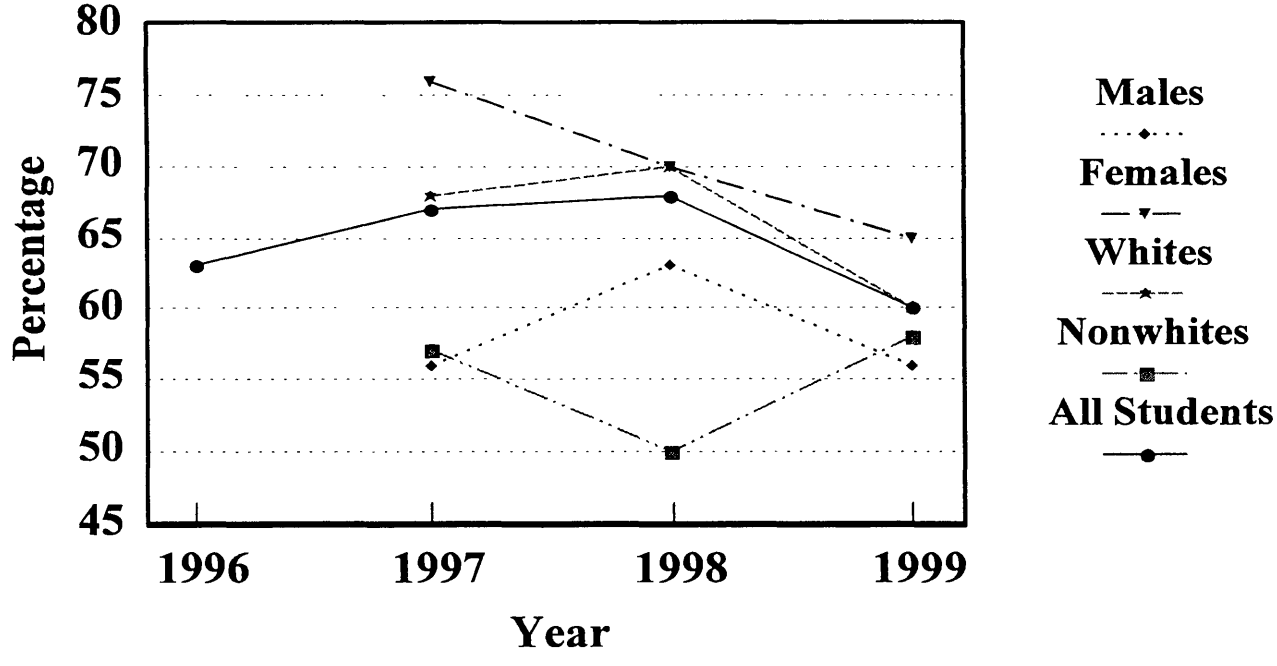
Percentage of Students in Work-Based Programs Receiving Pay, By Race



Note: Data by race not available for 1996

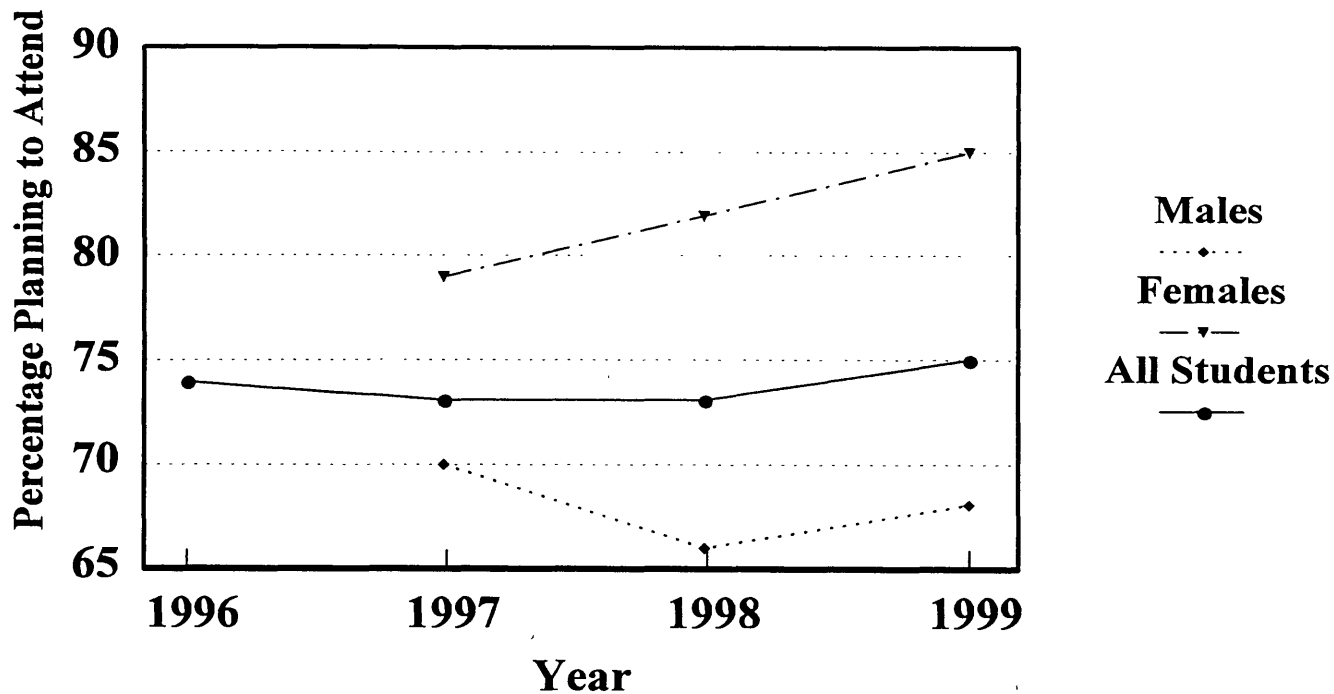
Figure 3.A.11

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 3.A.12
Planned Postsecondary Attendance Rate, By Sex



Note: Data by sex not available for 1996

Figure 3.A.13
Occupational Aspirations, By Race and Sex

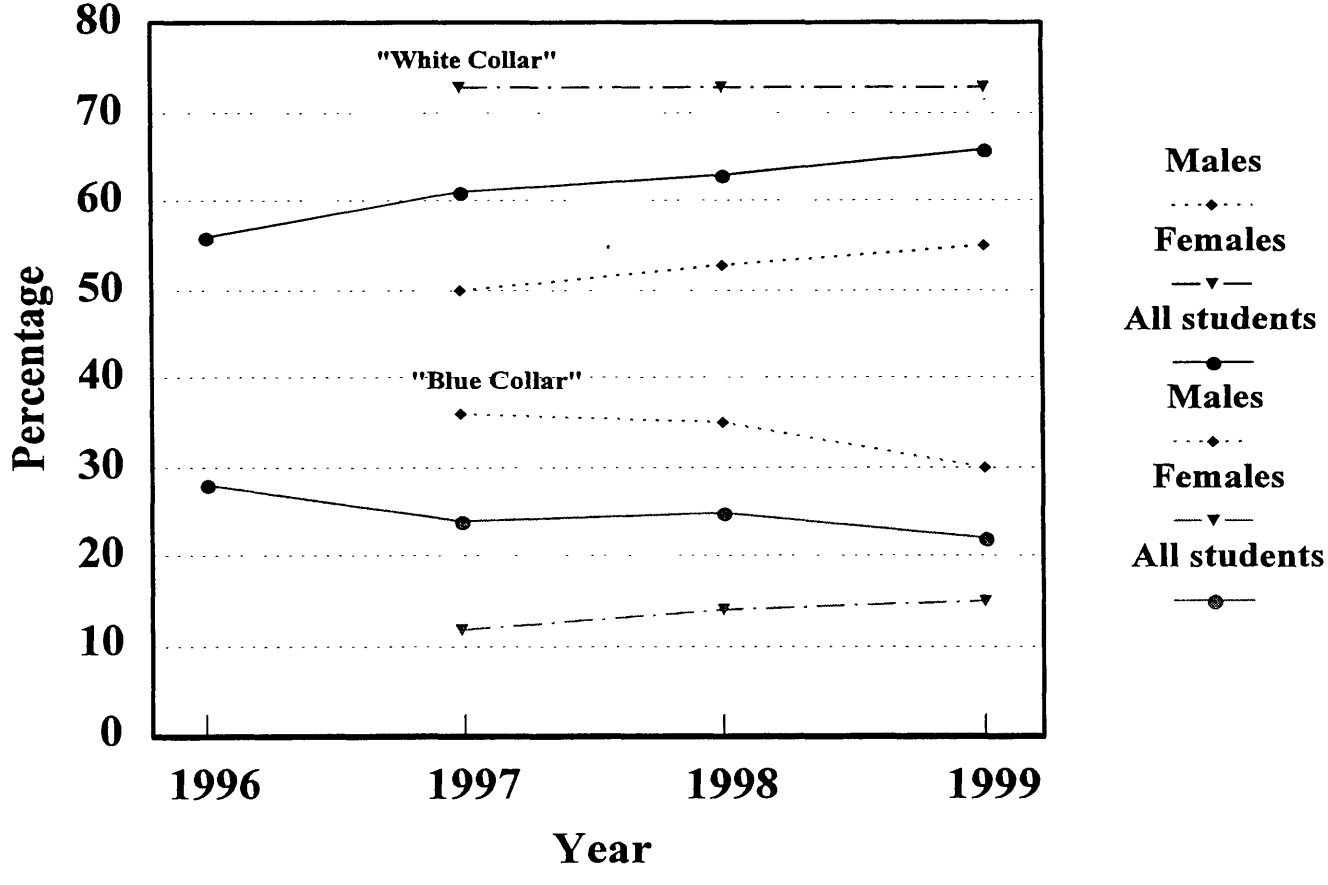
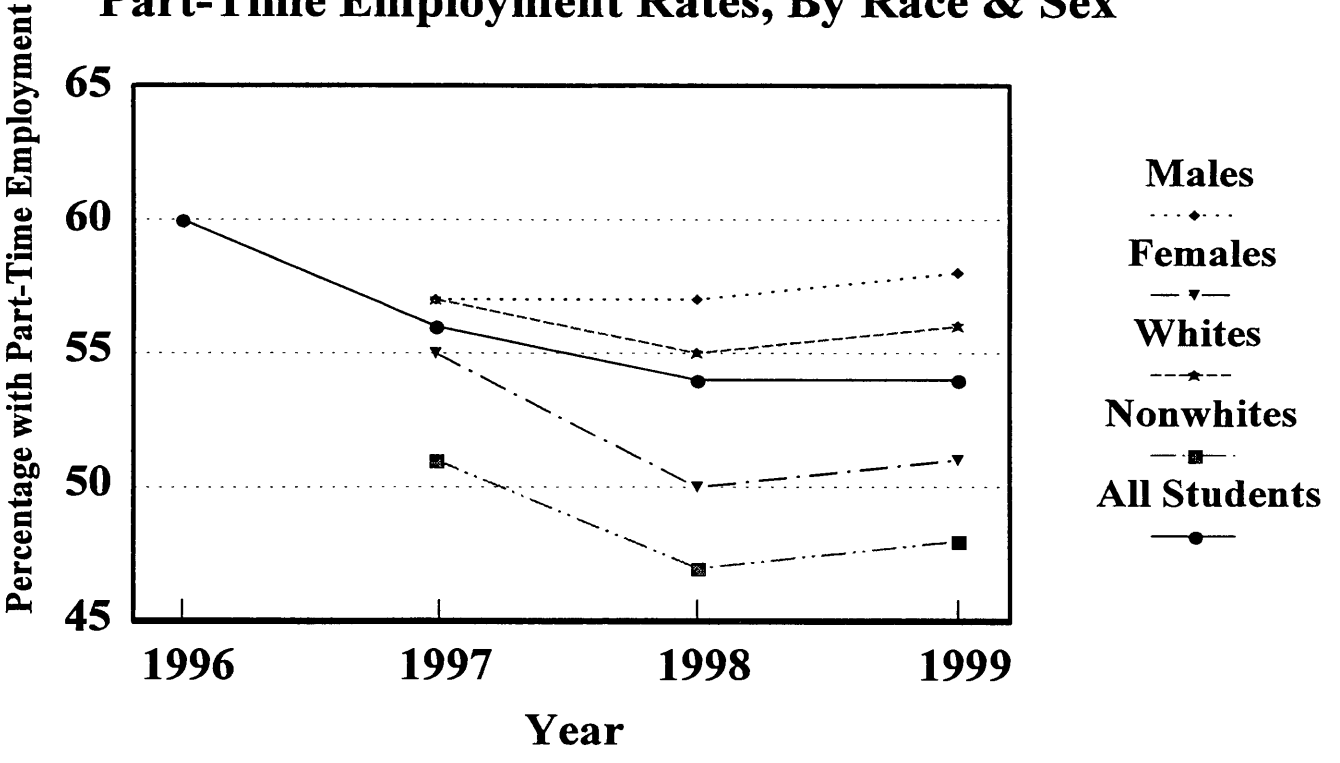


Figure 3.A.14
Part-Time Employment Rates, By Race & Sex



Note: Data by race and sex not available for 1996

4. Parents/Guardians

Parents/guardians are an important stakeholder group in EFE programs and services. To gauge their level of satisfaction with their children's EFE classes, we conducted a mail survey of a random sample of parents. Note that the student and follow-up surveys were administered to the entire universe of current and graduated students. The parent survey was sent to a random sample of 500 parents/guardians of current students. We received about 180 completed surveys, so the overall completion rate was about 36 percent, which is quite good for a mail survey.

Topics measured in the survey included involvement in and information about the decision to enroll in the EFE class, knowledge of and opinions about the curriculum and instruction, and general opinions about the EFE consortium.

Involvement in and Information about Enrollment in EFE Class

We asked parents/guardians how much they were involved in their child's decision to enroll in the EFE class. Respondents could select one of four responses: a great deal, some, little, and none. Parents/guardians who responded that they had at least a little involvement were asked what sources of information were used, how adequate was the information, and what additional information would have been helpful. Table 4.1 provides the frequency distributions for these questions.

Three-quarters of the respondents indicated that they had at least "a little" involvement in their student's decision to enroll. However, most of the respondents indicated that their involvement could be characterized as "little" or "some." Only about 20 percent of the respondents who indicated

that they had some involvement reported that they had "a great deal" of involvement (this is 15 percent of all parents). The reported level of parent/guardian involvement in the enrollment decision has stayed approximately the same over the three last three years. In 1996, about 80 percent of the respondents indicated some involvement, and about 14 percent indicated "a great deal" of involvement. In 1997, these percentages were 68 and 12, and in 1998, they were 73 and 13. This year, they are 75 and 15.

Table 4.1
Parent Involvement in and Information about Enrollment Decision

Involvement/Information	Percentage
How much involvement did you have?[b] (n =181)	
A great deal	15
Some	42
Little	18
None	24
Sources of information used[a] (n =134)	
Student's knowledge/opinion of class/teacher	60
Own knowledge of class/teacher	29
High school handbook	31
Written information (brochure)	24
Guidance counselor	22
Adequacy of information[b] (n =133)	
Very adequate	28
Adequate	64
Inadequate	8
What additional information would have been helpful?[a] (n =160)	
Percentage of students who took this class and went on to college	42
Career ladders	56
Starting salaries in occupation	43
Description of course content	56

[a] Respondents could have selected multiple responses, so percentages sum to greater than 100.
[b] Percentages may not add to 100 due to rounding.

The source of information that parents used most was what their child told them about the class or teacher (60 percent of parents). All of the other sources of information that respondents could select in answering this question were each used by approximately 20-30 percent of parents who got involved. These included the parents' own knowledge of the class or teacher, high school handbooks, written information such as a brochure, and information from guidance counselors.

Over 90 percent of the parents who responded to the survey felt that the information that they had consulted was adequate or very adequate. Sixty-four percent of the parents felt it was adequate, 28 percent felt it was very adequate, and only 8 percent felt it was inadequate. Having 92 percent

of parents reporting that the information is adequate or very adequate is quite positive; however it should be noted that the percentage of parents responding "very adequate" dropped substantially from last year–39 percent to 28 percent. When asked what additional information would have been helpful to them in the enrollment decision, the parents' most frequent responses were "description of course content" and "career ladders in the occupation." Around 55 percent of parents/ guardians who were involved in their student's enrollment decision would have liked additional information about these matters. Just over 40 percent wanted more information about "starting salaries in the occupation" and would have liked information on the "percentage of students who enrolled in this class and went on to college."

Table 4.2
Parent Knowledge of/Opinions about Instruction in Class

Characteristic/Opinion	Percentage	
Met teacher (n=182)	78	
Observed class period (n=182)	16	
Amount of information about instructional content (n =181)		
A great deal	19	
Some	38	
Only a little	27	
None	16	
Opinion about amount of information given about student expectations (n =172)		
Too much	1	
Just right	54	
Not enough	27	
No information given	19	
Approve/greatly approve of: (n =141)		Don't know
Pace of instruction	60	8
Equipment/materials	68	9
Textbook	49	18
Class size	53	11
Subject matter	75	7
Amount of time on projects	71	6
Chance to learn employability skills	76	2
Student expectations	62	7

Note: Percentages may not add to 100 due to rounding.

Knowledge of and Opinions About Their Student's EFE Class

Table 4.2 provides data concerning parents' knowledge of and opinions about their student's EFE class. Over three-quarters of the parents/ guardians reported that they had met the EFE teacher. Just over 15 percent had actually observed a class period, though. Most parents (about 85 percent)

felt that they had some information about the instructional content in the EFE class. They did not claim to have a great deal of knowledge, however. The parents indicated that they had "only a little" or "some" information most of the time. About a quarter of the individuals who said that they knew something about the instructional content of the class indicated that they knew "a great deal."

Parents/guardians were asked for their opinions about the amount of information they had been given about expectations of students in the EFE class. Slightly less than half of the parents indicated that they had no information or not enough information about what was expected of their students. Almost all of the other parents/guardians reported that the amount of information they had been given about expectations was "just right." (One percent felt they had "too much" information.) These data closely parallel the data from last year's survey of parents/guardians.

The bottom panel of the table provides indicators about how parents perceived the quality of various characteristics of the class. The respondents were asked how well they approved of eight characteristics: instruction, equipment/materials, textbook, class size, subject matter, amount of time spent on projects, chance to learn employability skills, and student expectations. The data showed that the parents were generally pleased. Seventy percent or more of the parents approved or greatly approved of the subject matter, the chance to learn employability skills, and the amount of time spent on projects. Just under 70 percent approved or greatly approved of the equipment and materials used in classes. The approval ratings for the textbook and class size are the lowest ratings; both with around 50 percent of the parents/guardians approving or greatly approving. However, a significant share of parents indicated that they did not know about these two characteristics (18 percent and 11 percent for textbook and class size, respectively.) If the data were adjusted to account for the "don't

know's," then the approval ratings would be higher and more consistent with the other class characteristics.

This section of the questionnaire also asked parents open-ended questions in which they were to list three positive aspects about their students' class and three recommendations for improvement. Table 4.3 presents the responses to this question. The positive aspects that were mentioned most often included specific projects, activities, or skills learned; and affective gains (self-esteem). Apart from these two, a sizable number of positive comments were received about exposure to career exploration and information; workplace know-how skills; and a specific teacher or staff person. Note that among the recommendations for improvement, the comment "None (everything was positive)," was received often.

Table 4.3
Positive Aspects and Recommendations for Improvement from Parents

Aspect	Number of times mentioned
Positive aspects	
Career exploration and information	33
Helpful for postsecondary plans	8
Hands-on instruction	8
Specific projects, activities, or skills	60
Supplemental opportunities	18
Specific teacher/staff person	25
Enjoyed class/learned a lot	17
Individual attention	3
Equipment/environment	14
Affective gains	61
Workplace know-how skills	27
Helpful for getting current job	13
Introduction to "real world"	11
Other	34
Recommendations for improvement	
None (everything was positive)	25
Pace or relevance	14
Specific teacher/staff person	13
Logistics/organization (e.g. communication w/parents, transportation)	12
Not enough individual attention	5
Facilities	4
Classroom management	7
Not enough WBL opportunities	27
Not enough communication w/parents	19
Other	19

On the complaints or recommendations for improvement side of the ledger, a total of 27 parents/guardians mentioned that there were not enough work-based learning opportunities and19 mentioned "not enough communication with parents." Approximately a dozen respondents mentioned a logistical problem; a concern about the pace of instruction or relevance of the course

material; or a problem with a specific teacher or staff person. These comments were somewhat different from last year's. There was a much higher concern about the inadequate number of work-based learning opportunities and lack of communication than last year, but a lower concern about logistical matters. Among the positive comments, there were relatively more comments about the affective gains of students and fewer comments about workplace know-how skills.

Opinions about EFE

The last two questions in the parent survey asked for opinions about the Education for Employment consortium. Data from these questions are displayed in table 4.4. First, parents were asked about how well EFE prepares students for employment, college, learning technical skills, learning academic skills, work environments, and productive careers. For each of these items, respondents were asked to rate their level of approval for the preparation that EFE gives students. For all of the items, around 5-10 percent of the

Table 4.4
Percent Opinions About EFE

Opinion	Percentage/Number	
Approve/greatly approve of way EFE prepares students for:		Don't know
Employment (n =171)	86	8
College (n =168)	76	7
Learning technical skills (n =164)	82	7
Learning academic skills (n =167)	70	5
Work environments (n =168)	84	10
Productive careers (n =167)	77	10
Comments about EFE	Number of times mentioned	
Very positive	29	
More information needed for parents	4	
Counselors were a problem	1	
More programs suggested/needed	7	
Negative comment about specific individual	3	
Positive comment about specific individual	8	
Transportation problems	1	
Career awareness	2	
Articulation with collection	2	
Reach more students	1	
Other	14	

respondents indicated that they didn't know. However, for the remainder of the respondents, EFE was viewed very favorably. Around 80 to 90 percent of the respondents who gave an opinion approved or greatly approved of EFE's preparation of students for these outcomes. As might be expected, the lowest ratings of approval were for learning academic skills. The highest rating was for learning about work environments and preparing students for employment. These positive comments about EFE agree quite closely to the responses received in the 1996, 1997, and 1998 surveys.

Finally, the survey asked parents if they had any comment for EFE administrators to consider. Virtually all of these comments were positive. Some of the comments even indicated that EFE needs to provide more programs or more publicity so that it can reach more students, however.

All in all, from the parent survey, we learned the following:

- The respondents were not particularly active participants in the decision to enroll in the EFE class. They mostly relied on student information about programs and teachers. In general, the sources of information were felt to be adequate, although the data suggest that parents were not as pleased as in previous years about the adequacy of the information.

- Two areas in which the parents/guardians would have liked more information were descriptive content of the course and potential career ladders.

- Many of the parents/guardians had met their student's teacher, but few had observed a class period.

- Parents/guardians approved or greatly approved of all aspects of the EFE class. They were less knowledgeable about textbooks and class size, however.

- Parents/guardians particularly like the EFE classes for the technical skills that are being learned and for the affective (self-esteem) gains. Also important were introducing their students to the work world and real-life experiences.

5. EFE Completers

In addition to current students and parents of current students, this assessment also included a survey of former EFE students. Advanced Data Services, Inc., of Kalamazoo, conducted the survey under subcontract to the Upjohn Institute. The population for this survey was students who were classified as seniors in 1997/98 and who were enrolled in an EFE class at the end of that school year. These students were surveyed by telephone in June 1999, which was approximately a year after they graduated from high school. As noted in a table below, about 1 percent of the students reported that they did not graduate in 1998, and that they had just completed high school in 1999.

The response rate for the survey was quite satisfactory. The number of respondents exceeded the samples that resulted from the previous follow-up surveys. The universe for the sample was 1,108 (this is the number of unique student names that was supplied to EFE by the state data information system VEDS[4]). However, 319 of the students could not be reached because of incorrect telephone numbers, disconnected telephone numbers, or missing telephone numbers in VEDS. Furthermore, there was not enough identifying information to find current telephone numbers for the students. Of the remaining 789 students, interviews were completed with 515 students. This represents a response rate of approximately 65 percent. There were 41 refusals or terminations (about 5 percent), and the remaining 233 nonrespondents were simply not reached within ten calls.

Note that the population of EFE completers is different from what the population for the student survey would look like if we interviewed them one year later (for seniors) or two years later (for juniors). First of all, some of the current students may drop out and not graduate. Second, some

[4]There were seven duplicate names.

of the juniors may not continue with an EFE class in grade 12. Finally, we may have response bias for the follow-up survey if there are systematic characteristics that explain who responded and who didn't.

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

Postsecondary Experiences

Table 5.1 summarizes the postsecondary experience data for the EFE completers. The respondents were nearly evenly divided among three groups: attending a four-year institution, attending a two-year institution, or not attending school (including just graduated from high school). Just under 40 percent of the students were attending a four-year institution, whereas about 30 percent were attending a two-year institution or not attending school. The difference in the postsecondary attendance rates between whites and minorities is statistically significant. Almost 40 percent of minority EFE completers were not attending school, whereas only a little over a quarter of whites were not attending. Among the students who were attending a postsecondary institution, males were

Table 5.1
Postsecondary Experiences of EFE Completers

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Postsecondary Status							
Not attending school	30	29	28*	40*	28	31	30
Full time active duty military	3*	0*	1*	5*	3	1	2
Just completed high school	1	0	1	0	0	1	1
2 year institution	35*	27*	31	33	32	30	31
4 year institution	34*	44*	41*	28*	41	37	39
For those in 2- or 4-year postsecondary (n=358)							
Accounting/Finance	3	4	4	0	2	4	3
Business related	19	16	16	29	14	20	18
Communications	1*	7*	3	6	5	3	4
Computers	10*	4*	6	10	6	7	7
Cosmetology	0	0	0	0	0	0	0
Criminal justice	4	3	3	4	5	3	4
Education	6	9	7	10	7	8	7
Engineering	9*	3*	6	4	4	7	6
Graphic/Fine Arts	6	5	4	10	4	7	6
Marketing	4	8	5	6	8	4	5
Medical	3*	13*	8	6	13*	4*	7
Agriculture	1	1	1	0	1	1	1
Liberal Arts	10	14	13	4	13	10	12
Trade & Industrial	10*	0*	6	0	5	6	5
Travel & Tourism	1	1	1	0	1	0	1
Undecided	13	12	13	8	9	15	13
Sports/Leisure	1	4	2	2	3	1	2
Training related to named field (n=358)							
A lot	33	32	33	32	42*	26*	33
Some	36	34	35	38	33	37	35
Hardly any	20	17	19	13	19	19	19
None	11	17	13	17	6*	18*	14
Degree working on (n=358)							
Associate's	22	20	20	24	24	19	21
Bachelor's	62	66	64	65	59	67	64
Other/none/don't know	16	14	16	10	17	14	15
Sample Size	280	235	431	84	185	321	515

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.

statistically more likely to be enrolled in a two-year institution and less likely to be in a four-year institution than females.

The postsecondary attendance rate is exactly the same as it was last year–70 percent–and slightly higher than it was in 1996 and 1997, when it was about 67 percent. A much higher share of the sample reported being in four-year institutions, however. This year, the percentage of students who were pursuing postsecondary education at a four-year institution was 56 percent and the percentage at a two-year institution was 44 percent. These percentages are exactly reverse of what they were last year. The percentage of minority students who reported not pursuing postsecondary education–40 percent–was unchanged from last year, although that percentage is significantly greater than it was in 1996 or 1997. Figures 5.A.1 through 5.A.3 show the four-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 from the survey whose data was reported in Chapter 3 with the actual postsecondary attendance rates of EFE completers, we find that the latter are slightly lower than the former. In table 3.6, we reported that roughly three-quarters of current students planned to attend a postsecondary institution right after high school. Table 5.1 shows that about 70 percent were attending. The actual rates are lower for all population groups, but the greatest discrepancy is for females. Eighty-five percent of female current students plan to go on to postsecondary schooling right after graduation, but only about 70 percent of female students in the follow-up survey were in school.

The bottom three items in the table concern the postsecondary experiences of the EFE completers who reported that they were attending a two- or four-year institution. The first item is

the student's program or major field. Thirteen percent reported that they were undecided about a major or program. A business-related major or program was given by the highest percentage of students– 18 percent. The only other field with more than 10 percent of the students was liberal arts, which was listed by 12 percent of the students in postsecondary schooling. Relative to last year, there were substantial increases in enrollment percentages in computers and graphic/fine arts. There were substantial declines in education and trade and industrial fields. Males were much more likely to be in computer-related, engineering, and trade and industrial programs/majors than were females. Conversely, females were more likely to be in education, health-related, and communications. Minority students were more likely to be in business-related and engineering fields than whites, but less likely to be in education and computer-related fields, although these differences were not statistically significant. Students with work-based program experience were more likely to be in medical services fields.

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

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

However, there has been a 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, and 34 percent in 1998, and 33 percent in 1999. (See Figure 5.A.4.)

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

Table 5.2 presents a summary of data about usage of college credits earned while in EFE courses in high school. Overall, 37 percent of the respondents indicated that, when they were in high

Table 5.2
Importance and Use of College Credits Earned in High School

	Sex		Race		Work-based program		
Characteristic	M	F	W	NW	Yes	No	Total
Could student have received credit? (n=364)							
Yes	36	38	37	37	47*	31*	37
No	47	44	45	49	34*	53*	46
Don't know	17	18	18	14	19*	16*	18
If yes:							
Have you arranged to receive credit? (n=130)							
Yes	40	55	49	37	55*	38*	47
No	60	45	51	63	45*	61*	54
Average credits (n=49)	4.7	5.3	5.2	3.9	5.8	4.3	5.0
Important in program enrollment? (n=132)							
Yes	39	47	39*	67*	52*	33*	42
No	61	53	61*	33*	48*	67*	58
Important in postsecondary enrollment? (n=134)							
Yes	27	31	27	37	35	24	29
No	73	69	72	63	65	77	71

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

school, they believed that they could have received college credit for their high school EFE class. Forty-six percent indicated that they believed that they would not be able to receive college credit. The other 18 percent indicated that they did not know. These percentages are slightly different from the 1998 data, when 41 percent of the students indicated that they could have received credit and 39 percent indicated that they could not have received credit. There was a slight decrease in the percentage of completers in postsecondary institutions who thought they could have earned college credits. Students who participated in work-based experiences were more likely to have believed that they could have received college credit than other former EFE students.

We asked those students who believed that they could have received college whether they had actually arranged to do so. A little under half of them reported that they had. On average, these students had earned 5 college credits. Students who had been in work-based program experiences and were aware of the possibility of receiving college credits were statistically more likely to have arranged for those credits; they received 5.8 credits, on average, compared to 4.3 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 student characteristics, however. For minority students and for students who had been in a work-based program, the ability to receive college credits was far more important than to whites or students not in a work-based program. A smaller percentage–around 30 percent–indicated that potential college

credits influenced their postsecondary institution choice. Again, minority students and students who had participated in work-based experience programs were more likely to have said yes, although the differences are not statistically significant.

Employment Status

A major emphasis of the survey was on the current employment status of the EFE completers. Note that these data represent an amalgam of part-time work experiences of students who might be pursuing Summer school, Summer jobs for students who are pursuing postsecondary education, and full-time or part-time employment of students who are not attending postsecondary institutions. All together, table 5.3 shows that 88 percent of the survey respondents indicated that they were currently working for pay. This rate was higher than any of the previous years, which were 82, 85, and 87 percent for 1996, 1997, and 1998 respectively. There were no statistically

Table 5.3
Employment and Unemployment Status of EFE Completers

	Sex		Race		Work-based program		Postsecondary			
Characteristic	M	F	W	NW	Yes	No	2-yr	4-yr	No	Total
Employment rate (n=515)	90	86	88	86	87	88	89	89	86	88
If employed:										
Usual hours/week (n=436)	36.8*	32.4*	35.1	33.2	35.5	34.4	34.4	33.5	37.3*	34.8
Hourly wage (n=375)	$8.64*	$7.44*	$8.19	$7.63	$8.36	$7.93	$8.02	$8.17	$8.12	$8.09
EFE training - relatedness (n=444)										
A lot	22	18	20	21	22	18	20	17	24	20
Some	27	29	28	29	34	25	31	28	25	28
Hardly any	20	16	19	13	17	19	18	19	18	18
None	30	38	33	38	28*	38*	30	36	33	34
Unemployment rate (n=515)	6.7	8.6	7.1	10.0	10.0	6.6	6.5	5.9	10.8	7.6

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.

significant differences in the employment rate of any of the population groups from their counterparts.

The average work week for employed individuals was reported to be about 35 hours. It is over 37 hours per week for respondents who did not go on to college, which is 3 to 4 hours more per week, on average, than for individuals who did go on to postsecondary education. Males also averaged more hours per week than females. A downward trend in average weekly hours during the years 1996-98 was reversed this year. It had decreased by about 2 hours per week (6 - 7 percent) between 1996 and 1998, but the average in 1999 of 34.8 hours is almost identical to the 1997 figure. The average hourly wage in the survey was $8.09, which is over 10 percent higher than in 1998. The average for males was significantly higher than females–$8.64 to $7.44. In this year's data and in last year's data, the average wage for individuals not pursuing postsecondary education was just equal to or less than the average wage for college attendees. In 1996 and 1997, individuals who were not attending college were receiving wages that were much higher than those who were attending. This coincides with a broad trend in the labor market where skilled employees' wages have been increasing, but unskilled employees' wages have been stagnant or decreasing.

We also asked respondents about how related the training in their EFE classes was to their current job. Just under half of the respondents indicated that it was relevant ("a lot" or "some"); conversely over half indicated that their EFE training had "hardly any" or "no" relatedness to their current job. The "relatedness" items have declined relative to last year. The percentage of respondents who indicated that their EFE training was related "a lot" to their current employment decreased by 7 percentage points from 27 percent to 20 percent. Conversely, the percentage who indicated that their EFE training was not at all related increased from 24 percent to 34 percent.

Among the population groups, the only significant differences were between students who had work-based program experiences and those who did not. The latter had much lower rates of training-relatedness. Figure 5.A.5 displays the trends in the employment rate and the training-related employment rate.

The unemployment rate is defined as the share of the labor force who are not working for pay and are looking for employment. For the sample as a whole, the unemployment rate is 7.6 percent. Note that it is higher for minorities, students who had participated in work-based program experiences, and students who did not go on to postsecondary schooling. These groups all have an unemployment rate of at least 10 percent. Figure 5.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 5.4 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 fewer incidents of tardiness or absences in their senior year of high school than the

Table 5.4
High School Experiences as Recalled by EFE Completers

	Sex		Race		Work-based program		Postsecondary			
Characteristic	M	F	W	NW	Yes	No	2-yr	4-yr	No	Total
Average number of tardies (n=497)	7.2*	5.3*	6.3	6.5	5.4*	7.0*	6.6	6.3	6.1	6.3
Average number of absences (n=489)	5.8	5.4	5.7	5.6	5.5	5.8	5.3	4.9*	7.1*	5.7
Average GPA (n=511)	2.87*	3.18*	3.06*	2.75*	3.10*	2.95*	2.91*	3.41*	2.61*	3.01

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

current students reported. These data, of course, are subject to recall error since they pertain to a time period of over a year prior to the survey date. There is an upward trend in self-reported tardiness; but this year's data on absences reverses an upward trend. This year's average is about 6.3 tardies per year. The three previous years were 4.3, 5.6, and 6.1. For unexcused absences, this year's average of 5.7 compares to 6.2 in 1998, 5.2 in 1997, and 4.3 in 1996.

The overall mean high school GPA reported by respondents to the follow-up survey, 3.01, is close to the average GPA for current students, which suggests some validity in reporting. Most of the population groups had significant differences in GPA. Males reported lower GPA's in high school than females. Whites and students who had participated in work-based programs had higher GPA's than nonwhites and students who did not have work-based program experiences, and as expected, students who went on to four-year colleges/universities had higher GPA's.

Table 5.5 provides data on the same set of EFE class satisfaction indicators for the completers as table 3.3 does for current students. Of course, the follow-up survey asked respondents to recall their EFE classes, which they would have been enrolled in over a year before, and to provide their opinions about those classes. The current students were providing assessments of classes they were enrolled in at the time of the survey. The completers reported much higher levels of satisfaction than current students.

The first item listed in the table asked for respondents to agree or disagree with the statement that "EFE classes were among the best classes in high school." Just over 70 percent of the respondents agreed with this statement. Ninety-five percent of the respondents disagreed with the

Table 5.5
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..."	73	71	71	78	75	70	77	68	73	72
Disagree/strongly disagree with "These classes are too hard..."	96	93	95	93	95	95	94	96	93	95
Agree/strongly disagree with "I got along with other students and we worked together..."	97	96	96	98	96	97	97	97	95	97
Agree/strongly agree with "The equipment and facilities were excellent."	83	84	82	90	86	82	88	82	82	84
Disagree/strongly disagree with "not enough information..."	88	87	87	90	89	87	90	88	86	88
Agree/strongly agree with "The program treated everybody fairly."	94	89	92	93	91	93	93	97*	84*	92
Agree/strongly agree with "I could get questions answered..."	91	92	91	95	89	93	92	93	88	92
Disagree/strongly disagree with "the program seemed disorganized."	88	86	86	91	86	88	88	85	89	87
Letter grade for program quality	3.41	3.34	3.39	3.34	3.48*	3.32*	3.41	3.49*	3.20*	3.38 (B+)

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 478. Approximately 30 cases are missing for each item. Sample size for average letter grade is 452.
*Difference between population groups is statistically significant at the .05 level.

statement that "these classes were too hard," and 97 percent of the sample agreed with the statement, "I got along well with other students and we worked together frequently."

Responses to the next item were less enthusiastic, and in closer agreement to the responses of current students. About 85 percent of the sample agreed the "equipment and facilities were excellent." Almost 90 percent or more of the students had positive responses to the final four items.

Eighty-eight percent disagreed with the statement that "not enough information was provided to students or their parents." A little over 90 percent of the respondents agreed that "the program treated everybody fairly," and that they "could get questions answered and problems easily resolved." Finally, about 87 percent of the respondents disagreed with the statement that "the program seemed disorganized."

These satisfaction indicators were more positive than in last year's data, although the relative satisfaction among the items was identical. (That is, higher levels of satisfaction were garnered for the second, third, sixth, and seventh items, and relatively lower levels of satisfaction were achieved for the other items.) This year's indicators were quite similar to the 1996 data. Figure 5.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 fairly their assessment of quality. The overall average for this grade, converted to a 4.0 scale, was 3.38, which would be a B+. Students who had not participated in a work-based program and students who had not gone on to postsecondary education assigned the lowest grades for quality.

Table 5.6 provides tallies of the responses to the questions of what were the best and worst aspects of the EFE classes. The aspects that were mentioned the most often among the best aspects were a specific teacher or staff person, skills and experiences that the students indicated that they had learned, other students and teamwork, and the opportunity to participate in work-based learning opportunities. Far fewer negatives were mentioned. Among the complaints, the most often mentioned items were that there had been a logistical problem such as transportation or scheduling,

and there had been something wrong with the work-based program experience (the latter could have included not enough work-based learning).

The EFE completers were also asked to recall whether they had participated in work-based experiences. As shown in table 5.7, under 40 percent (37 percent) indicated that they had participated in a work-based program. Females were more likely to have been participants than were males. (See Figure 5.A.8.) The percentage is higher than the 24 percent of current students who reported that they were participating in work-based programs. However, it is significantly lower than the 49 percent of respondents in 1998 who had reported being in a work-based program. Of those who reported that they had participated in a work-based program, 54 percent indicated that it had been a paid experience.

Table 5.6
Best and Worst Aspects About EFE Program as Recalled by Completers

Aspect	Number of Times Mentioned
Best	
Equipment	73
Books, software	15
Pace	29
Hands-on instruction	65
Specific teacher	209
Small class size, individual attention	15
Technical or employability skills learned	156
Work-based experience/real world	100
College usefulness	19
Interesting/fun	28
Other students, team work	116
Everything about the class	1
Vocational clubs	42
Other	289
Unclassifiable	15
Nothing, no best thing, don't know	293
Total (except for "Nothing, no best...")	1,172
Worst	
Equipment, classroom environment	30
Books, software	8
Pace: too easy	29
Pace: too fast	15
Pace: too much work	33
Specific teacher	27
Class size too large	15
Transportation/schedule	53
Classmates behavior	35
Disorganized	37
Work experience	48
Unfair treatment	9
Specific activity or project	12
Grading policy	10
Absolutely nothing wrong	10
Other	111
Unclassifiable	12
Total (except for "Absolutely nothing...")	484

Three-quarters of the respondents who had been in work-based programs disagreed with the opinion question that "the work was unrelated to the EFE class." About 90 percent agreed that "workplace mentors were supportive and answered my questions." There were no differences

Table 5.7
EFE Work-Based Program Experiences as Recalled by Completers

Characteristic	Sex		Race		Postsecondary			Total
	M	F	W	NW	2-yr	4-yr	No	
Participation (n=506)	33*	41*	37	35	38	39	34	37
If participated: (n=183)								
Paid?	53	54	52	61	53	48	62	54
Disagree/strongly disagree with "Work was unrelated..."	74	75	75	75	74	79	70	75
Agree/strongly agree with "Mentors were supportive and answered my questions."	87	93	89	93	95	88	86	90

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

among population groups on these two opinion items, and these levels have remained constant over the four years of the survey.

EFE Outcomes

Two performance indicators of EFE outcomes are presented in table 5.8. The first indicator measures how many EFE completers were either attending college or were employed one year after completing their high school course(s). Ninety-six percent of the sample met these criteria with no statistically significant differences across groups. (It is not meaningful to look at the differences in this outcome measure by the different types of college attendance because all college attenders meet the standard, by definition.) The level of this indicator is identical to its value in 1998; and exceeds the percentages in 1996 and 1997, which were 89 and 92, respectively. One criticism of this standard is that it is not difficult to meet. A summer telephone interview of almost any population of 19-year-old's would likely yield a high percentage of respondents who were either attending college during the academic year or currently working.

Table 5.8
EFE Performance Indicators

	Sex		Race		Work-based program		Postsecondary			
Indicator	M	F	W	NW	Y	N	2-yr	4-yr	No	Total
Postsecondary attendance or employed (n=515)	97	94	96	93	94	97	100*	100*	86*	96
Training-related postsecondary attendance or employment (n=501)	67	64	66	65	72*	61*	77*	76*	42*	66

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

The second indicator is somewhat more rigorous. This standard measures the percentage of individuals who were pursuing a major field or occupational program area in a postsecondary setting that is related to the course work taken in high school or who were employed in a job where their EFE course work is related. About two-thirds of the sample met these criteria. There is no statistical difference in this standard between males and females or whites and minorities. However students who were in work-based program experiences had a 10 percentage point higher level than nonparticipants, and postsecondary students have higher levels than individuals who did not go to college. Notice that fewer than half of the students who were not attending college were working in a job that was related to their EFE course work. The time trend in this outcome is 61 percent, 65 percent, 68 percent, and 66 percent in 1996 through 1999, respectively. Figure 5.A.9 displays the trends in the two performance indicators.

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 were nearly evenly divided among three groups: attending a four-year postsecondary institution, attending a two-year institution, and not attending a postsecondary school. Compared to previous follow-up surveys, there was a large increase in students attending 4-year institutions; and a decrease in attendance at 2-year institutions.

  Males were more likely than females to be attending a 2-year institution and females were more likely to be attending a 4-year institution. As in previous years, a larger percentage of minorities were not attending a postsecondary institution than whites.

- For students who were attending a postsecondary institution, there were substantial increases in students reporting the following major programs or fields: computer-related and graphic/fine arts. There were substantial decreases in education and trade & industrial fields.

  The percentage of students who report that their EFE training is related "a lot" or "some" to their postsecondary field/program has been stable over four years. However, there has been a substantial decline in those reporting "a lot" that has been offset by those reporting "some."

- Just under 40 percent of the students indicated that they could have received college credit for the EFE classes that they took in high school. Of those, just under half reported that they had arranged to receive such credit. About 40 percent of the students who indicated that they could get college credit for their high school course indicated that it had been an important reason for enrolling in the EFE class, and about 30 percent reported that transfer of college credits had been an important consideration in selecting a postsecondary institution.

- The employment rate of completers of 88 percent was higher than any of the previous three years, when it was 82, 85, and 87 percent, respectively. There were no significant differences in the employment rate between demographic groups. The average work week was about 35 hours. The average wage increased by about 10 percent to $8.09 per hour.

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

- The completers reported much higher levels of satisfaction with their EFE classes and experiences than current students. There were no differences between population groups.

- The performance indicators for EFE were extremely high and were about the same level as they were last year. The percentage of follow-up students employed or in a postsecondary program has risen from 89 percent in 1996 to 92 percent in 1997 to 96 percent in 1998 and 1999.

  The percentage of follow-up students who have training-related employment or who are in a training-related postsecondary program was about two-thirds; it has been 65, 61, 68, and 66 percent in 1996 through 1999, respectively.

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

Figure 5.A.1
Postsecondary Attendance, By Type of Institution

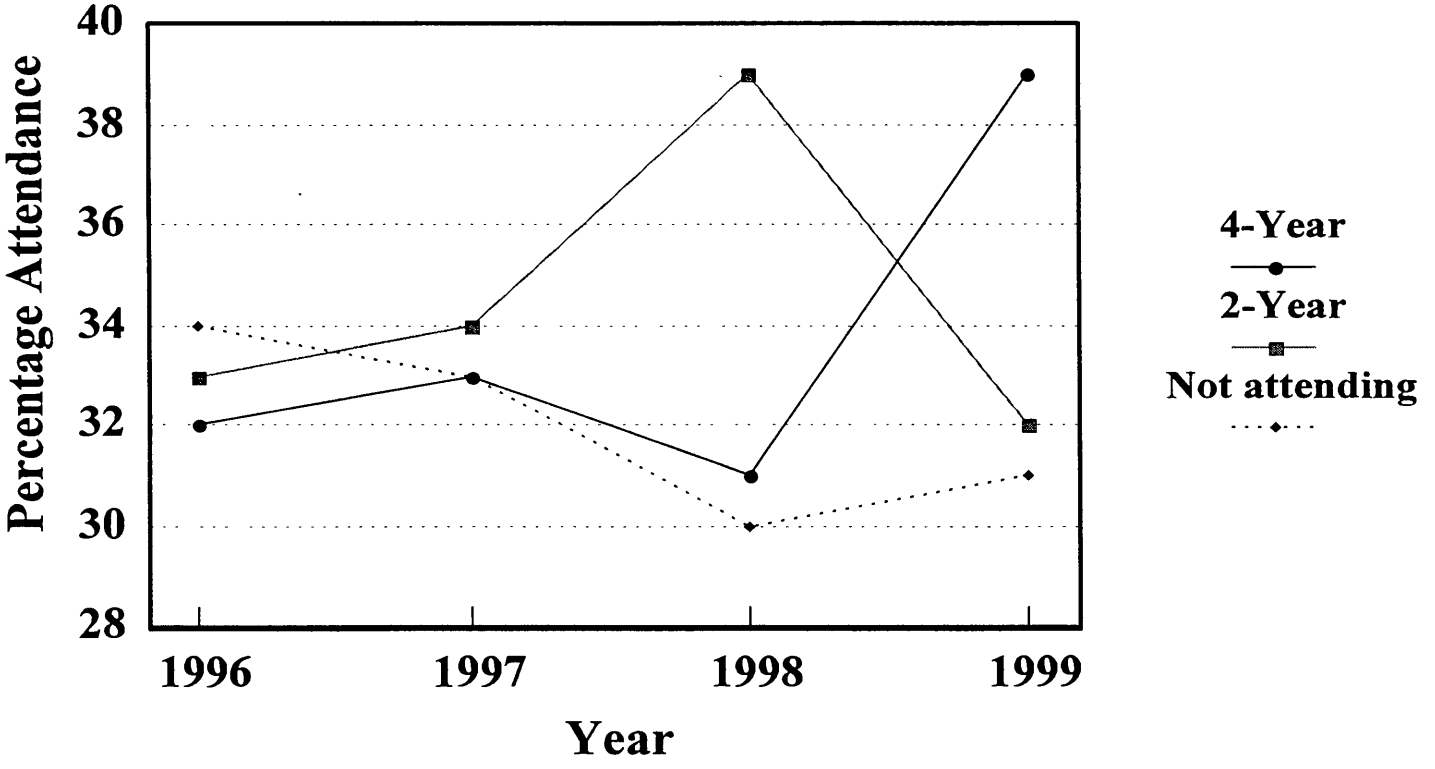


Figure 5.A.2

Racial Composition of Students Not Attending Postsecondary Schooling

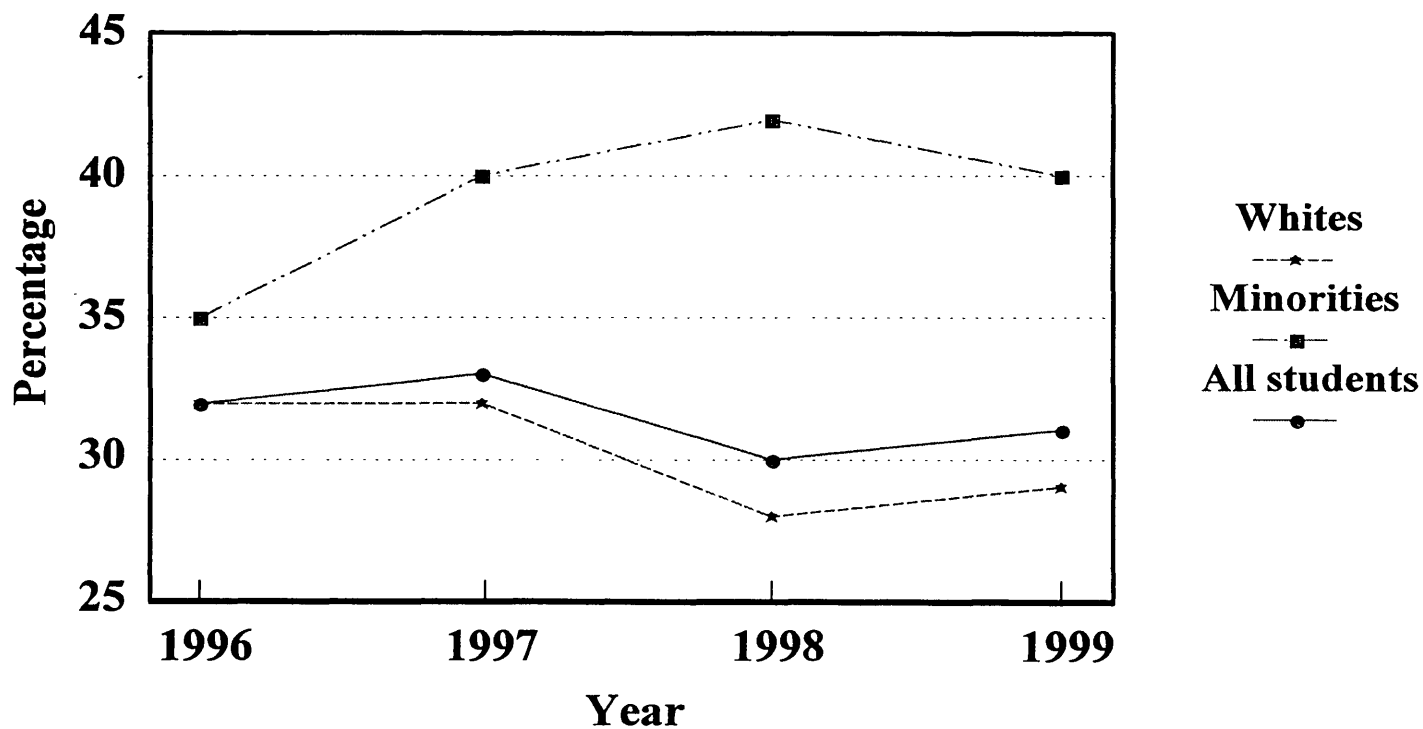


Figure 5.A.3

Postsecondary Attendance, By Institution Type and Sex

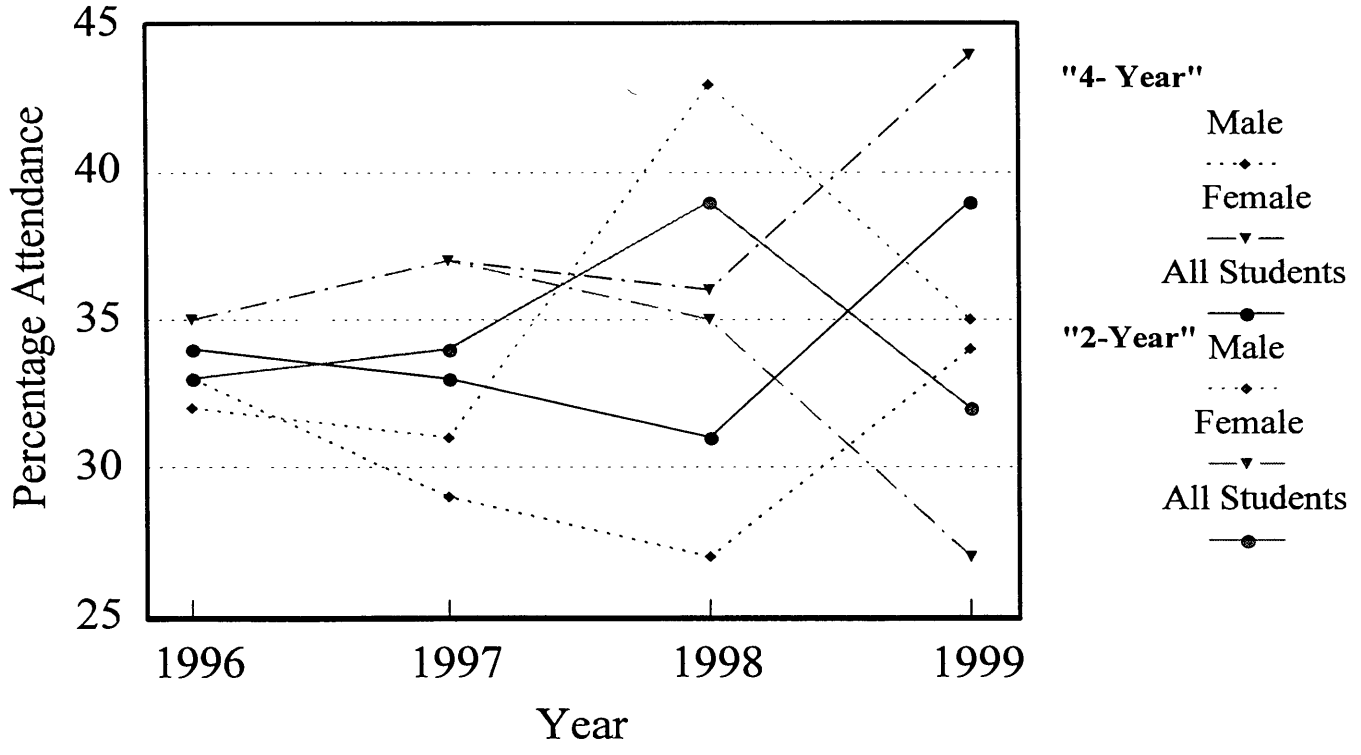


Figure 5.A.4

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

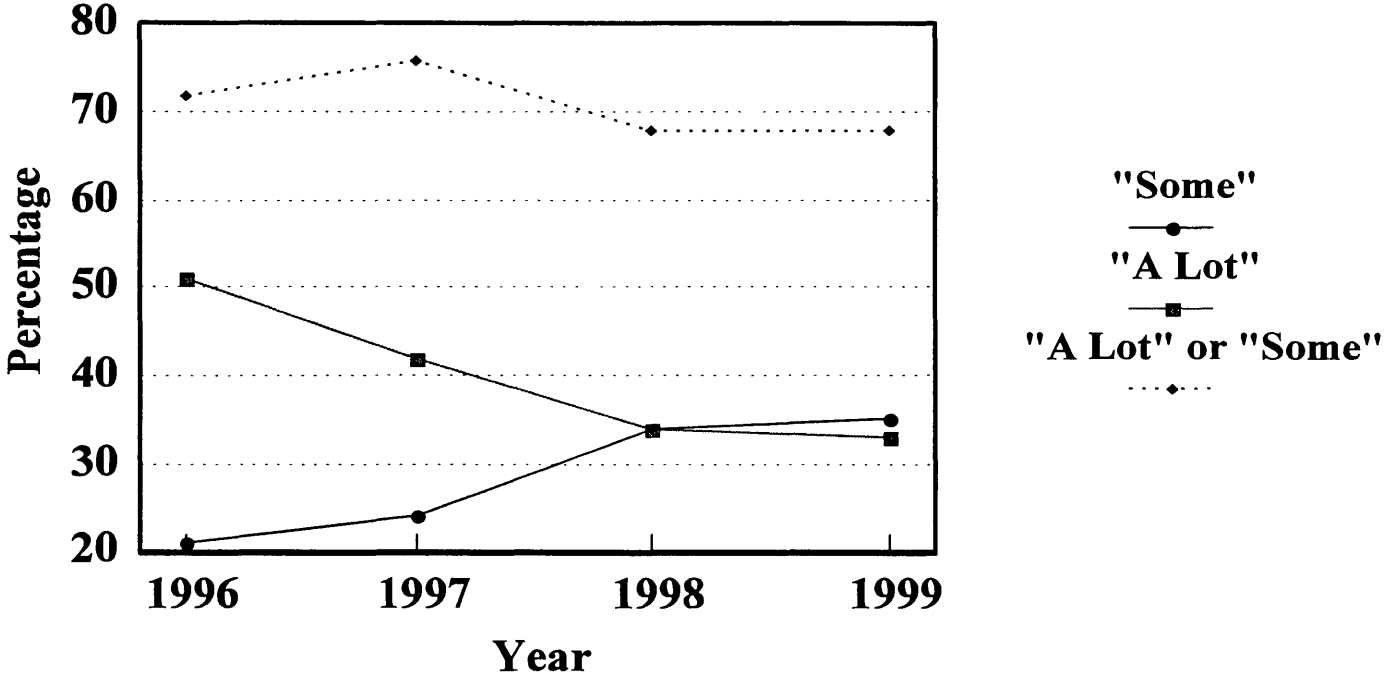


Figure 5.A.5
Employment Rate, By Training Relatedness

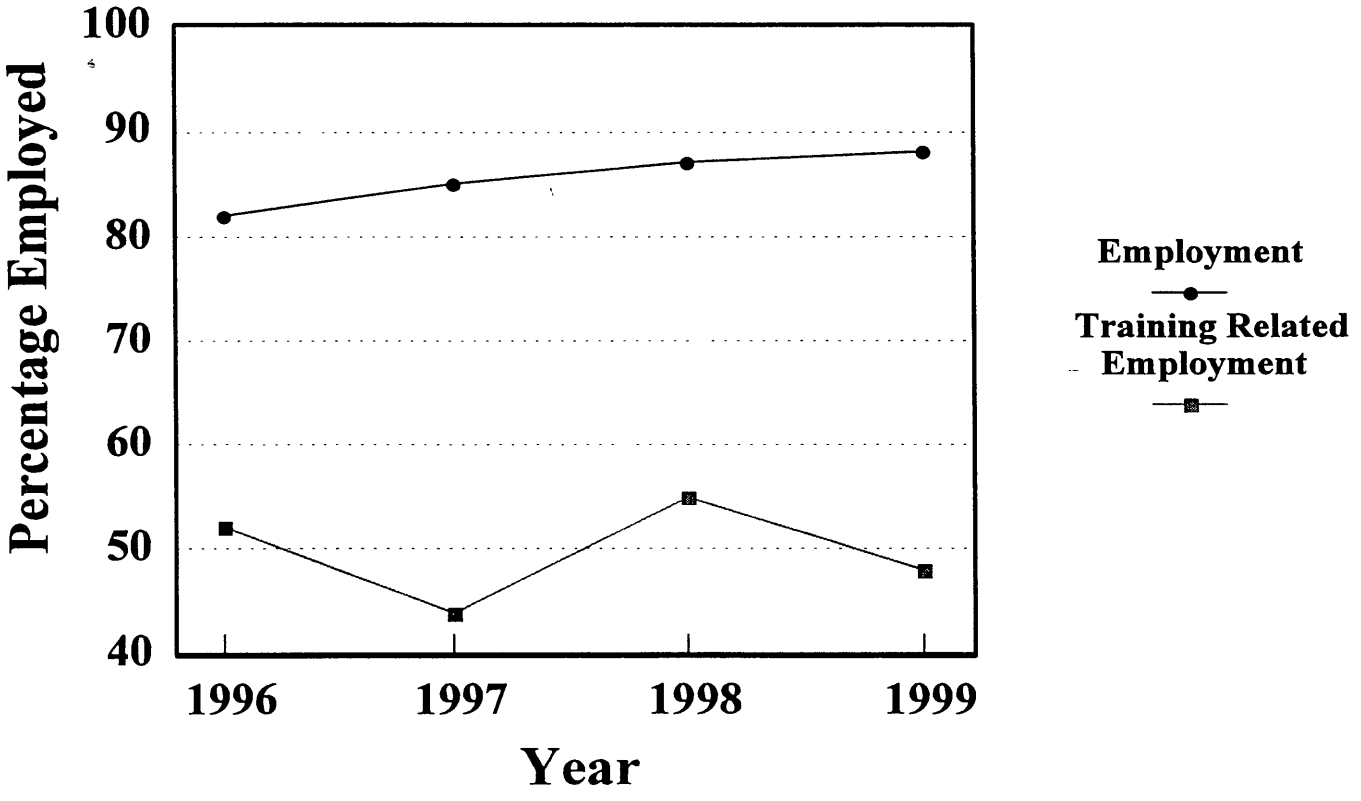
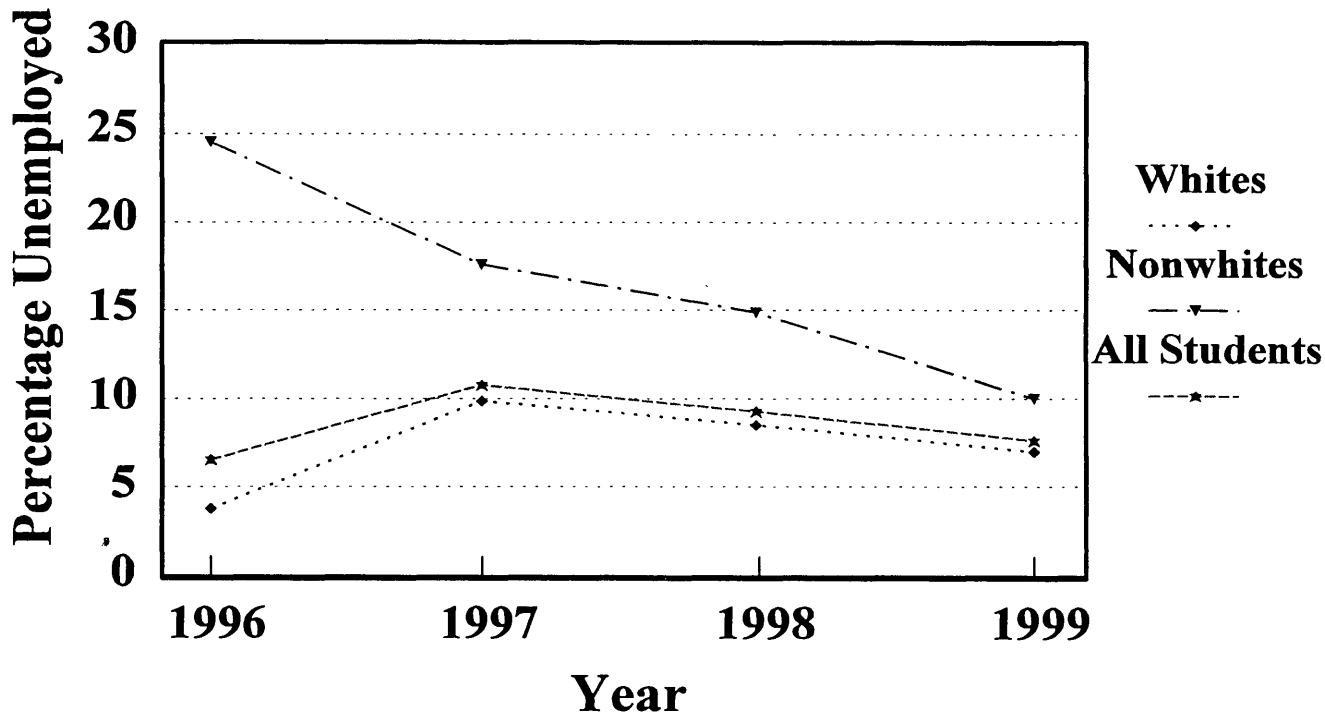


Figure 5.A.6
Unemployment Rate, By Race



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

Figure 5.A.7

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

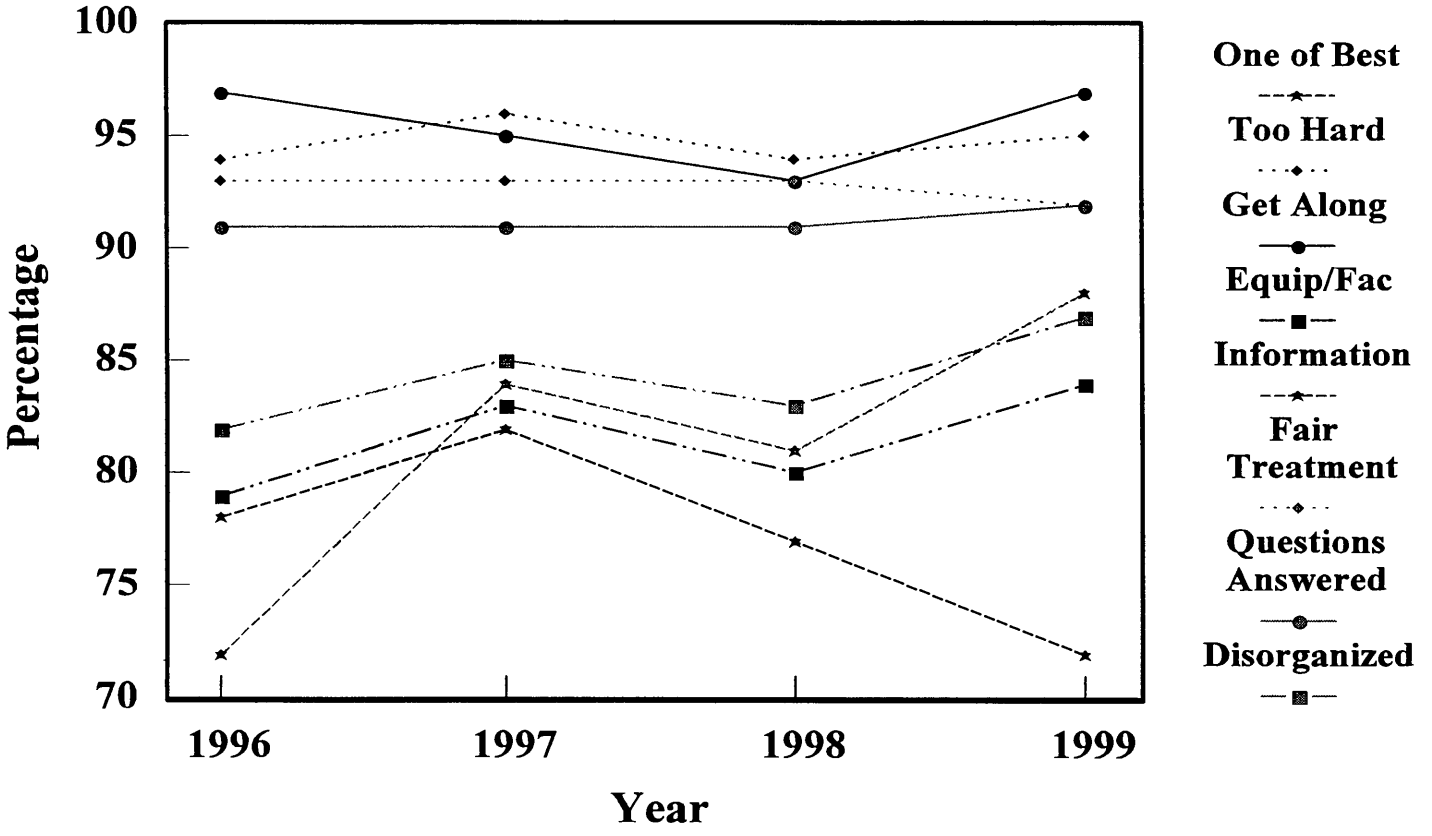


Figure 5.A.8

Participation in Work-Based Program Experiences, By Sex

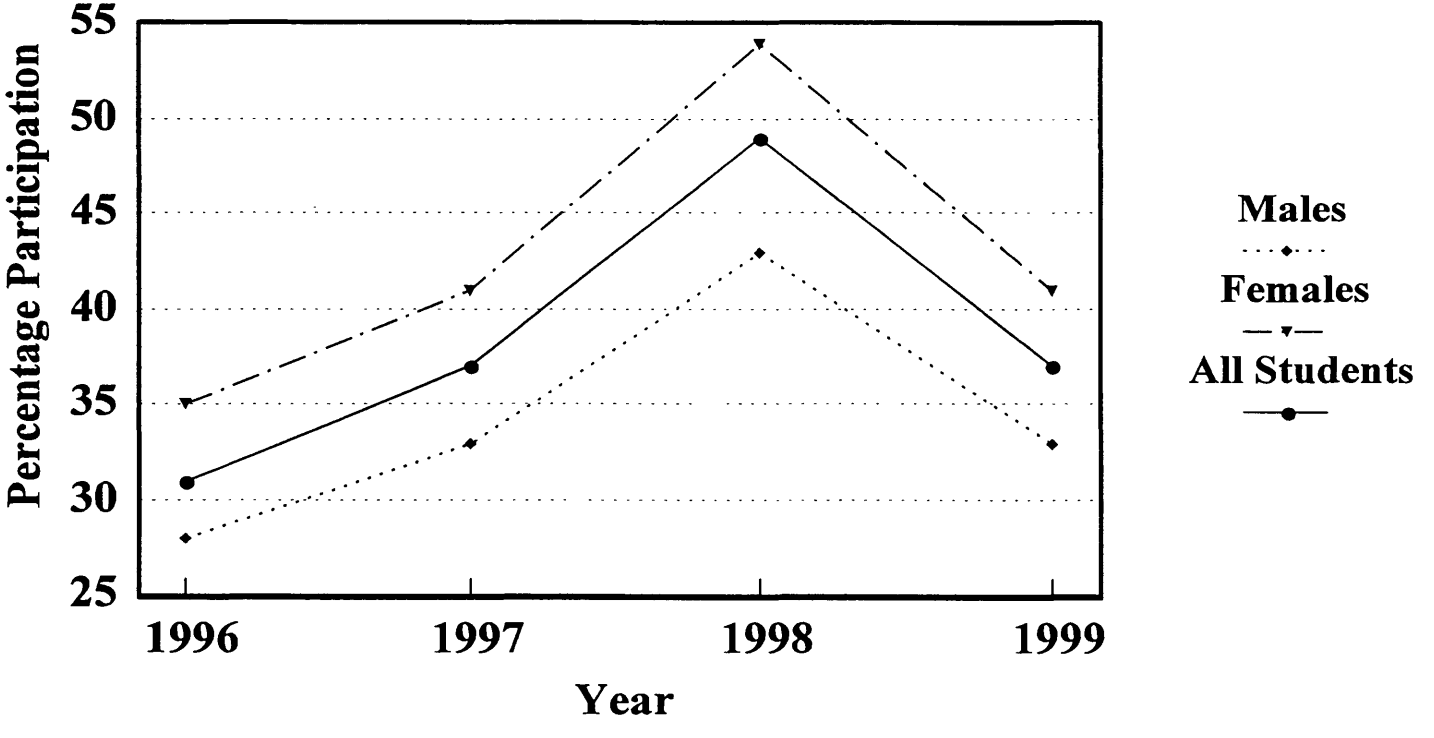
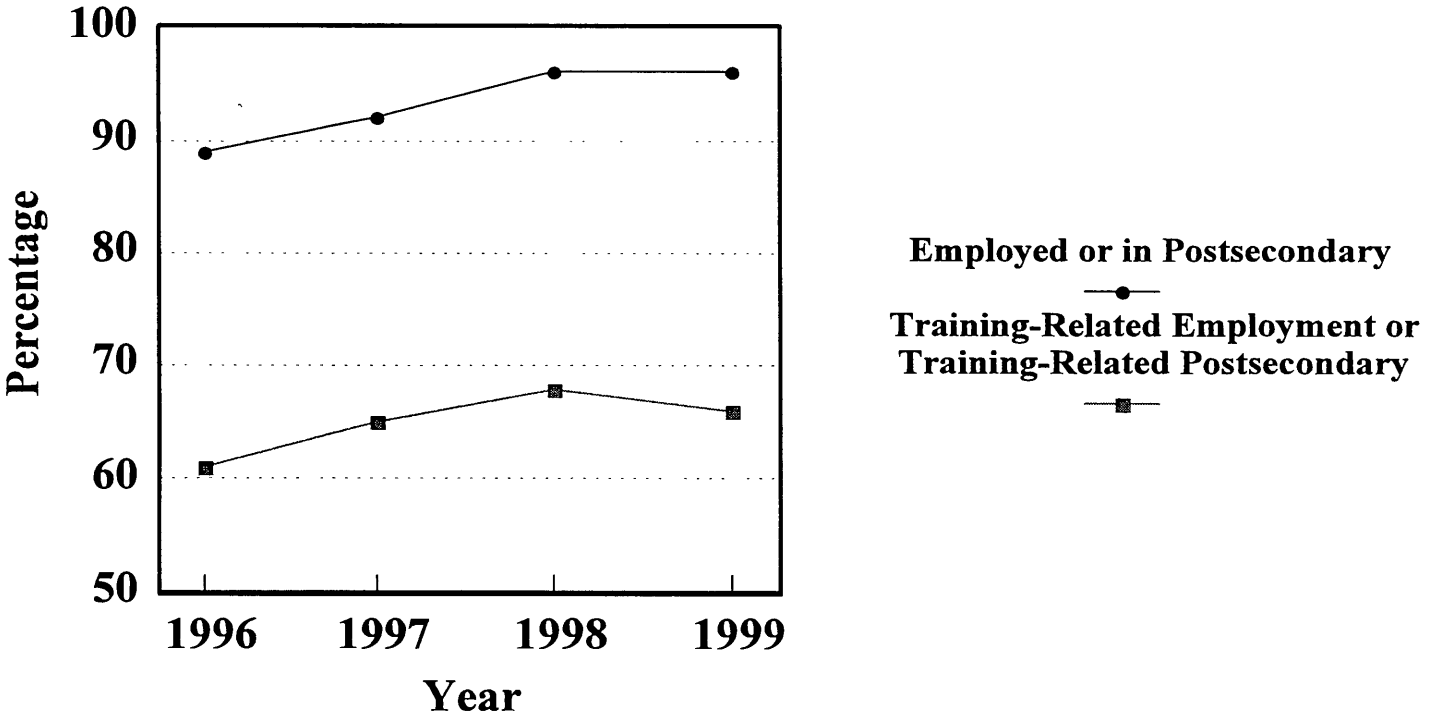


Figure 5.A.9

EFE Performance Outcomes, By Type of Outcome



6. 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. In some cases, these recommendations are based on rigorous analyses of the data. In other cases, the recommendations are based on anecdotal evidence that may have been derived from comments that respondents made. We attempt to explain the basis for each recommendation.

Stakeholder Satisfaction

EFE offers excellent programs that result in high levels of customer (stakeholder) satisfaction.

In all of the surveys that were conducted, respondents were asked several questions about their satisfaction with various aspects of EFE classes and programs. As shown in table 3.3, 62 to 83 percent of current students were pleased with various aspects of their EFE classes. The students gave their classes a high letter grade for quality. Tables 4.2 and 4.4 show that parents were happy with their students' EFE classes and with the consortium, respectively. EFE completers were asked for their opinions about the same aspects of their EFE classes as current students were, and table 5.5 shows that their (recalled) levels of satisfaction were even higher than current students'.

Customer (stakeholder) satisfaction increased slightly in 1999 compared to 1998, when it was the lowest level of any year since 1996. However, a couple of items of concern were the continuation of downward trends in the percentage of students who indicate that their EFE class "was one of the best classes they had taken in high school" and the percentage of students who reported that their EFE training was related "a lot" to their employment and postsecondary fields.

Substantial percentages of EFE students, parents, and graduates were quite satisfied with the programs and experiences they had been involved in, and most of the indicators of satisfaction rebounded slightly from their levels last year, which were at the lowest point over the years of the surveys. It should be noted that as EFE reaches more and more students, it will be harder and harder to sustain continual increases in the level of satisfaction of students. Students who otherwise would not have taken EFE classes are now enrolling. Therefore, EFE has to work harder just to maintain the same level of satisfaction.

One of the items on the surveys asked students (both current students and completers) whether their EFE class "was one of their best classes in high school." Over 60 percent of current students and 80 percent of completers indicated that their EFE classes had been among their best classes. These percentages were high, but it should be noted that they are declining over time. There has been about a 15 percent decline in the number of current students who felt good enough about their EFE class to describe it as ". . . one of their best classes . . ." and a 10 percent decline in the number of completers who categorized it that way.

Current and follow-up students were asked whether they use the skills/knowledge from their EFE classes on their current jobs and (for completers attending college) in their major fields or programs. The response categories are "a lot," "some," "hardly any," and "none." Similar to the "best class in high school" item, the trend is downward for training-relatedness; percentages of students who answered "a lot" are declining, and percentages of students who answered "none" are increasing.

Student/Parent Enrollment Decisonmaking

Parents' role in enrollment decisions is passive, but should not be overlooked. EFE should make sure that parents/guardians are well-informed about courses and career opportunities with material that includes course content and student expectations as well as economic outcomes such as expected employment and wage rates.

The parents'/guardians' roles in enrollment decisionmaking were, for the most part, passive. Less than half of the students indicated that they relied on parents'/guardians' advice and table 3.2 shows that only a quarter of the students reported that parents were among the most important individuals involved in their decisions to take the EFE class. About two-thirds of the parents indicated that they played some role, however only about one-eighth of parents indicated that they take an active role. Table 4.1 shows that parents relied on their students' knowledge and opinions, but that among types of information that they wished they might have were more information about the content of the EFE courses and information about career ladders and starting salaries in the occupation.

Guidance counselors are key gatekeepers to EFE enrollment, but the extent to which students are listening to them and taking their advice is declining. Nevertheless, EFE should keep them well informed about classes and opportunities.

Table 3.2 presents data that show the reliance of students on guidance counselors for advice about whether or not to enroll in EFE classes. The extent to which students relied on counselors for information and advice has declined over time. Part of the reason for this downward trend may be that as more and more students enroll in EFE classes, the overall student familiarity increases. Still, counselors are the most often mentioned source of information and individuals in the decisionmaking process. Almost 60 percent of the EFE students received information from

counselors. It thus behooves EFE to make sure that counselors are well-informed about class offerings and opportunities for work-based experiences.

Postsecondary Attendance

A high share of the students who enroll in EFE classes pursued postsecondary education at two- and four-year institutions.

About 85 percent of EFE students indicated that they planned to enroll in a postsecondary institution either right after high school or after working for a few years. This percentage has remained quite stable over the years. The follow-up survey (table 5.1) shows that 70 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. Interestingly, the share of students who responded to the follow-up survey this year at four-year institutions far exceeded the share of two-year institutions for the first time.

Work-Based Program Experiences

This year's data reversed several trends in positive outcomes and satisfaction levels for students who had participated in work-based program experiences.

The participation in work-based program experiences by current students decreased from last year. Furthermore, students who participated had significantly lower satisfaction levels with EFE than did students who had not participated. These unexpected findings were a complete reversal from trends that showed an increase in participation and significantly higher levels of satisfaction.

EFE administrators should investigate this phenomenon to see if procedures or recruitment of students into work-based program experiences have changed.

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

Around 55 percent of current EFE students worked in part-time (or full-time) jobs according to the survey data. Given the apparent advantages that work-based experiences provide to students who participate in them, it would seem that there would be some benefit to try to integrate some of the workplace learning that must be taking place in part-time jobs into the curriculum. It is not clear how such integration could occur, however. At a minimum, both EFE and other subject matter teachers should be asking students about their out-of-school activities, including employment, and tailoring instruction to those activities as appropriate situations arise. However, there may be more formal mechanisms for integration.

Equity Issues

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

EFE seems to be attracting females who are "above average" students. Furthermore, females tend to be more satisfied with EFE than males and they tend to participate in work-based program activities at a higher rate. On the other hand, EFE seems to be attracting males who might be characterized as "average" students. Their lower levels of satisfaction may be reflective of a lower 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.

> *This year's data showed a substantial closing of the gap between minorities and white students in satisfaction and most outcomes. There were no significant differences between racial groups in the satisfaction indicators of current students, nor in several of the outcomes. It is still the case that minorities have a lower rate of college attendance and a higher unemployment rate, however.*

Perhaps the most dramatic change that was observed in the data collected for this study was the convergence of all EFE satisfaction indicators for whites and nonwhites. Tables 3.3 and 5.6 show absolutely no statistically significant differences in any of the indicators or the grade for course quality given by current students or completers. Furthermore, the career and occupational aspirations for each racial group were very close to each other. It is still the case that the minority postsecondary attendance rates and unemployment rates lag behind those of white students in the follow-up survey, but even these differentials have shrunk.

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 3.8, the career plans of EFE students are skewed toward professional and managerial occupations. Only about one-fifth 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—only one-fifth of jobs are in professional or managerial

occupations. Thus there is probably a 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. The percentage of follow-up survey respondents who were employed or in school–96 percent–was exactly the same as it was last year, and is higher than it had been in 1996 or 1997. The share of respondents who are in a training-related postsecondary program or training-related job is around two-thirds, which has stayed relatively consistent over the years.*

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

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 substantial satisfaction with EFE classes, a significant leveling of the 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, I recommend that EFE administrators consider broadening their data collection efforts in future years to include non-EFE student outcomes.