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Assessment of Kalamazoo County's Education for Employment (EFE) Programs Using 2003 Survey Data

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by

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The report was expertly prepared by Ms. Claire Black. Of course, the usual disclaimer applies. All errors are the sole responsibility of the authors. Furthermore, all opinions expressed are solely the authors' and do not necessarily represent the Education for Employment consortium or the W. E. Upjohn Institute for Employment Research.

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1. EFE Programs and Study Methodology

The Kalamazoo Regional Educational Service Agency (K/RESA), which is the intermediate school district for Kalamazoo County, administers a career and technical education consortium called Education for Employment (EFE). The consortium members include all nine local school districts in Kalamazoo County, the intermediate school district, and Kalamazoo Valley Community College (KVCC). EFE offers programs and activities to students across a wide range of grade levels, and it supports professional development activities for teachers. For students, the consortium uses a puppet show to introduce careers to districts' first graders; organizes and sponsors a career exploration day for all 8th graders in the county; offers job shadowing experiences for 10th graders; and offers a variety of career and technical education programs for high school students and services for community college students (through the Tech Prep program). An example of its professional development activities for teachers is the "Voyager" program, an inservice program in which secondary school teachers work for a short time at a local business to learn how their subjects are used in the workplace. The largest share of EFE's mission, however, is career and technical education (CTE) coursework for high school students, and those activities are the subject of this study. Note that most CTE course offerings are fully articulated with KVCC and with Davenport College, a local private postsecondary institution, allowing students to obtain transferable college credits while taking secondary course offerings.

Career and Technical Education Programs

EFE programs may be classified as either (1) **classroom-based** or (2) **work-based**. But this simple dichotomy does not do justice to the wide variety of offerings. The classroom-based

programs are offered at three different types of sites—high schools, postsecondary institutions, the community college or proprietary schools, and work sites. Classroom-based programs are offered in 30 occupational areas—agri-science; allied health; art & design careers; auto body; automotive technology; aviation; business services and technology; computer technology; construction trades; cosmetology and nail technician; dental assisting; drafting technology; early childhood education; electro-mechanical technology; emergency medical technician; entertainment industry technician; health occupations; heating and air conditioning; hotel, restaurant, and travel management; law enforcement; machine tool technology; marketing; network administration; opticianry; photography; radio broadcasting; teacher education; television broadcasting; veterinary science; and welding.

Of these 30 occupational areas, half are offered in at least one of the 11 high schools in the county, and students from any of the high schools may enroll in them.[1] The extent of student commutation between high schools varies widely across these 15 programs. Two of the programs—business services technology (BST) and marketing—account for about two-thirds of the enrollment in the 15 programs (1,890 students out of 2,847).[2] They have enough students to be offered at most of the county high schools,[3] and because of their wide availability, only a handful of students come from other high schools. The other 13 programs with classes offered in high schools have a total enrollment of 957, of which 48 percent are students from the high school offering the course and 52 percent commute from other high schools.

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

[2]All of the enrollment statistics in this section of the report pertain to Fall 2002, and come from the document "EFE Enrollment Matrix," Fall 2002.

[3]BST was offered at all 11 high schools in Fall 2002 and marketing was offered at 8.

Of the 30 occupational areas, five are taught in postsecondary institutions—four at KVCC campuses and one at two different proprietary cosmetology institutions. Total high school student enrollment in these five programs in Fall 2002 was 211.

A particularly innovative type of instructional environment that EFE offers is referred to here as worksite classroom programs. There are ten occupational areas where the formal class work is conducted at worksite settings. In each of these occupational areas, local businesses, nonprofit organizations, or government agencies have provided classroom space and have worked with EFE on developing curriculum and on-the-job experiences. These programs include a two-year allied health program and a one-year health occupations program offered at a local hospital; a one-year aviation trades program at an airport facility; a two-year hotel, restaurant, and travel management program offered at a hotel; a one-year network administrator program at a software applications firm; a one-year opticianry program at an optical manufacturer; an entertainment industry technician program at a community auditorium facility; a one-year television production and broadcasting program at a community cable access center; and a one-year veterinarian science program at a veterinarian office. The tenth program is a teacher cadet program in which students are placed in classrooms as teacher aides throughout the county. In all cases, these innovative programs extend beyond classroom instruction to actual experiential learning.

As with other EFE course offerings, these programs are open to and attended by students from all 11 high schools in the consortium. For most of the programs, the facilities are able to accommodate all the students who are interested in enrolling. In one or two, however, space and instructor availability constrain the programs, so that "slots" are allocated across districts. A total

of 458 students were enrolled in these programs in Fall 2002; that is, left their home high schools each day to take classes at worksites.

All together, EFE had 3,515 students enrolled in classroom offerings in Fall 2002; 2,847 at high schools, 211 at postsecondary institutions, and 458 at worksite settings. In a few cases, students may be enrolled in more than one program, so we estimate that there were approximately 3,300 separate students enrolled.

Supplementing classroom-based programs (which may include work-based learning experiences) is co-operative learning, or co-op. These are paid work experiences in students' occupational areas of interest. In all cases, students are enrolled in a school-based program simultaneously with the co-op experience, which is meant to enhance the school-based program. In Fall 2002, a little over 200 students, from all of the county's 11 high schools, were engaged in co-op experiences in marketing, office, trade and industrial, or agricultural programs. The intent of these experiences is to supplement and contextualize the school-based program by providing actual employment in the occupational cluster that is being taught.

Study and Methodology

In Spring 2003, EFE contracted with the Upjohn Institute to conduct a telephone survey to provide information from one of the program's key stakeholder groups: recent graduates. This is the eighth year that the Upjohn Institute has conducted this study. In particular, we surveyed students who had been enrolled in EFE programs as of the second semester of the 2001-2002 school year as 12th graders approximately one year after graduation. This survey served two purposes. First, the survey included the questions that are mandated by the State of Michigan as a one-year follow-up

survey. Second, the survey asked additional questions about the students' experiences with and opinions about EFE, so it was a useful marketing and information-gathering tool for the consortium.

The follow-up survey was conducted primarily by telephone during April and May; however nonrespondents to the telephone attempts were contacted by mail, as well. 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 information in which the State is interested includes the post-secondary and employment activities of CTE graduates. 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 telephone nonrespondents were sent a mail survey that contained just the State's questions.

The response rate for the follow-up survey was satisfactory. The number of respondents exceeded the samples that resulted from previous follow-up surveys. The universe for the sample was 1,348 (this is the number of unique student names that was supplied to EFE by the state data information system)[4]. In the course of conducting the survey, we encountered six students who were still in 12th grade. We removed these students from the universe leaving a total sample size of 1,342. The number of completed surveys by telephone was 674, which by coincidence, was very close to the number of nonrespondents—671.

In order to improve the survey response this year, we followed a slightly different protocol for the telephone survey. As soon as it was determined that a phone number was missing or in error, we went back to the student's high school to search student records to see if there was a more recent, alternative phone number for the student. It was not possible to keep track of how often the schools

[4]Note that the State sent a memorandum dated May 27, 2003 indicating that the region had 1,351 students in the universe. We have no idea how the number expanded from 1,348 to 1,351.

would come up with a better number, but we presume that the process did yield more valid responses because the number of cases that were classified as "non-reachable" dropped from 436 last year to 252 this year. These 252 cases included 10 with no number; 135 disconnected numbers; 19 with phone number belonging to a business/government agency/pager/fax; and 88 with the phone number belonging to the wrong residence. The remaining 419 cases were not completed because of no response, refusal, or other reason. The response rate for the telephone survey can be calculated by using the full sample or by using the sample of phone numbers that were not "non-reachable." These response rates are 50.0 percent and 61.6 percent, respectively.

New to the follow-up survey process this year was the option of conducting a mail survey of students who were not reachable by telephone. A short survey form with just the state-required items was mailed along with a brief cover letter. As soon as the telephone survey callers determined that a respondent was unlikely to be reached by telephone, the Upjohn Institute mailed out a survey form together with a postage-paid, business reply envelope. Over a three-week span covering the last week of March through the first two weeks of April, we mailed out 489 surveys. As with the telephone numbers, not all of the address information was current or valid. We ended up receiving back 35 of them "returned to sender" with no forwarding address. Note that there were a handful of surveys with a forwarding address, and we indeed forwarded the survey.

We received a total of 83 responses with valid data from the supplemental mail survey. The response rates using the full mail-out sample and using the sample with valid addresses only are 17.0 percent and 18.3 percent, respectively. Of the 83 mailed in responses, only 71 ended up being usable in our analysis. Two of the respondents also responded to the telephone survey, and so we used the telephone survey data instead because it had more information. Nine of the surveys had no ID

information and couldn't be merged with the State data on student and class characteristics.[5] One of the responses was received too late.

The total number of usable cases for the follow-up survey, then, was 745, which works out to an overall response rate of about 55 percent.

Over the past seven years, the Upjohn Institute has also conducted a survey of current EFE students. KRESA opted not to fund that survey this year due to resource limitations. In an attempt to maintain continuity in the survey, however, the Upjohn Institute designed and conducted a web-based survey of the current students at no cost to the EFE consortium. This approach resulted in a sizeable response rate and yielded considerable data, but we must be extremely careful about comparing this year's data to previous years' data, which had been collected via a hard-copy survey instrument conducted during class that had much higher response rates.

The online survey was administered in April through June. All EFE instructors were provided with instructions on how to access the survey, and were asked to encourage their students to complete it. We estimate that there were approximately 3,300 students in EFE classes, and we received 1,183 usable responses to the online survey (response rate of approximately 35 percent.) 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.

In this report, we report the data from the online survey and compare and contrast it to prior years' data. But in prior years, the student survey was conducted in class and often resulted in

[5]The lack of ID was an error on the part of the Upjohn Institute.

response rates of 75 percent or more. It is likely that students in computer lab-based, in-school programs were much more likely to respond to the survey than students in off-site or work-based situations. Nevertheless, we report and analyze the information from this survey in the third chapter of the report, but we suggest to the reader that the quality and consistency of the data are not equal to the data from the follow-up survey nor from the student survey data from prior years.

Lessons Learned from Online Survey

We conducted the online survey to be able to maintain continuity in the data about current EFE students, but also to experiment with this mode of data collection. This section of the report reflects on that survey and makes recommendations about future implementation of this kind of survey. The bottom line is that we believe that this mode of data collection is quite viable, but that the short time frame during which it was developed this year caused some problems that need to be avoided in the future with more time for planning.

The main problems encountered this year were as follows:

1) Lack of "buy-in" from some EFE instructors and staff who may have been uncomfortable switching from a "hard copy" survey administered during class periods to an online survey;

2) Instructors not able to track which students in their classes had completed the survey;

3) Students were able to fill out more than one survey despite the measures in place to identify and omit duplicate submissions; and

4) Lack of access to computers or Internet access in some course sites.

We believe that some of these problems can be easily avoided in the future.

The first improvement is a student tracking system. It is clear from our experience this year that we need some sort of tracking system, but it needs to be done in a way that protects student confidentiality. The following kind of system might work: Before the survey is made accessible to students, we would receive a complete list of EFE classes and an approximate number of students in each class. We would generate for each class a list of IDs and passwords (PIN numbers) and distribute it to the instructors. The instructors would then assign each student an ID and password.

The students would then complete the survey with their ID and password. We would set up a database that the instructor could access that would show the IDs in that class that had completed the survey and those who hadn't. This scheme addresses problems number 2 and number 3 while maintaining student confidentiality (the instructor knows who filled out the survey, but doesn't have access to the responses; and the data collector receives the survey responses, but doesn't know any students' names).

To address the first problem, communication is probably the key. At least a month or so before the start of the survey, there should be communication with all instructors on how the process is going to work and why this is a better way of administering the survey. It is also important to allow the instructors to provide feedback on this year's experience. There may have been some problems of which we weren't aware, and if we are given enough time we may be able to address them before the next survey is implemented.

Computer access is highly variable across programs and schools. Obviously, where classes are offered in a computer laboratory that has a substantial number of work stations, administering the survey should not be a major issue. In facilities such as a "regular" high school classroom where there might be just a handful of student work stations, administering the survey should not prove to

be too difficult. The solution would seem to be having a few students complete the survey each day. The survey will be available for several weeks, so time should not be an issue and with the proposed ID system, the instructor will know who has not completed the survey. For classes or work-site situations that do not have computers or do not have Internet access, some accommodation would need to be made. Instructors and work-site coordinators will have to identify sites that have access and to schedule appropriate usage. In short, it will depend on the "buy in" and diligence of the staff.

2. EFE Completers

The major activity undertaken in this study was analyses of data collected by telephone or mail from former EFE students. Advanced Data Services, Inc., of Kalamazoo, conducted the follow-up survey under subcontract to the Upjohn Institute. The population for this survey was students who were classified as seniors in 2001/2002 and who were enrolled in an EFE class at the end of that school year.[6] These students were surveyed in April/May 2003, which was just under a year after they graduated from high school.

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

The main subjects of the survey included 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.

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[6]There were a few students who finished their EFE program after their junior year in 2001/2002.

Postsecondary Experiences

Table 2.1 summarizes the postsecondary experience data for the EFE completers. The top panel shows that respondents can be roughly divided into thirds: those attending a four-year institution (41 percent), attending a two-year institution (31 percent), or not attending school including military service (29 percent). There were no statistically significant differences among the student characteristics in the postsecondary attendance rates. However, the 10 percentage point difference between minorities and whites in attendance of 4-year institutions is quite substantial.

The postsecondary attendance rate among the follow-up sample—72 percent—is higher than any of the prior years of data. It stems from an extremely high rate of attendance at 4-year institutions, which has increased over the last two years from 31 percent to 36 percent to 41 percent. The attendance rate at 2-year institutions has slipped slightly over the same time frame from 33 percent to 31 percent. Figures 2.A.1 through 2.A.4 show the eight-year trends in postsecondary attendance of EFE completers. The first figure shows the trends in attendance by type of institution: 4-year, 2-year, and not attending. The second figure disaggregates the latter trend (not attending) by race, and the next two figures disaggregate the trends in attendance of 4-year and 2-year institutions by sex.

If we compare the postsecondary attendance plans of current EFE students as reported in chapter 3 with the actual postsecondary attendance rates of EFE completers, we find remarkable concurrence.[7] In table 3.6, we report that 73 percent of current students planned to attend a postsecondary institution right after high school. Table 2.1 shows that about 72 percent were attending. This concurrence gives us fairly solid grounds for concluding that 70 to 75 percent of EFE

[7]In every prior report, the postsecondary attendance aspirations of current students exceeded the actual attendance rates measured in the follow-up survey. But this year, the rates are virtually identical.

Table 2.1
Postsecondary Experiences of EFE Completers

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Postsecondary Status							
Not attending school	30	27	28	33	25	30	29
Full time active duty military	3*	1*	2	2	2	1	2
2 year institution	32	30	30	36	34	30	31
4 year institution	39	42	42	32	41	40	41
Sample size	370	375	650	95	224	430	745
For those in 2- or 4-year postsecondary (n = 399)							
Accounting/Finance	3	3	3	4	4	2	3
Business-related	25*	11	16	23	16	17	17
Communications	1	2	1*	5*	1	2	2
Computers	7*	0*	3	5	4	3	3
Cosmetology	0	2	1	0	1	1	1
Criminal justice	3	4	3	2	4	2	3
Education	5*	20*	13	5	19*	9*	12
Engineering	8*	1*	4	5	2	6	4
Graphic/Fine Arts	4	6	5	4	2*	6	5
Marketing	3	2	2	5	3	3	3
Medical-related	6*	19*	13	12	16	11	13
Agriculture	0	0	0	0	0	0	0
Liberal Arts	7	10	9	7	9	9	9
Sports/Leisure	0	1	1	0	1	1	1
Trade & Industrial	13*	0*	7	4	7	6	7
Travel & Tourism	5*	0*	2	4	1*	4*	3
Undecided	13	17	15	16	10*	18*	15
Training related to named field (n =471)							
A lot	31	34	33	34	36	31	33
Some	39	38	38	38	37	39	38
Hardly any	16	14	15	12	14	15	15
None	14	14	14	16	13	15	14
Degree working on (n = 485)							
Associate's	28	28	27	33	29	28	28
Bachelor's	61	63	63	53	61	63	62
Other/none/don't know	11	9	9	15	10	9	10

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.

students attend a 2-year or a 4-year postsecondary institution right after high 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. Fifteen 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–17 percent. The other fields with 10 or more percent of the students are medical-related programs and education. The students' choices across fields are very similar to last year; no substantial changes or trends are evident. As in past years' data, there were substantial differences by gender. Males were more likely to be in computer-related, engineering, and trade and industrial programs/majors than are females. Conversely, females were more likely to be in education and medical-related programs. Students with work-based program experience were more likely to be in education, and are less likely to be undecided about their major/program.

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. Over 70 percent 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 population groups.

The percentage of respondents who reported "a lot" or "some" training-relatedness between their EFE program and their current field/program has not changed dramatically over the years. (See figure 2.A.5.) This year's percentage is a slight increase over last year's. Furthermore, there is a reversal in the stady downward trend in respondents who said "a lot" (of training-relatedness). The percentage of students who reported "a lot" of training-relatedness was over 50 percent in 1996, about 42 percent in 1997, 34 percent in 1998, 33 percent in 1999, 26 percent in 2000, and 29 percent in both 2001 and 2002. This year, it rebounded to 33 percent.

A little over a quarter of the students currently attending in a postsecondary institution reported that they were pursuing an associate's degree. About three-fifths, with only slight variation across the groups, were pursuing a bachelor's degree. One-tenth were pursuing other degrees or were undecided about what degree they are pursuing.

Table 2.2 presents a summary of data about usage of college credits earned while in EFE courses in high school. Overall, almost 60 percent of the respondents indicated that, when they were in high school, they believed they could have received college credit for their high school EFE class. About 30 percent indicated that they believed that they would not be able to receive college credit. The other 13 percent indicated that they did not know. Students who participated in a work-based program were more apt to report that they believed that they could earn college credits students who had not been in a work-based program.

We asked those students who believed that they could have received college whether they had actually arranged to do so. Less than half of the respondents (45 percent) reported that they had.

Table 2.2
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 = 482)							
Yes	54	62	59	50	65*	54*	58
No	32	25	28	38	24*	32*	29
Don't know	14	13	14	12	11	14	13
If yes:							
Have you arranged to receive credit? (n = 264)	40	50	17	36	59*	37*	45
Average credits (n = 104)	6.7*	4.7*	5.4	5.9	5.4	5.4	5.4
Important in program enrollment? (n = 274)	33	43	39	36	46*	34*	39
Important in postsecondary enrollment? (n = 271)	27	20	23	32	24	24	24

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

On average, these students had earned 5.4 college credits. Students who had been in work-based program experiences, and were aware of the possibility of receiving college credits, were more likely to have arranged for those credits; although there was no differences between them and students who had not participated in work-based programs in the average number of credits actually received.

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 between students who had or who had not participated in a work-based program (46 percent to 34 percent). About one-quarter of the students, with little variation across groups, reported that the ability to transfer credits was an important factor in choosing a postsecondary institution.

Employment Status

A major emphasis of the survey was on the current employment status of the EFE completers. Note that the data that were collected represented an amalgam of part-time or full-time work experiences of students, summer jobs for students who may have finished schooling for the year, and full-time or part-time employment of students who were not attending postsecondary institutions. All together, table 2.3 shows that less than 60 percent of the survey respondents indicated that they were currently working for pay. This rate (57 percent) is lower than any of the previous years. Note that in some prior years, the survey was conducted later in the year and so, in those cases, it might be expected that a larger share of students were engaged in summer employment. However, this

Table 2.3
Employment and Unemployment Status of EFE Completers

Characteristic	Sex		Race		Work-based program		Postsecondary			Total
	M	F	W	NW	Yes	No	2-yr	4-yr	No	
Employment rate (n =745)	57	56	56	57	58	56	65*	37*	74*	57
If employed:										
Usual hours/week (n = 393)	31.1*	27.1*	29.2	29.1	30.7	28.9	28.4*	20.4*	36.3*	29.2
Hourly wage (n = 358)	$8.64*	$7.90*	$8.32	$7.79	$8.77*	$8.01*	$8.42	$8.20	$8.15	$8.26
EFE training - relatedness (n = 364)										
A lot	19	23	20	27	30*	16*	25	21	17	21
Some	26	31	29	29	33	27	28	30	30	29
Hardly any	26	20	24	18	21	24	22	29	21	23
None	28	26	27	27	16*	33*	26	21	32	27
Unemployment rate (n = 573)	22.0	21.3	21.2	24.7	23.6	22.1	20.5*	31.9*	13.3*	21.6

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.

year's employment rate is much lower than last year's, when the employment rate was 73 percent and last year's survey was conducted at exactly the same time as this year's. Students attending 2-year colleges or no college had much higher employment rates than those attending 4-year colleges.

The average work week for employed individuals was about 29 hours, an increase of about one hour from last year. This difference may reflect a much lower percentage of students in 4-year institutions who were more likely to have part-time employment. Indeed, their average hours per week were only 20. Respondents who did not go on to college averaged about 36 hours per week, which was about eight hours more per week on average, than for individuals who were at 2-year institutions. Males also averaged about four more hours per week than females.

The average hourly wage this year was $8.26, which is actually lower than in 2002. The average for males was higher than females—$8.64 to $7.90, a difference that is statistically significant. Also, the average hourly wage for individuals who had been in a work-based program in high school—$8.77—is statistically higher than the average for students who had not been in such

a program. The average wage for individuals not pursuing postsecondary education in this year's data—$8.15—was actually lower than the hourly wage reported by college attendees. This is noteworthy because in four of the last five years, individuals who had not gone to college were receiving wages that were just equal to or less than the average wage for college attendees. This suggests that the job market for unskilled workers was so "soft" that individuals who did not pursue college were paid less than the part-time opportunities held by college students.

We also asked respondents about how related the training in their EFE classes was to their current job. Half of the respondents indicated that it was relevant ("a lot" or "some"); conversely half indicated that their EFE training had "hardly any" or "no" relatedness to their current job. The "relatedness" statistics are virtually identical to last year, and the long-term trend (shown in figure 2.A.6) is relatively flat at the level of just over half. Among the population groups, students who had work-based program experiences in high school were significantly more likely to report that their employment was training-related than students who had not been in a work-based program.

The unemployment rate, shown in the bottom row of the table, is defined as the share of the labor force who is not working for pay and is looking for employment. For the sample as a whole, the unemployment rate was an amazingly high 21.6 percent, which is 40 percent higher than last year's rate of 15.3 percent. This may reflect the soft labor market caused by the current economic recession. The unemployment rates did not vary much by group, with one exception. Students in 4-year colleges had a significantly higher unemployment rate than did students in 2-year colleges or students who did not pursue postsecondary education. The latter group had an unemployment rate of 13.3 percent, which was lower than the rate in last year's data collection. Figure 2.A.7 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 2.4 presents summary data on (self-reported) grade point averages in high school and on incidents of tardiness and absences. It is interesting to note that these young individuals recalled more incidents of tardiness or absences in their senior year of high school than the current students report (in table 3.1). These data, of course, were subject to recall error since they pertained to a time period of over a year prior to the survey date. These statistics were lower than those reported last year, but similar to earlier years of the data. For example, this year's average of 6.2 tardies per year is lower than last year when it was 6.8. However, prior to 2000, the three previous years were 5.6, 6.1, and 6.3. For unexcused absences, this year's average of 5.3 is lower than last year's figure of 5.7, but is still higher than 5.2 in 1997 and 4.3 in 1996.

The overall mean high school GPA reported by respondents to the follow-up survey, 3.17, was close to the average GPA for current students, which suggests some validity in reporting. Males reported lower GPAs in high school than females, and as expected, students who went on to 4-year colleges/universities had higher GPA's than students who went to 2-year institutions or who did not pursue postsecondary education.

Table 2.4
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 = 624)	6.0	6.5	6.1	7.1	6.1	6.3	6.2	5.9	6.7	6.2
Average number of absences (n = 649)	5.2	5.4	5.2	5.8	5.4	5.3	5.3*	4.3*	6.7*	5.3
Average GPA (n = 659)	3.05*	3.28*	3.18	3.08	3.20	3.16	3.08*	3.52*	2.77*	3.17

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

Table 2.5 provides data on a set of EFE class satisfaction indicators. The same items were posed to the EFE current students, whose summary data are given in table 3.3. Of course, the follow-up survey asked respondents to recall their EFE classes in which they were enrolled over a year before and to provide opinions about those classes. The current students provide assessments of classes they are enrolled in at the time of the survey. All in all, the completers reported much higher levels of satisfaction than current students.

The first item listed in the table asked for respondents to agree or disagree with the statement that "EFE classes were among the best classes in high school." Sixty-eight percent of the respondents agreed with this statement. Ninety-one percent of the respondents disagreed with the statement that"these classes were too hard," and 95 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 positive. Seventy-nine percent of the sample agreed the "equipment and facilities were excellent." Almost 80–90 percent or more of the students had positive responses to the final four items, which compares to 65–70 percent for current students. About five-sixths of the respondents (82 percent) disagreed with the statement that "not enough information was provided to students or their parents." Ninety percent of the respondents agreed that "the program treated everybody fairly," and that they "could get questions answered and problems easily resolved." Finally, 87 percent of the respondents disagreed with the statement that "the program seemed disorganized."

These satisfaction indicators were slightly more positive than in last year's data, although the relative satisfaction among the items was identical. (That is, higher levels of satisfaction were garnered for the second, third, sixth, and seventh items, and relatively lower levels of satisfaction

Table 2.5
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..."	67	68	68	68	71	65	71*	63*	71*	68
Disagree/strongly disagree with "These classes are too hard..."	88	93	91	89	89	91	89	95	86	91
Agree/strongly disagree with "I got along with other students and we worked together..."	95	94	94	96	96	94	96	95	93	95
Agree/strongly agree with "The equipment and facilities were excellent."	80	78	77*	90*	79	78	77	82	77	79
Disagree/strongly disagree with "not enough information..."	82	82	83	79	83	82	84	83	79	82
Agree/strongly agree with "The program treated everybody fairly."	90	91	90	93	92	90	89	93	90	90
Agree/strongly agree with "I could get questions answered..."	93	92	92	92	92	90	89*	97*	89*	92
Disagree/strongly disagree with "the program seemed disorganized."	85	83	83	89	81	86	85	85	82	84
Letter grade for program quality	3.31	3.35	3.33	3.34	3.45*	3.27*	3.28	3.40	3.29	3.33

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 654.
*Difference between population groups is statistically significant at the .05 level.

were achieved for the other items.) Figure 2.A.8 displays the trend in each of these indicators for the graduates.

The follow-up survey asked respondents to assign a letter grade to the EFE courses that represented their assessment of program quality. The overall average for this grade, converted to a 4.0 scale, was 3.33, which would be a B+. Students who had not participated in a work-based program assigned the lowest grades for quality.

Table 2.6 provides tallies of the responses to the questions of what were the best and worst aspects of the EFE classes as recalled by the completers. The aspects that were mentioned the most often among the best aspects were specific teachers or staff members and the opportunity to participate in work-based "real world" learning opportunities. Two other aspects that were mentioned a significant number of times were other students/teamwork and the technical or employability skills learned. Far fewer negatives were mentioned. Among the complaints, the most often mentioned item was that the student had a logistical problem such as transportation or scheduling.

The EFE completers were also asked to recall whether they had participated in work-based experiences. As shown in table 2.7, about one-third (34 percent) indicated that they had participated

Table 2.6
Best and Worst Aspects About EFE Program as Recalled by Completers

Best		Worst	
Aspect	Number of Times Mentioned	Aspect	Number of Times Mentioned
Equipment	73	Equipment, classroom environment	56
Books, software	21	Books, software	17
Pace	29	Pace: too easy	39
Hands-on instruction	110	Pace: too fast	13
Specific teacher	231	Pace: too much work	42
Small class size, individual attention	40	Specific teacher	58
Technical or employability skills learned	132	Class size too large	22
Work-based experience/real world	210	Transportation/schedule	109
College usefulness	27	Classmates behavior	49
Interesting/fun	70	Disorganized	37
Other students, team work	125	Work experience	52
Everything about the class	27	Unfair treatment	4
Vocational clubs	14	Specific activity or project	32
Other	70	Grading policy	8
		Other	27
Total	1,179		
		Total (except for "Absolutely nothing...")	565

Table 2.7
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 = 654)	29*	40*	35	28	31	35	30	34
If participated: (n = 223)								
Paid?	54*	40*	46	48	50	38	54	46
Disagree/strongly disagree with "Work was unrelated..."	55*	73*	64	74	64	69	61	65
Agree/strongly agree with "Mentors were supportive and answered my questions."	93	88	90	95	95*	92*	82	90

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

in a work-based program. (See figure 2.A.9.) This is the lowest reported rate of participation in seven years, and the gap between females and males was significant—females significantly higher than males. In every year of the survey, a higher percentage of females than of males reported having participated in a work-based program in high school. As in prior years, there was a sizeable, although not significant, gap between whites and nonwhites.

The percentage of students from the follow-up survey who reported that they had participated in work-based programs (34 percent) contrasts starkly with 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 this year, just under half indicated that it had been a paid experience. Males' experiences were paid more often than females' according to these data.

About two-thirds of the respondents who had been in work-based programs disagreed with the opinion question that "the work was unrelated to the EFE class" in other words, the experience was related. Females had a higher level of (dis)agreement than did males. About 90 percent agreed

that "workplace mentors were supportive and answered my questions." Students who didn't pursue postsecondary education had significantly lower agreement on this item, as might be expected.

EFE Outcomes

Two performance indicators using EFE outcomes are presented in table 2.8. 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-three percent of the sample met these criteria. The percentages did not differ by race, sex, or whether students had participated in work-based programs. (It is not meaningful to look at the differences in this outcome measure by the different types of college attendance because all college attenders met the standard, by definition.) This indicator is slightly lower than its value in 2002, when it was 94. (See figure 2.A.10 for a time trend.)

One criticism of this standard is that it is not difficult to meet. A telephone interview of almost any population of 19-year-olds near the end of a school year would likely yield a high percentage of respondents who were either attending college during the academic year or currently

Table 2.8
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 = 745)	93	92	92	96	95	92	100*	100*	74*	93
Training-related postsecondary attendance or employment (n = 672)	61	67	63	70	73*	62*	79*	74*	35*	64

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

working. The second indicator is somewhat more rigorous. This standard measures the percentage of individuals who are pursuing a major field or occupational program area in a postsecondary setting that is related to the course work taken in high school or who are employed in a job where their EFE course work is related. About 64 percent of the sample met these criteria. Much more variation is exhibited in this indicator than in the first one. Females and nonwhites had higher values than males and whites, but these differences were not statistically significant. However, the substantial differences between students who had been in a work-based program and those who had not, and between students in postsecondary institutions and those who were not, were significant. The discrepancy is startling in some instances. For example, 79 percent of 2-year college students were in a training-related education or employment situation, whereas only 35 percent of individuals who did not attend college had such an outcome.

Summary and Trends

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

- Students who completed high school about a year ago and had taken an EFE class are roughly equally divided into three groups: attending a 4-year postsecondary institution, attending a 2-year institution, and not attending a postsecondary school. Compared to last year's follow-up survey, there was a substantial increase in students attending a 4-year college and a slight decrease in those attending a 2-year institution and those not attending school.

- None of the differences in postsecondary attendance rates by race or sex were statistically significant; but the percentage of nonwhites attending a 4-year institution lagged considerably behind the percentage of whites.

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

- The percentage of students who reported that their EFE training was related "a lot" or "some" to their postsecondary field/program was higher than it had been for six years.

- Almost 60 percent of the students indicated that they could have received college credit for the EFE classes that they took in high school. Of those, less than 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, but only one-quarter reported that transfer of college credits had been an important consideration in selecting a postsecondary institution.

- The employment rate of completers, which was 57 percent was, by far, lower than any of the previous follow-up surveys. Students in 4-year colleges had much lower employment rates than their population counterparts. The average work week was about 29 hours (about 1 hour more than last year). The average wage decreased by about 1 percent to $8.26 per hour.

- Concomitant with the low employment rate, the unemployment rates were exceedingly high—the overall rate was over 20 percent. This was a 40 percent increase compared to last year's data.

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

- Despite a weak economy, the performance indicators for EFE remain high. The percentage of follow-up students employed or in a postsecondary program was 93 percent, and the percentage of follow-up students who have training-related employment or who are in a training-related postsecondary program was 64 percent.

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

Figure 2.A.1 Postsecondary Attendance, By Type of Institution

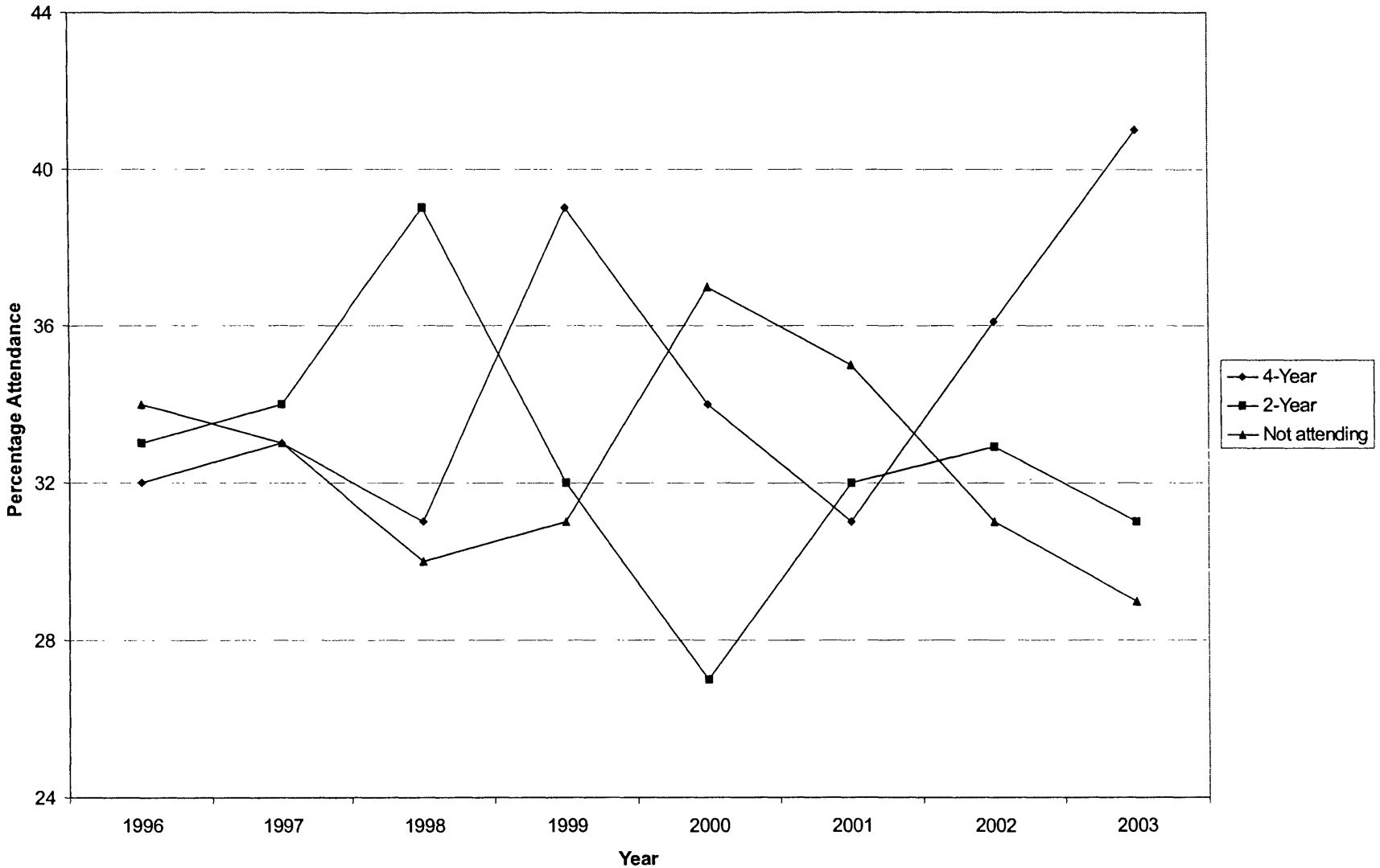


Figure 2.A.2 Racial Composition of Students Not Attending Postsecondary Schooling

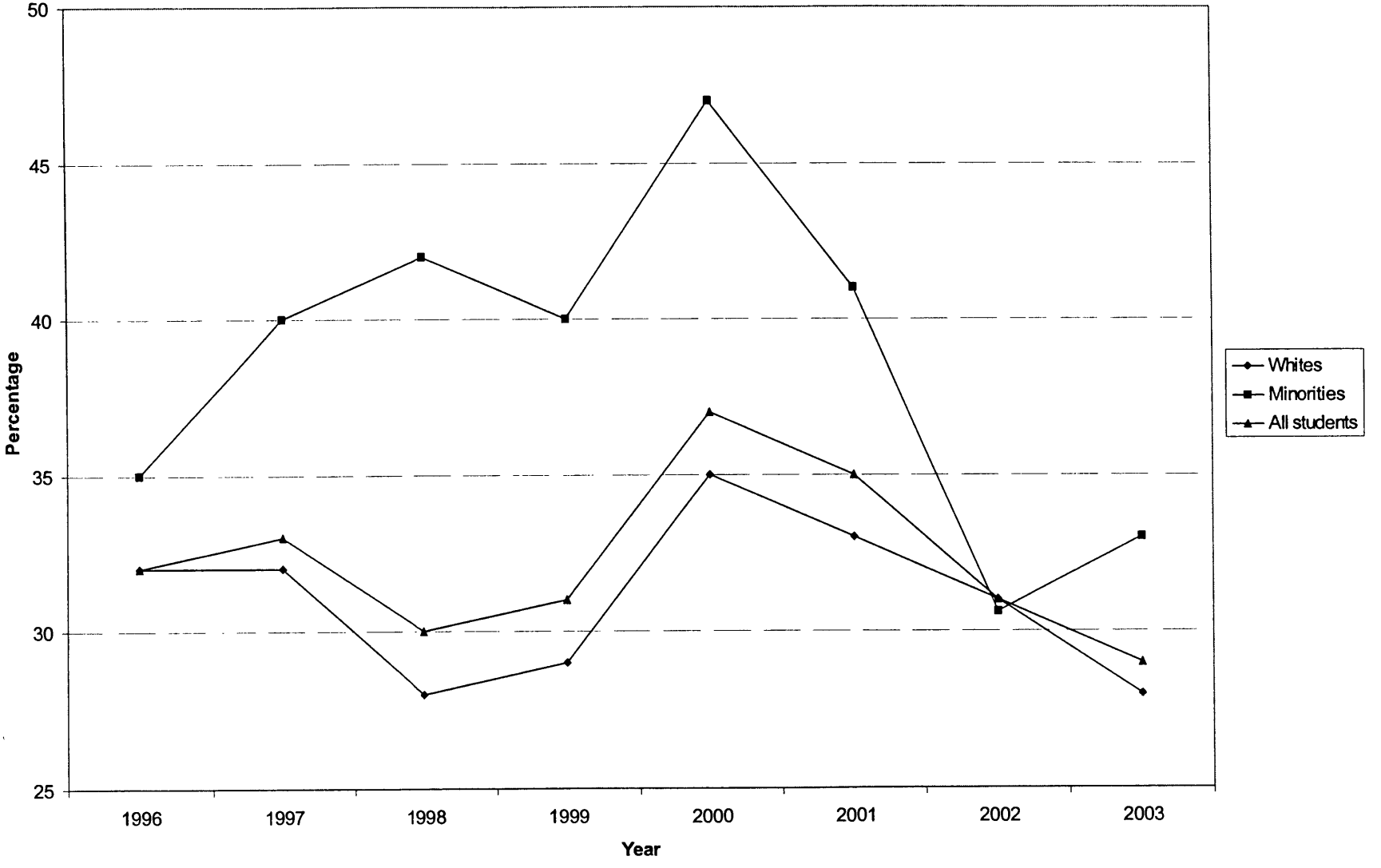


Figure 2.A.3 4-Year Institution Postsecondary Attendance, by Sex

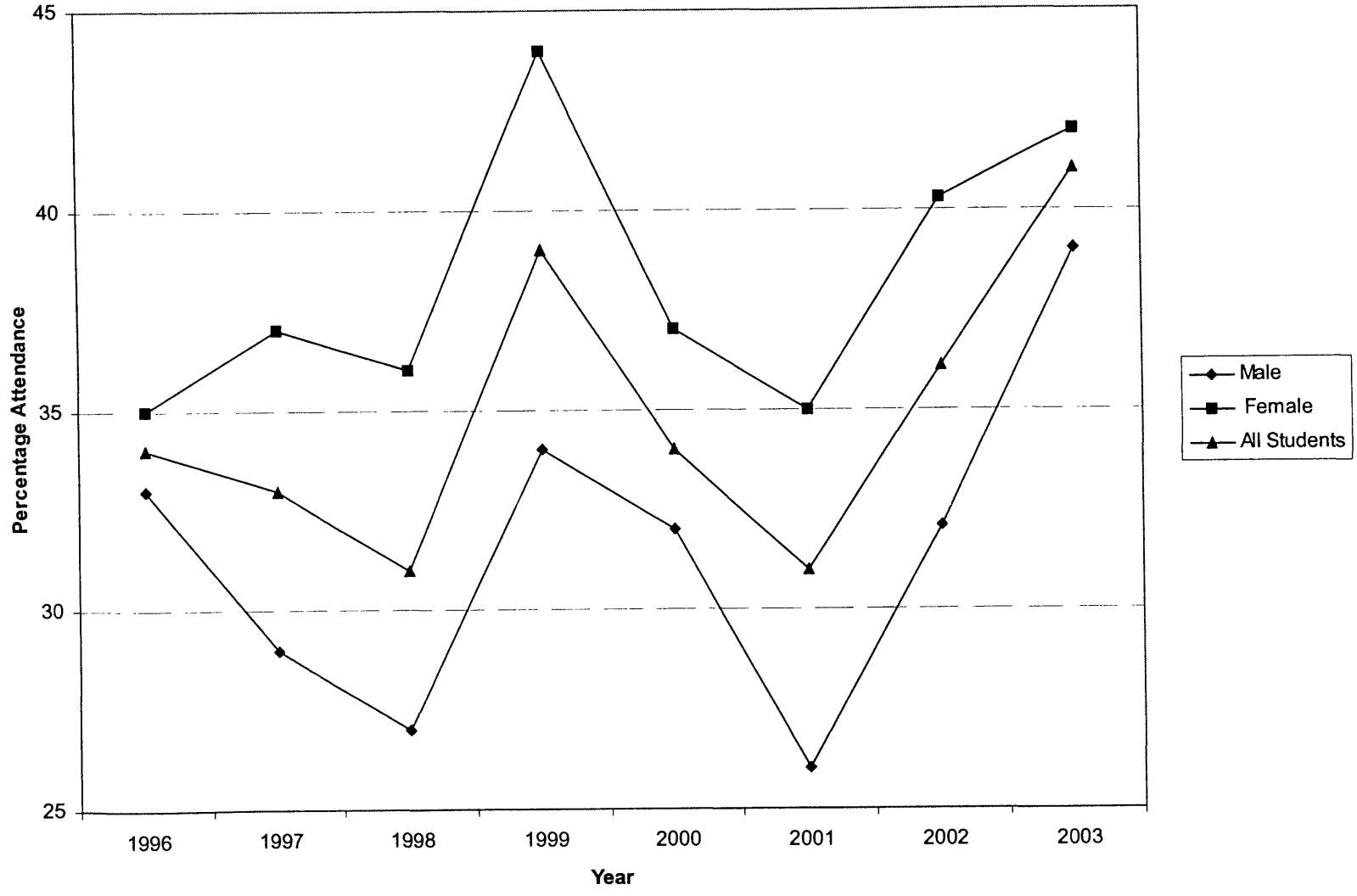


Figure 2.A.4 2-Year Institution Postsecondary Attendance, by Sex

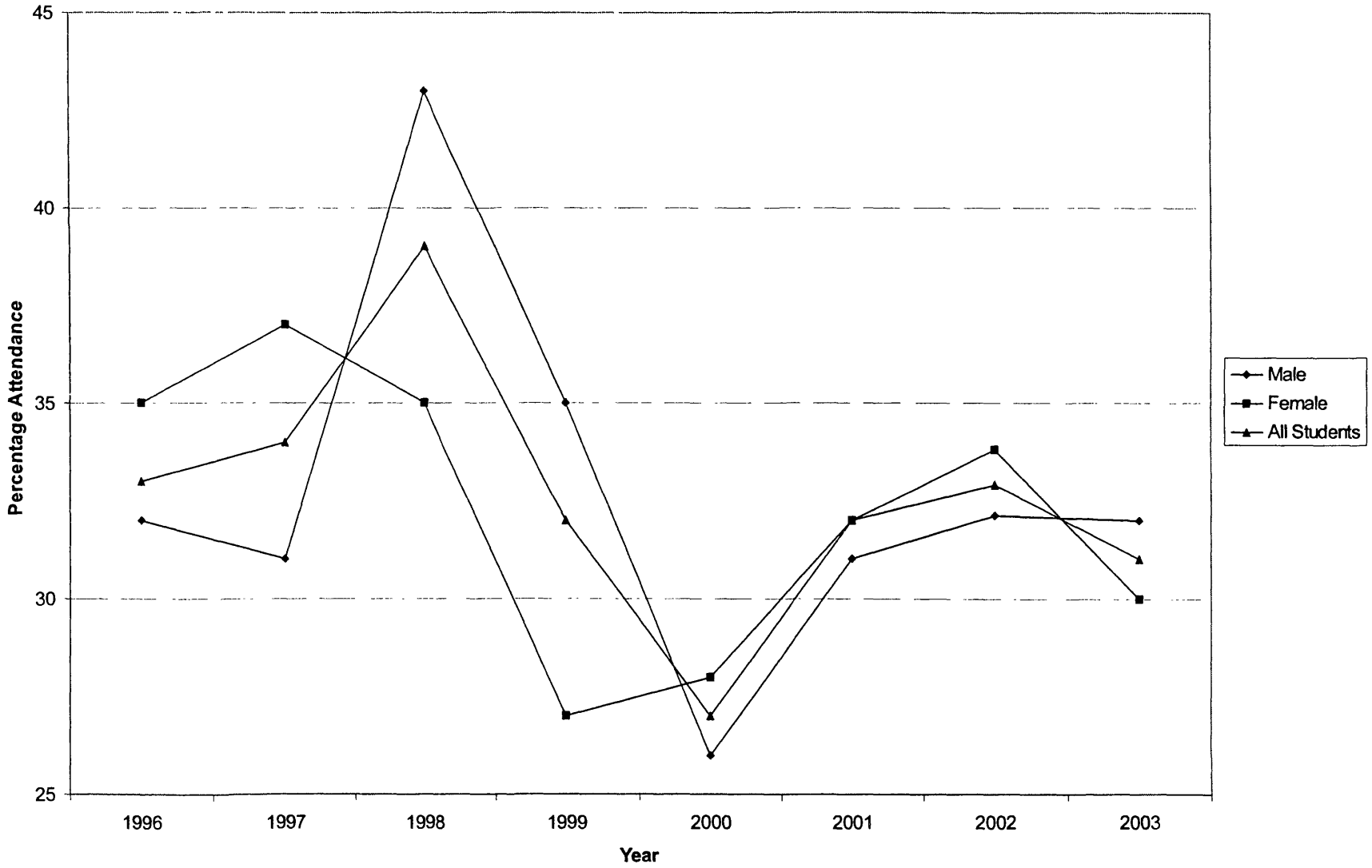


Figure 2.A.5 Percentage of Students in Postsecondary Schooling who Report their Major/Program is Related to EFE Class(es), By Extent of Relatedness

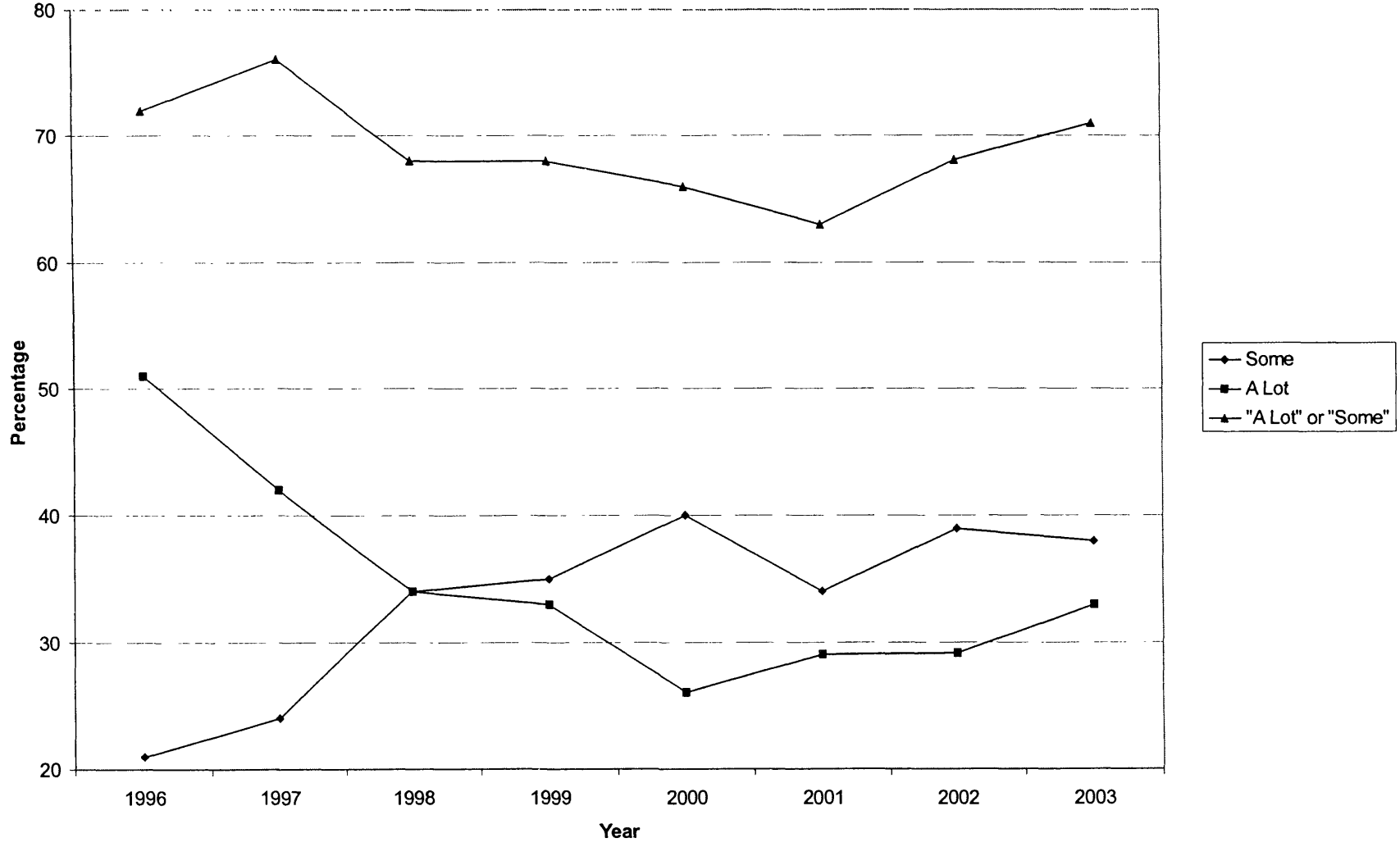


Figure 2.A.6 Employment Rate, By Training Relatedness

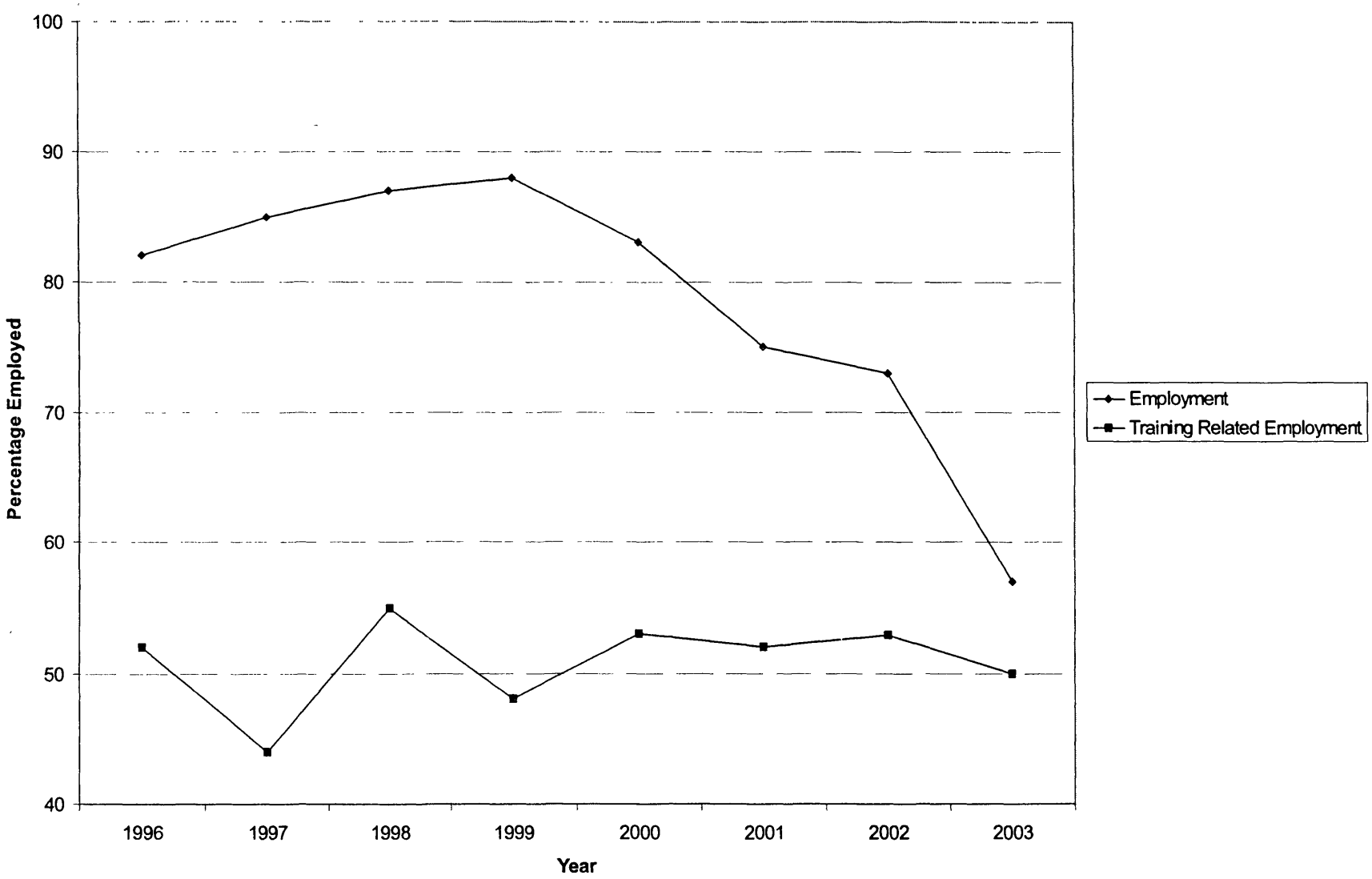


Figure 2.A.7 Unemployment Rate, By Race

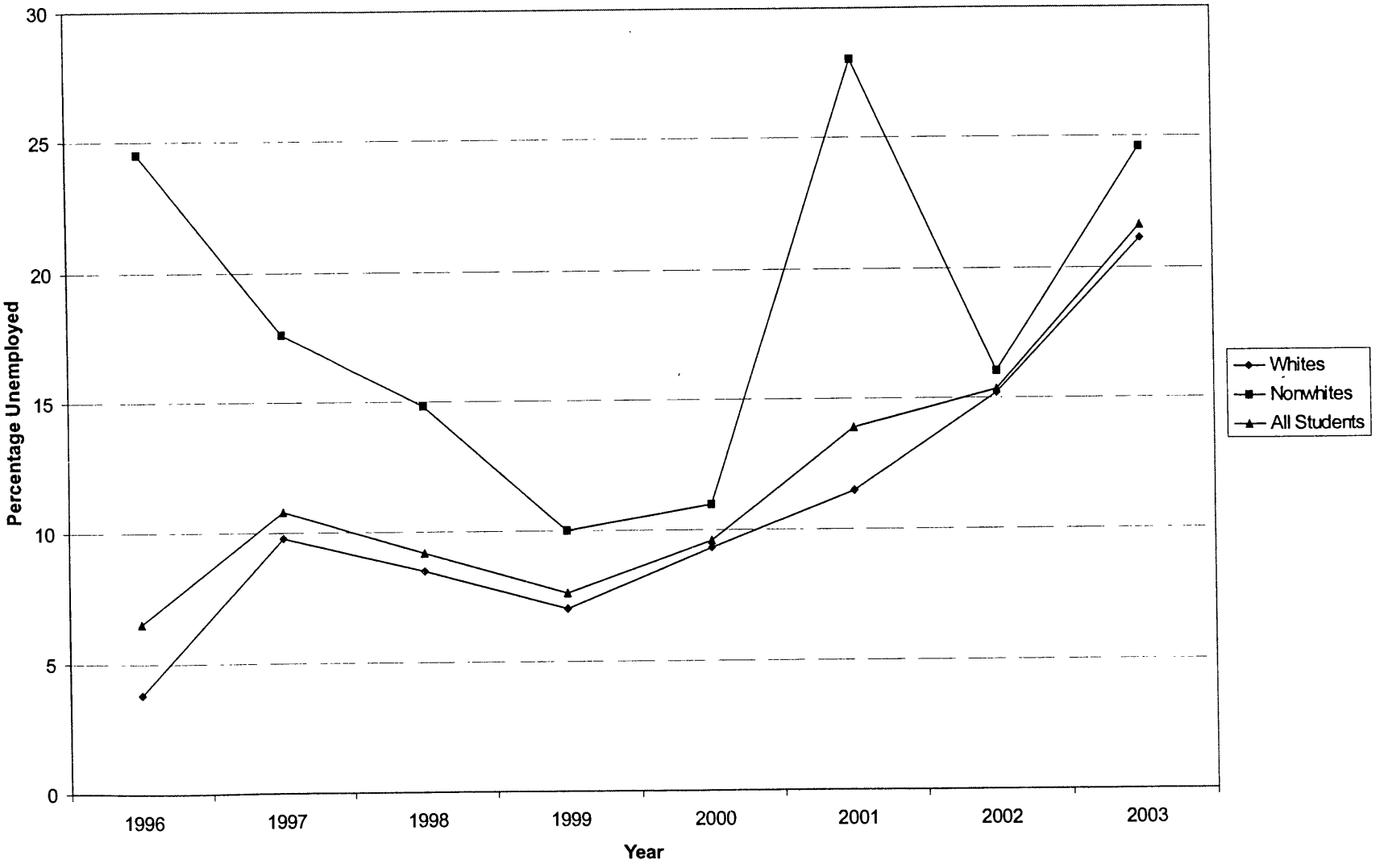


Figure 2.A.8 Indicators of Satisfaction with Aspects of EFE Classes: Percentage Agreement or Disagreement with Descriptive Items

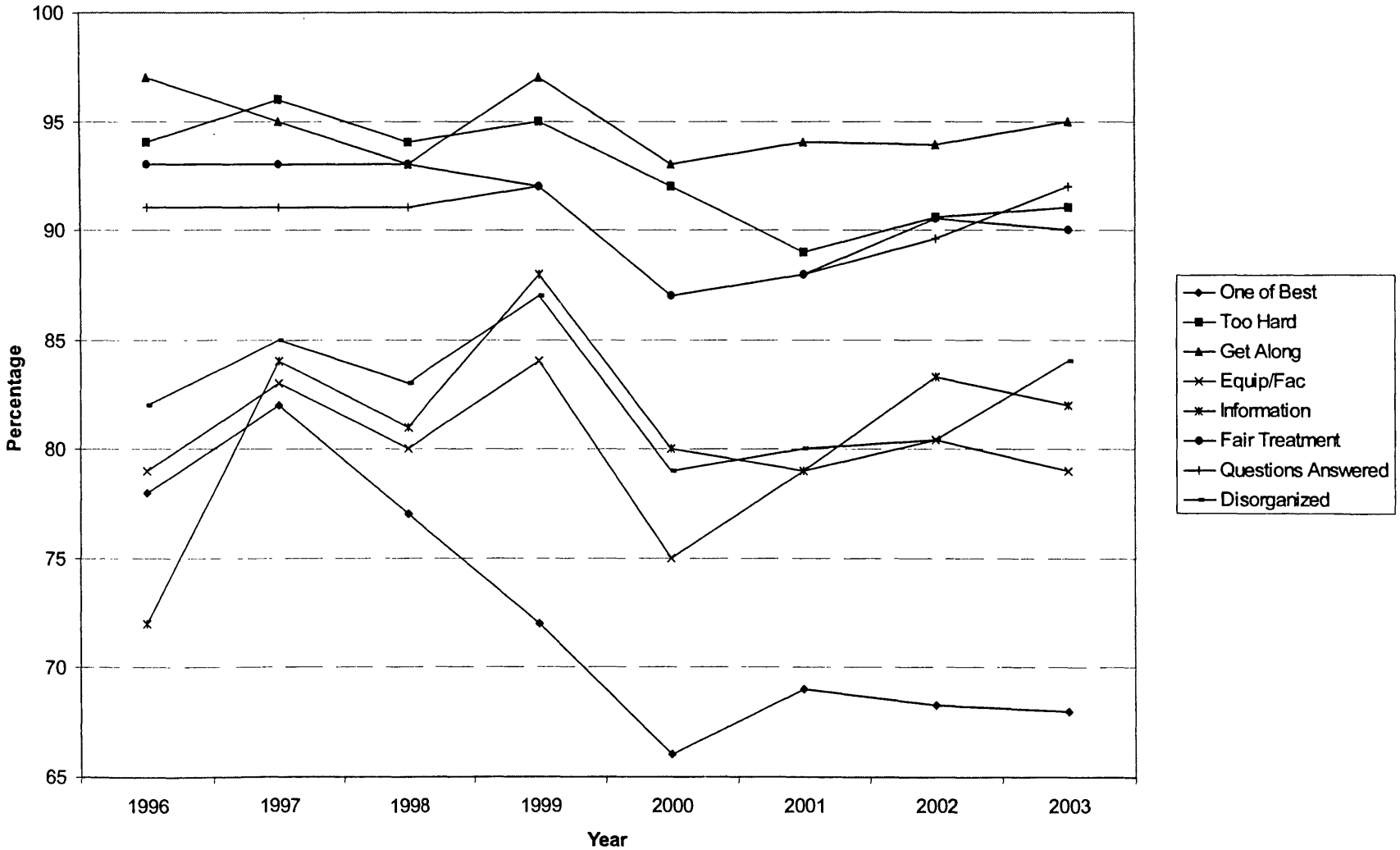


Figure 2.A.9 Participation in Work-Based Program Experiences, By Sex

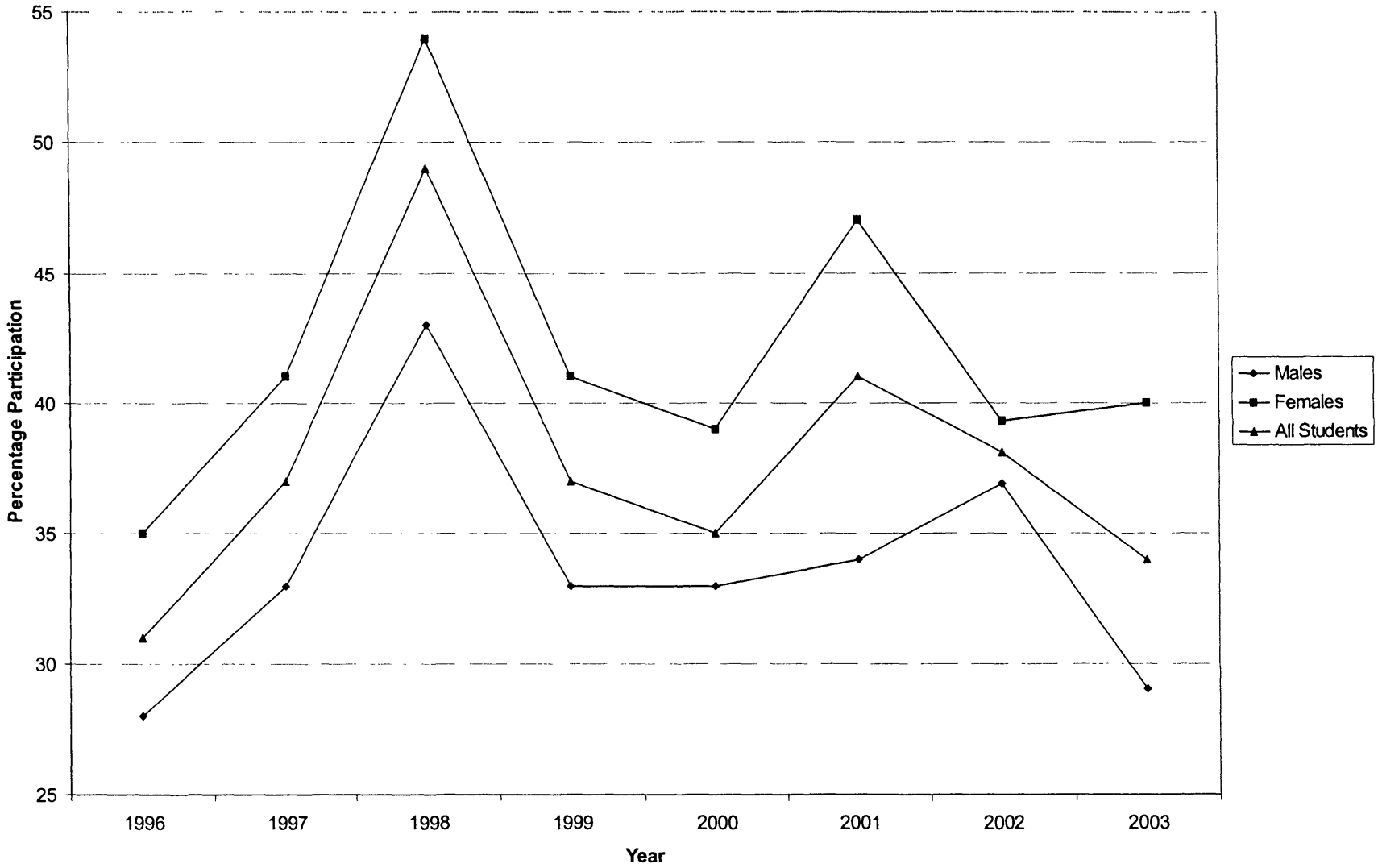
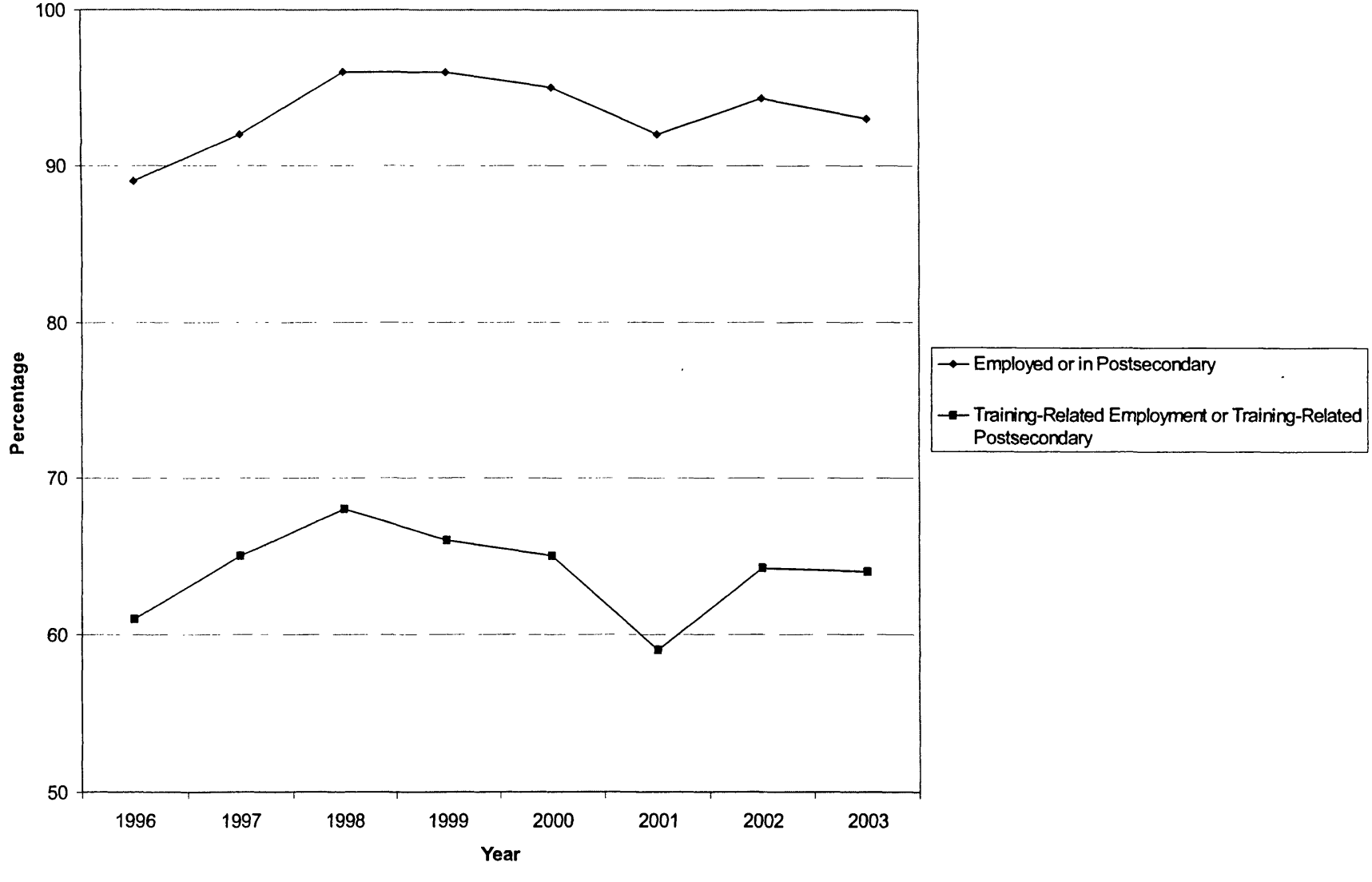


Figure 2.A.10 EFE Performance Outcomes, By Type of Outcome



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 55 percent males and 45 percent females, about 76 percent whites and 24 percent nonwhites, and about 12 percent in a work-based program and 88 percent not participating in such an experience. The appendix to this chapter has time series graphs for a number of the statistics presented. Figures 3.A.1–3.A.3 show the trends in gender, race, and work-based program participation. Note that we have used a dashed line for the trend between last year and this year to reflect the fact that this year's data were gathered through the online survey and may thus not be comparable.

High School Experiences

Table 3.1 provides summary data about the students' overall experiences in high school. Note that none of these data were verified through official transcripts or other records—the data are self-reported, and as chapter one pointed out, perhaps 35 percent of the students responded to the survey.

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 (percentages):							
Freshman	12.5	14.3	9.9*	24.6*	1.4*	15.0*	13.4
Sophomore	23.2	22.7	23.0	23.2	4.2*	25.5*	22.9
Junior	29.8	28.8	30.2	26.1	16.1*	31.2*	29.3
Senior	34.0	34.1	36.5*	25.7*	78.3*	27.7*	33.8
Homework (avg. hours)	2.0*	2.7*	2.1*	2.9*	2.0	2.3	2.3
High school grade (gpa)	2.94*	3.15*	3.08*	2.89*	3.03	2.99	3.02
High school activities (avg. no. of)	1.7*	2.1*	1.9	1.8	1.9	1.8	1.9
Tardies (avg. no. of)	5.8*	4.9*	5.0*	6.9*	7.0*	5.3*	5.5
Absences (avg. no. of)	4.6	4.4	4.2*	5.5*	6.1*	4.3*	4.6
Total percentage	55.0	45.0	75.6	24.4	12.1	87.9	100.0

Note: Sample size is 1,183.
*Difference from other population group is statistically significant at the .05 level.

About 35 percent of the survey respondents were freshmen or sophomores; about 30 percent were juniors; and the remaining 34 percent were seniors. This percentage distribution was approximately the same for males and females. Whites and students with work-based experiences had a larger percentage of seniors and a lower percentage of freshman compared to their counterparts. The overall percentage of EFE students who were freshmen or sophomores was much larger than last year, when it was about 23 percent. Figure 3.A.4 shows the growth in the enrollment of students in grades 9 and 10. Again, we need to be cautious in interpreting this data however. It may be the case that freshmen and sophomores were more likely to or had more opportunity to respond to the online survey.

Interestingly, if the data are comparable, the long-term trend toward greater EFE enrollment of students in grades 9 and 10 is continued this year after slightly reversing itself last year. As might

be expected, the percentage of students who were participating in work-based experiences who were freshmen or sophomores is significantly smaller than their overall share of students. Just over six percent of the students with work-based experiences are in 9th or 10th grade.

Respondents averaged about 2.3 hours of (self-reported) homework per week. Females averaged about three-quarters of an hour more per week than males (2.7 to 2.0), which is statistically significant. Nonwhites averaged almost an hour more than whites (2.9 to 2.1). The difference between students who had been in a work-based program and those who had not been was not statistically significant. The students were asked about how many extracurricular activities they engage in. On average, the students indicate that they are involved in 1.9 activities, which is significantly lower than in previous surveys suggesting that students are getting involved in fewer and fewer activities. Females reported being engaged in more activities than males (2.1 to 1.7), but there are no differences in the number of activities between whites and nonwhites, nor between students who in a work-based program and those who are not.

The average (self-reported) grade point average in the sample was 3.02 (B). Among the groups, females and whites reported a higher average than their counterpart population groups. These averages are quite similar to last years' grade point averages; although they are slightly lower, especially for students in work-based programs. 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 5.5 tardies and 4.6 days of absence. The average number of tardies declined considerably from last year (6.2 to 5.5), and the average number of unexcused absences declined significantly (5.0 to 4.6). (Assuming there are about 180

days of instruction, the average number of unexcused absences works out to about 2.5 percent.) Females reported less tardiness than males (4.9 instances, on average, as compared to 5.8), and whites reported less tardiness than nonwhites (5.0 versus 6.9). Nonwhites had more unexcused absences than whites, and students in work-based programs had more absences than students not in such programs.

This year's average level of tardiness (5.5) and level of absences (4.6) are the lowest values in the eight years that we have conducted this survey. As shown in figure 3.A.6, both outcomes have downward trends, with only a couple of exceptions. Of course, with the new type of survey and lower response rate, these data may not be comparable to prior years'. This is especially true if the most conscientious students were those most likely to complete the survey.

EFE Enrollment Decisionmaking

Students were asked 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 0.66/0.53. This means that 66 percent of the males reported that guidance counselor advice was a source of information about their EFE class, and that 53 percent of the males indicated that guidance counselor advice was among the most important sources of information. (Asterisks

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	0.66/0.53	0.70/0.58	0.68/0.55	0.66/0.55	0.72/0.61	0.66/0.54	0.67/0.54
Poster	0.06/0.02	0.08/0.03	0.06/0.02	0.09/0.03	0.08/0.05	0.07/0.02	0.07/0.03
Academic subject teacher	0.32/0.22	0.31/0.23	0.30/0.21*	0.36/0.27*	0.31/0.22	0.31/0.22	0.31/0.22
Technical ed. teacher	0.16/0.08	0.15/0.07	0.14/0.07	0.18/0.09	0.12/0.04	0.16/0.08	0.16/0.08
Brochure	0.34*/0.20	0.41*/0.23	0.37/0.20	0.39/0.24	0.31/0.15*	0.38/0.22*	0.37/0.21
High school handbook	0.27/0.16	0.30/0.18	0.29/0.17	0.26/0.16	0.35/0.24*	0.27/0.16*	0.28/0.17
Friends/acquaintances	0.32*/0.21*	0.42*/0.26*	0.38/0.24	0.32/0.21	0.41/0.26	0.36/0.23	0.36/0.24
Brother/sister - family	0.13/0.09	0.12/0.09	0.12/0.08*	0.16/0.13*	0.13/0.10	0.13/0.09	0.13/0.09
EFE staff presentation	0.09/0.05	0.09/0.07	0.08/0.06	0.11/0.08	0.11/0.08	0.09/0.06	0.09/0.06
Employer	0.02/0.01	0.05/0.02	0.03/0.02	0.02/0.02	0.06*/0.06*	0.02*/0.01*	0.03/0.02
Other	0.08/0.07	0.07/0.05	0.07/0.06	0.07/0.07	0.04/0.03	0.08/0.07	0.07/0.06
Individual Who Assisted/Most Important							
Guidance counselor	0.56/0.45	0.60/0.46	0.56/0.45	0.62/0.47	0.57/0.48	0.57/0.45	0.57/0.45
Academic subject teacher	0.15/0.12	0.16/0.12	0.15/0.12	0.16/0.11	0.21/0.17*	0.14/0.11*	0.15/0.12
Technical ed. teacher	0.12/0.08	0.10/0.07	0.10*/0.07*	0.16*/0.11*	0.09/0.04	0.11/0.08	0.11/0.08
Other school administrator	0.04/0.03	0.04/0.03	0.03*/0.03	0.06*/0.04	0.06/0.05	0.04/0.08	0.04/0.03
Parent/guardian	0.31*/0.26*	0.40*/0.33*	0.33*/0.28*	0.41*/0.34*	0.35/0.30	0.34/0.29	0.34/0.29
Friends	0.34/0.27	0.35/0.27	0.35/0.28	0.32/0.24	0.34/0.28	0.35/0.27	0.35/0.27
Brother/sister - family	0.11/0.09	0.08/0.06	0.09*/0.07	0.13*/0.10	0.10/0.09	0.10/0.08	0.10/0.08
Employer	0.02/0.01	0.02/0.02	0.02/0.02	0.02/0.02	0.06*/0.05*	0.02*/0.01*	0.02/0.02

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 1,183.
*Difference from other population group is statistically significant at the .05 level.

indicate that the percentage for one group is a statistically significant difference from the percentage for the other group, e.g. "friends/acquaintances.")

The data showed that the largest share of the students relied on guidance counselor advice, for information and for assistance. Almost two-thirds of the respondents noted this answer. After guidance counselors, the next most important sources of information were brochures, academic subject teachers, handbooks, and friends or acquaintances. Around a third of the students received information from each of the sources. The most important sources closely aligned with overall

reliance. Guidance counselor advice, followed by friends and academic teachers were the most important information sources.

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 brochures and on siblings. There were only a couple of differences between minorities and whites. The former reported a higher reliance on academic subject teachers and siblings. Students who were in work-based programs tended to rely more heavily on their high school handbooks, but less on brochures than did other EFE students.

The bottom panel of the table reports data concerning which individuals were influential in the students' decisions to enroll in EFE. Guidance counselors were mentioned most often by respondents both as individuals who assisted and the most helpful individuals. Friends were next, followed closely by parents/guardians. Among the disaggregated population groups, females reported that they were assisted by their parents/guardians more than did males. There were several statistically significant differences between nonwhites and whites. Nonwhites had a much higher reliance on teachers and other school staff and on their parents/guardians than did whites. Students with work-based program experiences reported a higher reliance on academic subject teachers and on employers than those without such experiences (but the fractions were very small.)

Over the years that we have surveyed the EFE students, the data in table 3.2 have changed. In the early years of the survey (i.e., 1996–1998), the number of information sources that students reported were substantial. But then they dropped significantly during 1999–2002. We attributed that to more familiarity around the county about the EFE programs. This year's data more closely

resemble the early years' data, which is consistent with a disproportionately large response from 9th or 10th graders who were less familiar with EFE.

Opinions About EFE Classes

The students were presented with a number of survey items to gauge their opinions about their EFE classes; the items were identical to those used in the follow-up survey of completers. Specifically, the students 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 quality of 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

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. . ."	59	58	60*	52*	70*	56*	58
Disagree/strongly disagree with "This course is too hard. . ."	75*	83*	80*	74*	82	77	77
Agree/strongly agree with "I get along with other students and we work together. . ."	81*	86*	84*	79*	88	82	82
Agree/strongly agree with "The equipment and facilities meet the needs. . ."	75	79	79*	70*	85*	75*	76
Disagree/strongly disagree with "Not enough information. . ."	65*	75*	71	66	77*	67*	69
Agree/strongly agree with "This course treats everybody fairly. . ."	70	74	72	71	78*	70*	71
Agree/strongly agree with "I can get questions answered. . ."	69*	75*	72	68	77	69	70
Disagree/strongly disagree with "This course is disorganized."	67*	77*	71	73	77	70	71
Average grade for course quality (converted to 4.0 scale)	3.12	3.22	3.19	3.06	3.41*	3.12*	3.16

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 1,174. Approximately 20 cases are missing for each item. Sample size for average letter grade is 1,124.
*Difference from other population group is statistically significant at the .05 level.

the statements of opinion and the letter grades. The first eight rows of the table present 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; and in this case, the indicators represent the percentage of respondents who disagreed or strongly disagreed.) The entries in the columns can be interpreted as indicators of student satisfaction.

Note that the levels of satisfaction were moderate to high—all ranging between 58 and 82 for the total sample. The first opinion item asked students to agree or disagree with the statement that the EFE course "...is one of the best courses that I have had in high school." Just under 60 percent of the students agreed, with the highest level of agreement from students who were in work-based program experiences. Exactly 70 percent of students in work-based programs agreed it was one of their best classes in high school. This was statistically significantly different from the responses for students who were not in work-based programs, where about 56 percent of the students agreed. The next item asked for agreement or disagreement with the statement, "This class is too hard." Here, around 77 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 feel that the class is too easy or if they feel that the pace and level are appropriate. Consequently, the indicator is somewhat difficult to interpret.

The third statement was, "I get along well with other students and we work together well in the class." Overall, more than 80 percent, about five out of six, of the students agreed with this statement. No follow-up questions to explore the students' reasons for answering the items one way or another were asked, so we cannot explain differences with certainty. Note that female and white students had higher agreement than males or nonwhites. The next item is intended to measure

student opinion about the equipment and facilities in the classrooms and work sites. The item was phrased, "The equipment and facilities meet the needs of the course." Overall, over three-quarters of the students agreed with this statement–whites higher than nonwhites and work-based program participants higher than their counterparts not in such programs.

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; females reported higher satisfaction levels than males, and work-based program participants reported higher satisfaction also. Next, the battery of opinion items asked about whether everyone was treated fairly in the course. Just over 70 percent of the respondents were satisfied, with work-based students again reporting higher levels of satisfaction. Students next indicated their agreement with the statement, "I can get questions answered easily in this class." The results were quite similar to the previous question; overall, about 70 percent of all respondents in the sample were satisfied, but the level of agreement was lower for males and for nonwhites. The last indicator was disagreement with the statement that, "This course is disorganized." Seventy percent of all the population groups disagreed with the statement. The level of disagreement was much higher for females than males.

The average grade for course quality is given in the bottom row of the table. The sample average of 3.16 indicates that, all in all, students were quite satisfied with their classes. A significant difference in this average existed by whether the student had been in a work-based program, however. The grades assigned by participants were much higher (3.41 on average) than those who had not (3.12 on average).

In general, the trends in the EFE class satisfaction indicators over the eight-year period of data are rather flat. Most of the indicators shown in figure 3.A.7 change little over the time period, although two of the indicators have clearly trended downward—"one of the best" and "this class is too hard." Figure 3.A.8 shows the averages for course quality grades, by race and sex, which dropped significantly this year after rebounding somewhat last year.

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 1,140 students responded to the survey, so the potential number of best aspects and worst aspects that could have been named was over 3,400. In fact, almost 3,300 positive aspects were named and about 2,800 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 named a specific teacher or staff

Table 3.4
EFE Class Best and Worst Aspects

Aspect	Number of times mentioned	Percent
Best Aspects		
Equipment	361	11.0
Books/software	114	3.5
No homework/tests	310	9.5
Specific teacher	531	16.2
Work-based learning	218	6.7
Skills, experience	525	16.1
College usefulness	262	8.0
Hands-on	411	12.6
Other students	269	8.2
Other	208	6.4
Nothing	121	—
Total (except "Nothing")	3,269	100.0
Worst Aspects		
Equipment problems	404	14.6
Books/software	156	5.6
Too difficult	78	2.8
Too easy, boring	274	9.9
Too much work	210	7.6
Student:teacher ratio	145	5.2
Specific teacher/staff	203	7.3
Schedule problems	181	6.5
Class environment	133	4.8
Classmates	173	6.2
Other	751	27.1
Unfair	64	2.3
No worst comments	209	—
Total (except "No worst")	2,772	100.0

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

person most often, followed next by the "real world" experiences they were having. The next most often mentioned factors were "hands-on" instruction and equipment.

On the other side of the ledger—i.e., worst things about the course—the item that was mentioned most often was equipment problems. Behind it in terms of percentage frequency was that the course was "too easy/boring," and that the course required "too much work." Finally, a specific teacher or staffperson was the next most often mentioned complaint.

Work-Based Program Experiences

Table 3.5 shows that just one-eighth of the sample reported that they participated in a work-based program experience. The percentages differed by race and sex. Males and nonwhites reported lower participation than females or whites. Figure 3.A.9 displays trends in participation rates by race and sex, and it shows that it has usually been the case that females and whites have higher participation rates.

Table 3.5
Work-Based Program Experiences

Characteristic	Sex		Race		Total
	M	F	W	NW	
Participation (n = 1,183)	9*	16*	13*	9*	12
If Participated:					
Paid? (n = 143)	78*	59*	71*	46*	66
Average wage (n = 99)	$ 8.35*	$ 6.52*	$ 7.58	$ 6.52	$ 7.39
Average hours (n = 131)	18.5*	13.9*	16.4*	11.8*	16.0
Strongly disagree/disagree with "Work is unrelated to course. . ." (n = 141)	47*	67*	62	46	57
Agree/strongly agree with "Mentors are supportive and answer questions. . ." (n = 138)	61*	83*	79*	50*	72

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

About two-thirds of the students who participated in a work-based experience received pay, and on average, the pay was $7.39 per hour. The proportion of males who were paid for their work-based experience was much higher than the proportion of females. Figure 3.A.10 shows the trend in the percentage of students in work-based program experiences who received pay, by race. Note that there has been an almost uninterrupted downward trend in this proportion for both whites and minority students.

The hourly pay differential of over $1.80 per hour between males and females was statistically significant ($8.35 for males and $6.52 for females). The work-based program experiences averaged about 16.0 hours per week, a sharp increase relative to last year, when the average was 14.2 hours. Males worked more than females (18 hours to 14 hours), and whites worked more than nonwhites.

Students who were participating in work-based program experiences were asked two opinion questions to measure satisfaction with their experiences. The first item dealt with the extent to which the work experience was related to the content of the EFE class that the student was taking. About three-fifths of the students disagree or strongly disagree with the statement that the work experience is "...unrelated to their EFE class." This percentage is about the same as it was last year as shown in figure 3.A.11. The second item asks for agreement with the statement that "...workplace mentors are supportive and willing to answer questions." About 70 percent of the sample agree with this statement. For both of these items, males and nonwhites were much less satisfied with the work-based experience than females and whites.

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 plan to pursue an apprenticeship program after high school. About one-sixth of the entire sample reported this plan. Students in a work-based program were more likely to pursue an apprenticeship than non-participants. It is not clear why such a high percentage of students have this aspiration; there may be a misunderstanding about what apprenticeships mean and/or how readily accessible they are.

A large percentage of the students indicated that they were planning to attend a postsecondary institution (including community colleges and four-year colleges or universities). All together, 84 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—78 percent to 70 percent for males (this is a smaller differential compared to last year's student data). Figure 3.A.12 shows the trends in planned postsecondary attendance rates, by sex. However, this difference was offset somewhat by respondents who

Table 3.6
Postsecondary Plans and Relevance of EFE Class

	Sex		Race		Work-based program		
Plan/Relevance	M	F	W	NW	Yes	No	Total
Apprenticeship program after school? (n = 1,183)	17	16	17	14	24*	15*	16
Postsecondary college, university (including community college) (n = 1,183)							
Yes, right away	70*	78*	74	71	71	73	73
Yes, after work	13*	9*	11	11	13	11	11
Don't know	10	10*	9	11	10	10	10
No	6*	3*	4	6	6	5	5

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.

indicated that they intended to work first, and then go to a postsecondary program. About 13 percent of males indicated this plan as opposed to 9 percent of females. Still a greater percentage of females have postsecondary aspirations than males—87 percent to 83 percent. About 16 percent of the males indicated that they did not plan to go on to postsecondary or that they did not know whether they would or not. Only 13 percent of females did not know or reported that they did not plan to go. There were no statistically significant differences in planned postsecondary attendance by race or by work-based program participation.

The percentage of students who planned to go on to postsecondary schooling right after high school has trended upward in past years, but declined this year. It was 74 in 1996; 73 in 1997 and 1998; 76 in 1999; 77 in 2000; 79 in 2001 and 2002. This year, it was 73 percent. The percentage of students who plan to go on to postsecondary schooling after working for a while was 11 in 1996-1998; 10 in 1999; and 9 in 2000–2002; and increased back to 11 this year.

Most of the items on the student survey have not changed since 1996; however, in 1998 we added a number of questions to determine the importance of and usage of transferable college credits earned while in EFE courses in high school. These items were repeated this year, and table 3.7 presents a summary of these data. Overall, just under two-thirds of the respondents indicated that they believed that they could receive college credit for their high school EFE class. Twenty-one percent believed that they would not be able to receive college credit for their class, and the remaining 13 percent indicated that they did not know. This is very close to last year's data with those believing that they could receive credit having dropped slightly. Whites and students in work-based programs were more likely to believe that they could receive college credit than their

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 = 1,183)							
Yes	63	64	65*	59*	73*	61*	63
No	14	12	14	12	13	12	13
Don't Know	20	21	18*	28*	13*	22*	21
If yes:							
College credits earned for this class (average) (n = 559)	4.8	4.5	4.7	4.4	4.4	4.7	4.6
College credit was important in decision to take this class (n = 741)	41	45	42	43	46	41	42
Sources of information on college credit (n = 741)							
Guidance counselor advice	29	34	31	29	37	31	31
Poster	2	2	2	1	0	2	2
Academic subject teacher	71	70	73*	62*	74	70	71
Technical education teacher	10	7	7*	14*	10	8	9
Brochure	11	11	12	7	17*	10*	11
High school handbook	11	15	13	12	16	12	13
Friends/acquaintances	7	10	8	8	9	8	8
Brother/sister - family	4	2	3	4	3	3	3
EFE staff presentation	6	3	5	4	9*	4*	5
Employer	1	0	0	1	1	0	0
Other	1	2	1*	5*	0	2	1
Total college credits earned by end of this year (average) (n = 727)	4.9*	4.1*	4.7*	3.9*	5.3	4.4	4.5

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

population counterparts; and just the opposite groups had significantly higher "don't know" responses.

Follow-up questions were asked of the students who indicated that they could earn college credits. These affirmative respondents were asked how many credits they thought they could earn for this course and whether the potential to earn college credit was an important factor in deciding to enroll in the program. A substantial share—just over 40 percent—reported that this factor had been important in their program enrollment decision in high school. This did not vary greatly by

student characteristics. No difference was statistically significant. The students believed they were able to earn about 4.6 college credits for this course with no difference across groups.

The respondents were also asked to indicate sources of information about the ability to earn transferable college credits in their EFE course. Academic subject teachers were the predominant source followed by guidance counselors.

Table 3.8 presents data on occupational/career aspirations of the students when they reach 30 years of age. The students were clearly aspiring to "white collar" positions. Just under 60 percent of the sample listed occupations that are classifiable into the following categories: manager/ administrator, professional, proprietor/owner, or school teacher. Females, particularly, have set their aspirations in these directions. Forty-seven percent of the females in the sample reported that they

Table 3.8
Career Plans and Relevance of EFE Class

	Sex		Race		Work-based program		
Plan/Relevance	M	F	W	NW	Yes	No	Total
Occupational aspiration at age 30							
Clerical	0*	3*	1	1	1	1	1
Craftsperson	11*	3*	7	8	8	7	7
Farmer	2	1	2	0	0	2	1
Manager/administrator	8*	5*	6	7	8	6	6
Military	4*	1*	3	1	1	3	3
Operative	1*	0*	2	1	1	1	1
Professional	33*	47*	38*	45*	31*	39*	38
Proprietor/owner	5	4	4	5	4	4	4
Protective services	6*	3*	5	4	7	4	4
Sales	3	3	3	3	6*	3*	3
School teacher	2*	16*	9	6	13*	8*	8
Service	1*	8*	4	4	5	4	4
Technician	17*	3*	11	8	3*	11*	10
Not working	1	1	1*	3*	2	2	2

Note: Table entries are sample percentages. Sample size for occupational aspirations is 1,183. Columns may not add to 100 due to rounding.
*Difference from other population group is statistically significant at the .05 level.

would like to be in a professional occupation when they reach 30 and another 16 percent wanted to be a school teacher. The comparable percentages for males are 33 and 2. On the other hand, 11 percent of males aspire to occupations in the category of 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.

The differences across racial groups were not as dramatic. Nonwhites aspired to professional occupations more than white students. The students in work-based programs were less likely to aspire to professional or technician occupations relative to non-participants. They were more likely to aspire to becoming school teachers, however.

Current Employment

The last topic covered by the survey was current employment experiences. As table 3.9 indicates, only one-third of the students indicated that they were currently working for pay apart from any work-based experience that they were having through EFE. Whites and work-based program participants were more likely to be employed (outside of the work-based program) than nonwhites or non-participants. For those with jobs, the average hours of work per week was 17.2, and the average hourly wage was $7.15. On average, males worked an hour less per week than females—16 to 17.5—but they earned a higher hourly wage—$7.45 to $6.81. Students with work-based experiences averaged more hours per week in work (19 to 17), and their average wage was higher than the wage for students who do not participate in work-based programs ($7.84 compared to $7.02), although this difference was not statistically significant.

Table 3.9
Current Employment Characteristics

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Yes	No	
Currently employed? (n = 1,183)	32	38	38*	26*	48*	32*	34
If yes:							
Average hours (n = 398)	16.0	17.5	17.1	16.8	19.0	16.8	17.2
Average pay (n = 380)	$ 7.45*	$ 6.51*	$ 7.13	$ 7.21	$ 7.84	$ 7.02	$ 7.15
Use training from EFE class? (n = 398)							
A lot	9	13	11	15	13	11	11
Some	24	26	25	21	35*	23*	25
Hardly any	24	32	29	24	35	26	28
Never	40*	29*	34	38	17*	38*	34

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

Since 1996, the percentage of students who are employed has declined precipitously, from 60 percent to 56 percent to 54 percent in both 1998 and 1999 to 53 percent in 2000 to 50 percent in 2001 to 46 in 2002 and to 34 percent this year. (See figure 3.A.14, which displays this trend and the trend by race and by sex.) The average hours per week for employed students also declined or stayed the same until 2002—from 18.7 to 18.2 to 17.7 to 17.8 to 16.6 to 17.1 to 15.5. However, this trend is reversed this year, to 17.2 hours. In other words, there has been a strong downward trend in the amount of (part-time) employment—both the percentage of students working and the hours per week that they work. On the other hand, hourly wages have risen over this period of time—from $5.35 to $7.15.

We asked the students whether they were using the training that they had received through their EFE course in their current job (noting that the employment is part-time and not class-related.) Under two-fifths (36 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 indicate that they never use their EFE training. The percentages were high for males and for students not in a work-based program.

Summary and Trends

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

- The average EFE student had a (self-reported) 3.02 (B) grade point average (GPA), participated in 1.9 extracurricular activities per year, and did about 2.3 hours of homework per week. The average GPAs of students decreased slightly compared to previous years' data, assuming that these data are valid trend indicators.

- This year's survey suggests a substantial upward trend in the enrollment of 9th and 10th graders in EFE. However, this may be an artifact of more access to the Internet by students in their home high schools as opposed to work sites.

- Also likely to be an artifact of the survey was a decrease in the percentage of students who participated in a work-based experience from about 20 percent to 12 percent.

- The most important sources of information for students about EFE classes were guidance counselor advice, brochures, academic teachers, handbooks, and friends/acquaintances. The individuals who were mentioned most often as assisting students were guidance counselors, friends, and academic teachers.

- Indicators of student satisfaction with EFE classes were moderately high. There were significant differences between the student characteristic groups, however. Males rated 8 out of 9 categories lower than females (in five cases, the differences in rates were statistically significant). Nonwhites also rated 8 of the categories lower than whites (4 differences were significant). Finally, participants in work-based programs rated every single indicator higher than nonparticipants (4 being significant). Furthermore, work-based program participants rated their course quality at almost one-third grade points higher.

- A very low percentage of students participated in a work-based program, but the percentage of students who participate in work-based programs who get paid was higher than it had ever been—almost two-thirds. For those who do get paid, the wage rates and hours per week were higher than in the past.

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

- The percentage of students who planned to attend a postsecondary institution either right after high school, or after working for a few years, dropped slightly from the level it was last year–84 percent compared to 88 percent. About 73 percent of students planned to enter a postsecondary institution right away after high school, whereas about 11 percent plan to attend more schooling after working for a few years. The planned rate of attendance is higher for females.

- Just about two-thirds of the students indicated that they believed they could receive direct or transferable college credit for their EFE class. The other one-third of the students were 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 4.6 college credits for the class that they were in.

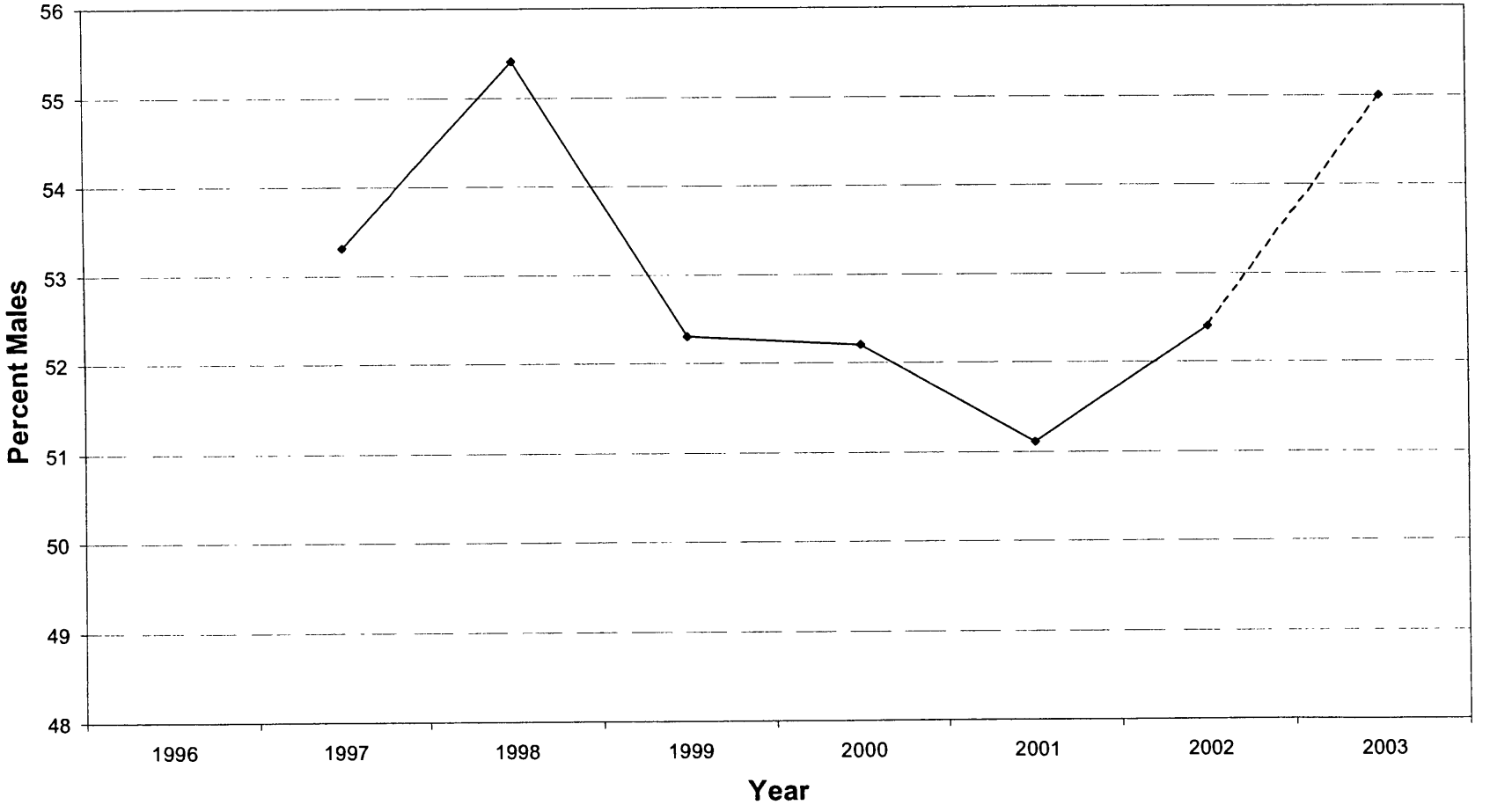
- Similar to data from last year, there was a skewed distribution for occupational aspirations. Just under 60 percent of the students (much higher for females) planned to be in a white collar occupation when they reach age 30. There was a slight downward change in the percentage of students who aspired to be in "white collar" occupations, and an upward change in the percentage of students who aspired to be in "blue collar" occupations.

- Current employment, other than in work-based programs affiliated with EFE, has gone down greatly over time. Only one-third of students indicated that they were holding a part-time job. The average weekly hours increased from over 15.5 to 17.2. On the other hand, average hourly wages have stayed consistent at an average of $7.15. Among the students who work, under 40 percent indicate that they use their EFE training in their part-time jobs and 34 percent report that they "never" use their EFE training in their current job.

We close this chapter with a warning that this year's data may not be comparable to prior years'. The response rate to the survey was much lower than in the past, and because the mode of the survey was online, a quite different pattern of response may have occurred.

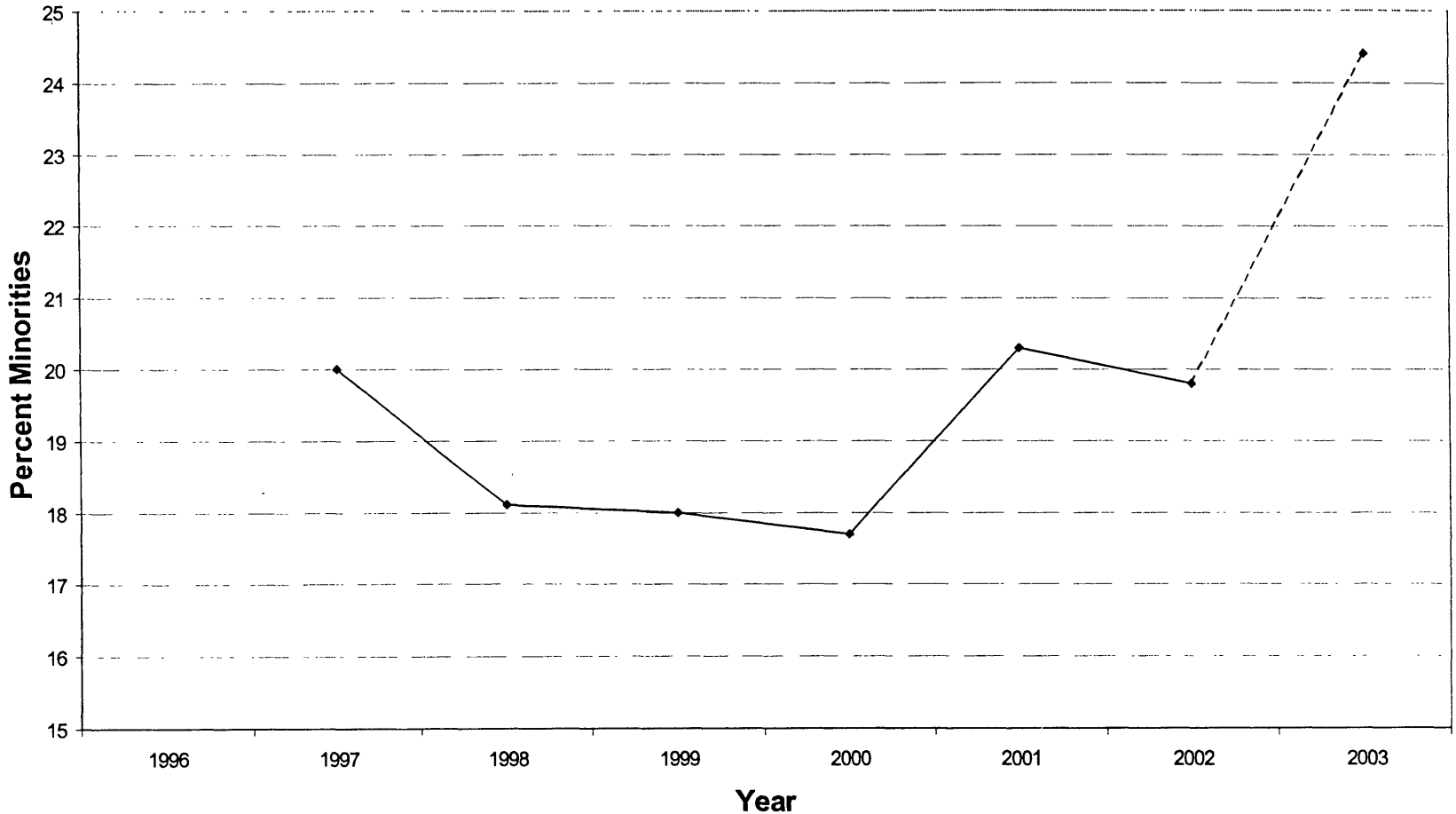
Appendix: Time Series Graphs of Characteristics and Experiences of Current Students

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

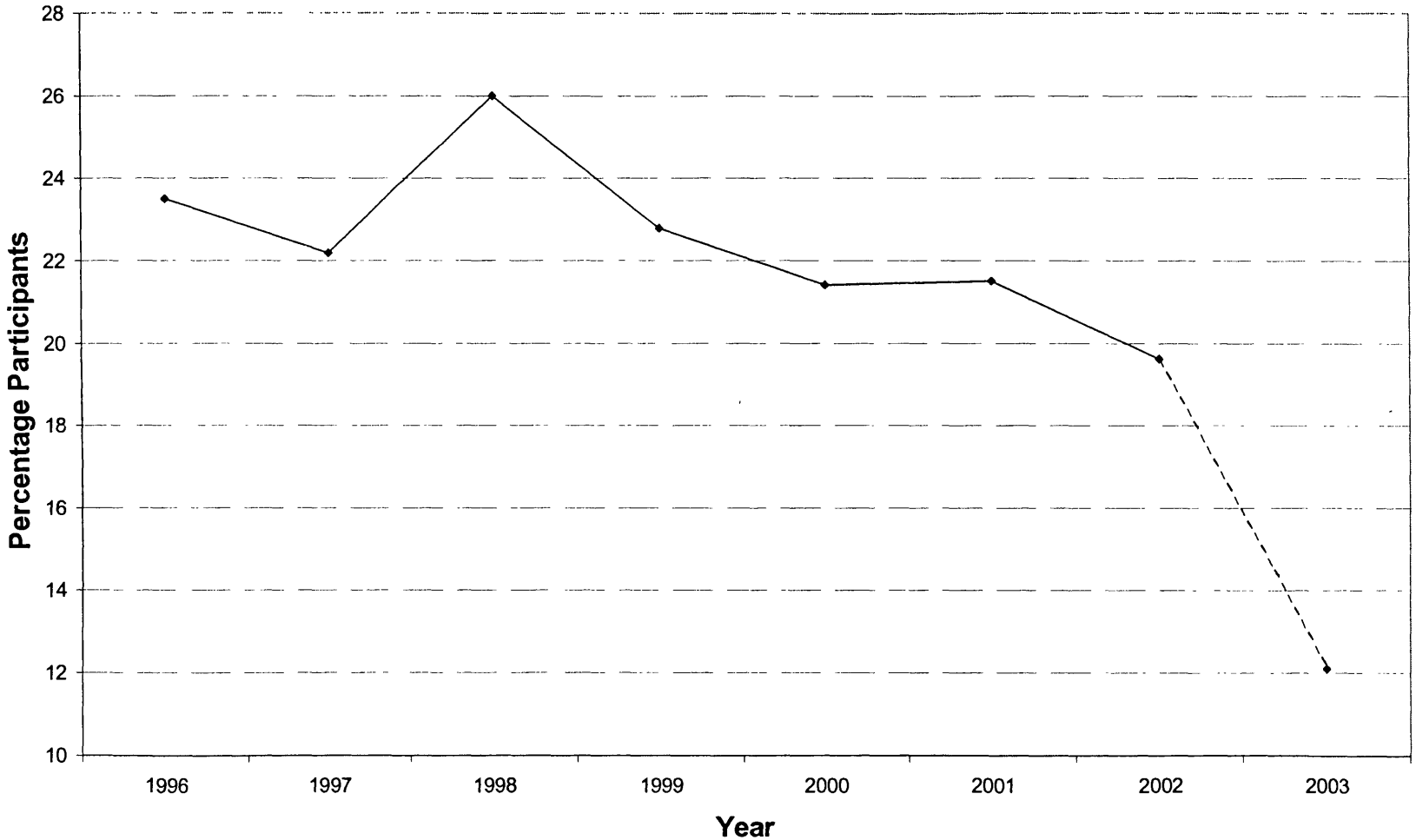
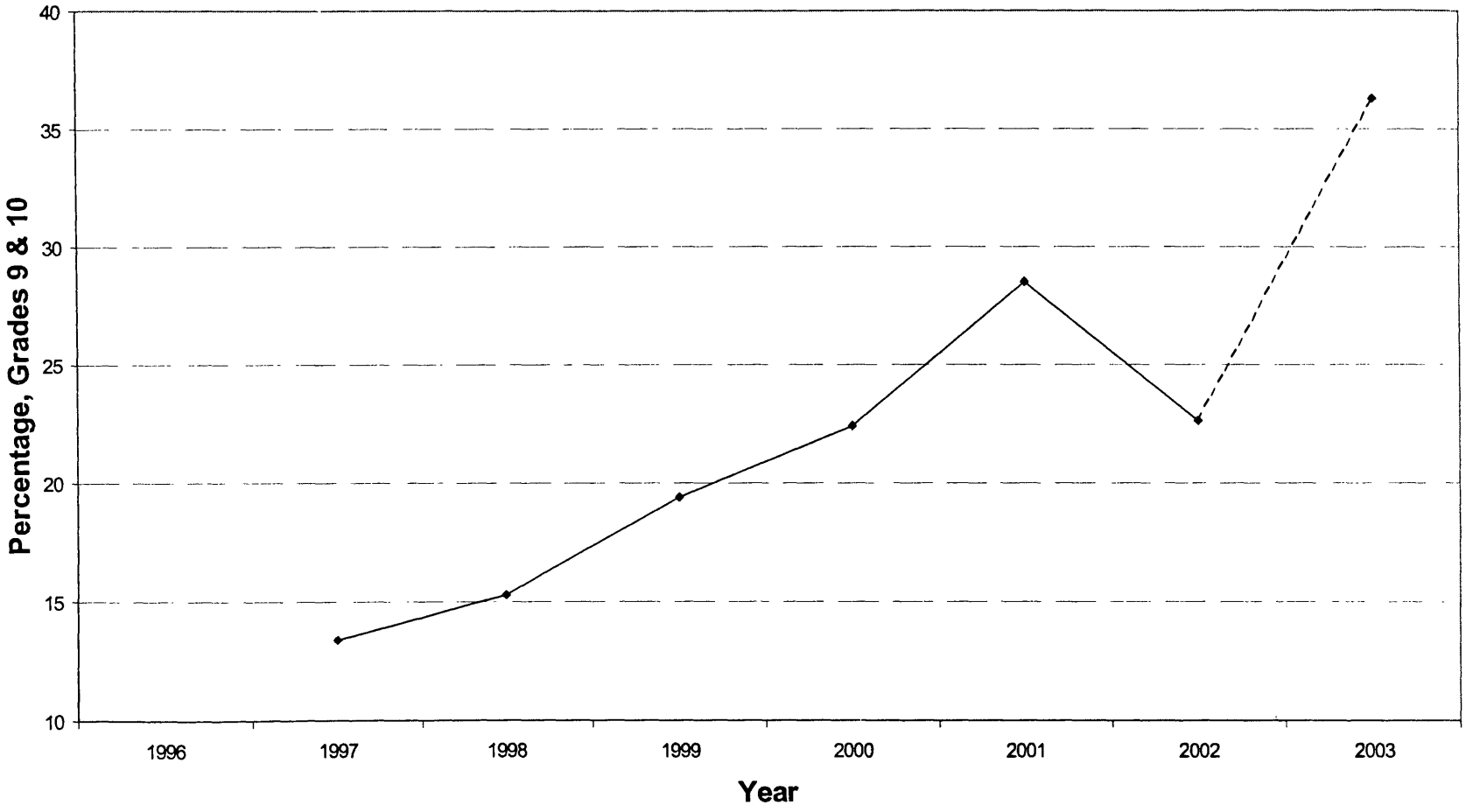
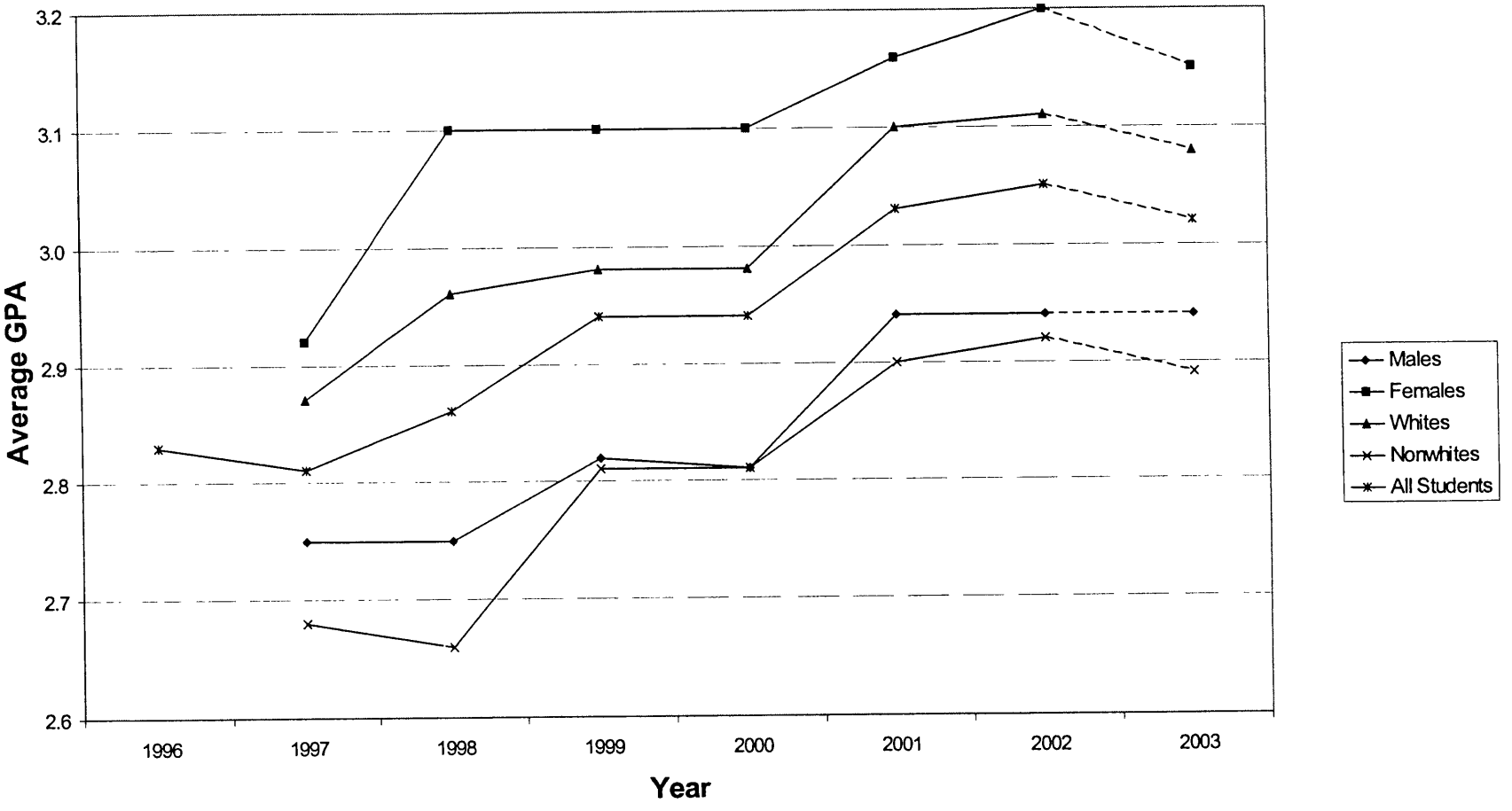


Figure 3.A.4 Enrollment of Students in Grades 9 and 10



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

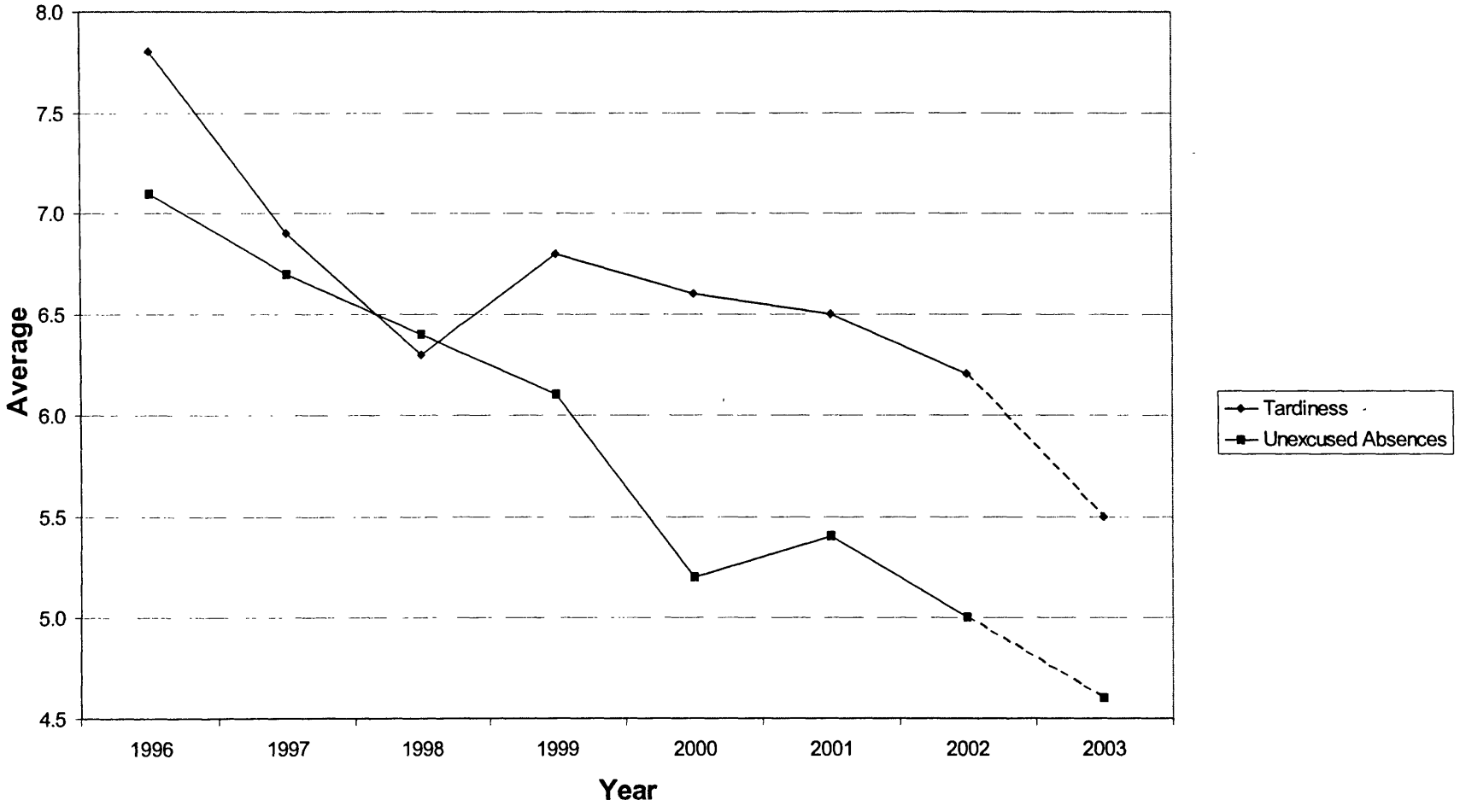


Figure 3.A.7 Indicators of Satisfaction with Aspects of EFE Classes: Percentage Agreement or Disagreement with Descriptive Items

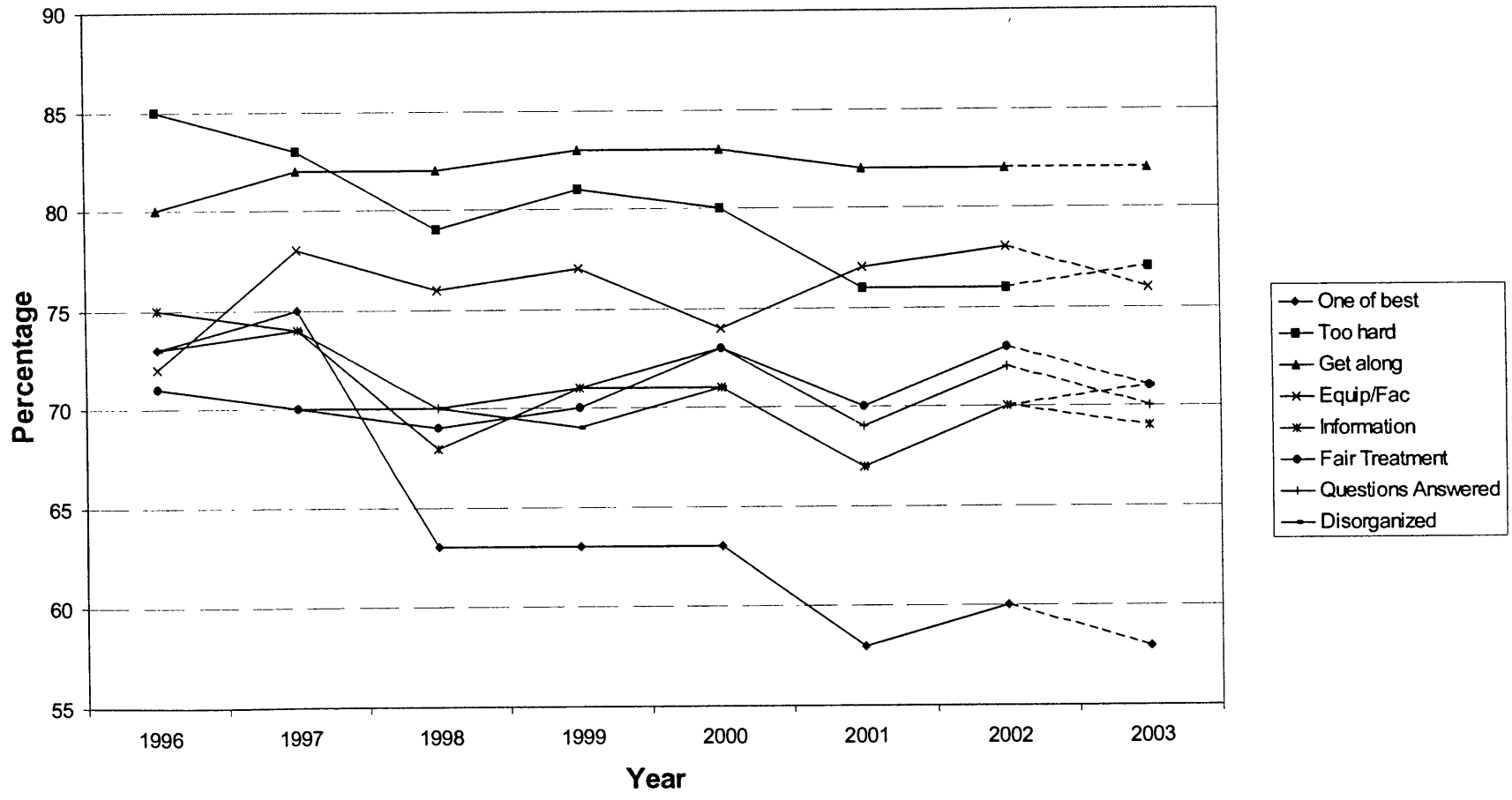
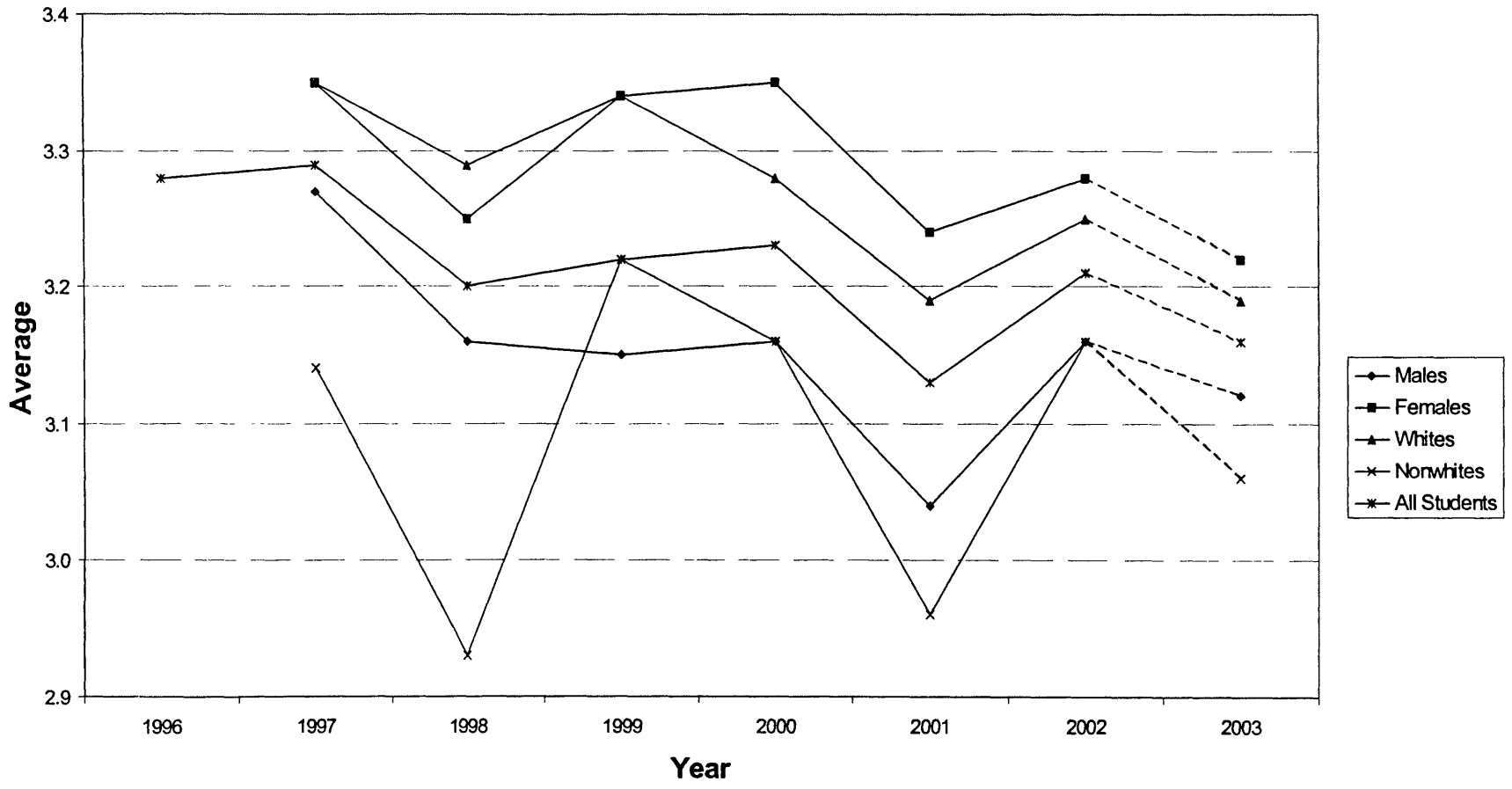
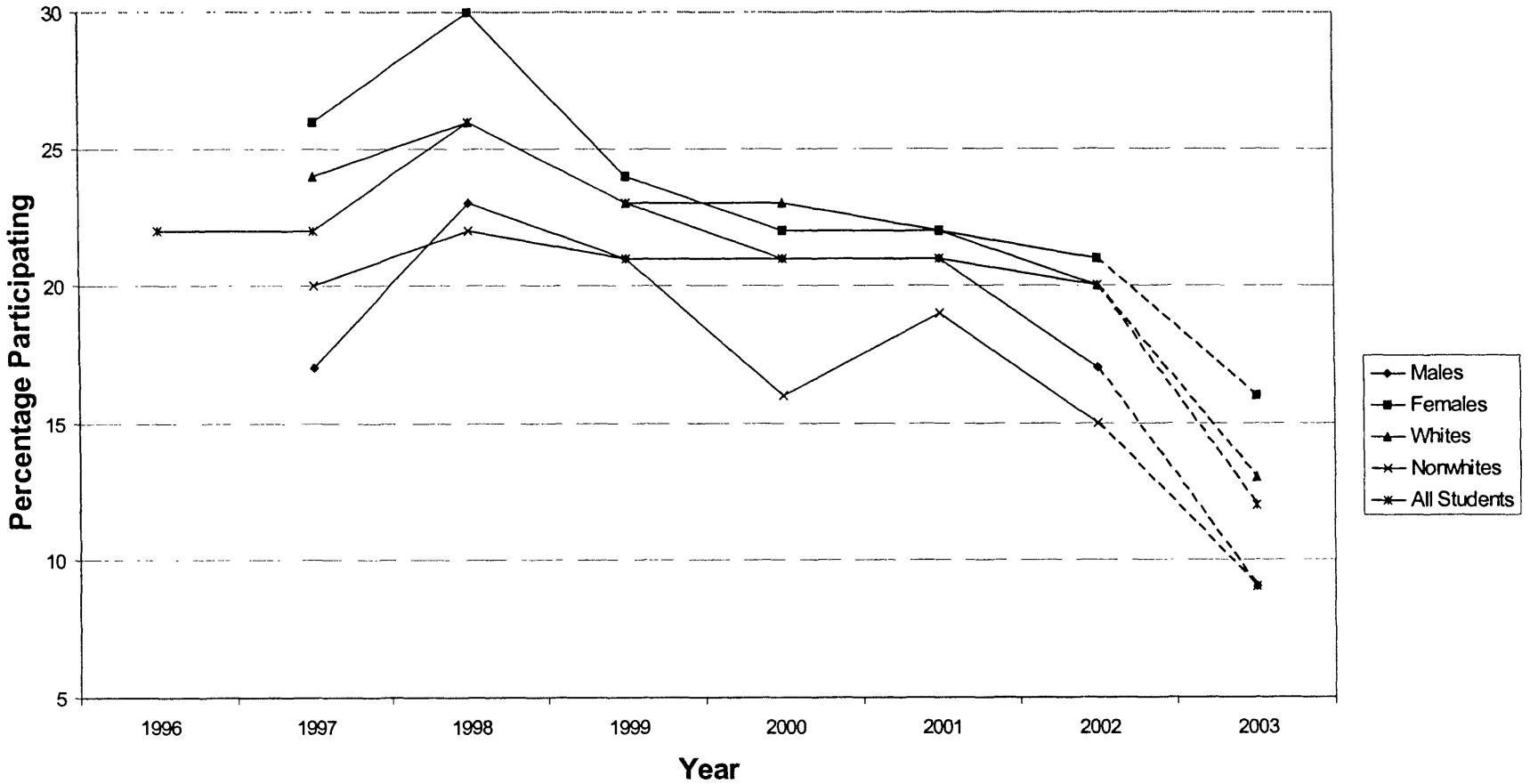


Figure 3.A.8 Student "Grades" for Course Quality, By Race and Sex



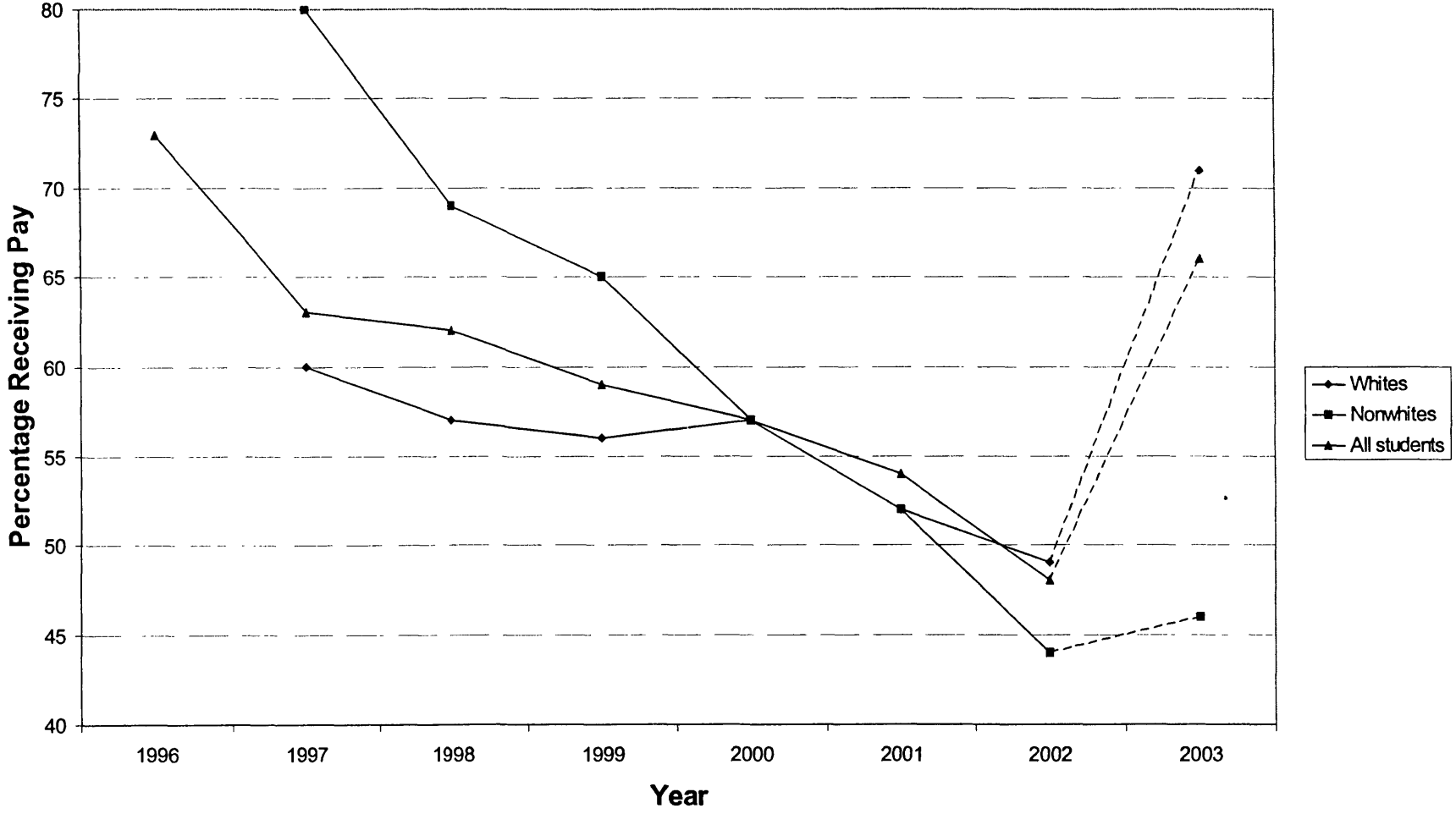
Note: Data by race and sex not available for 1996.

Figure 3.A.9 Participation in Work-Based Program Experiences, by Race and Sex



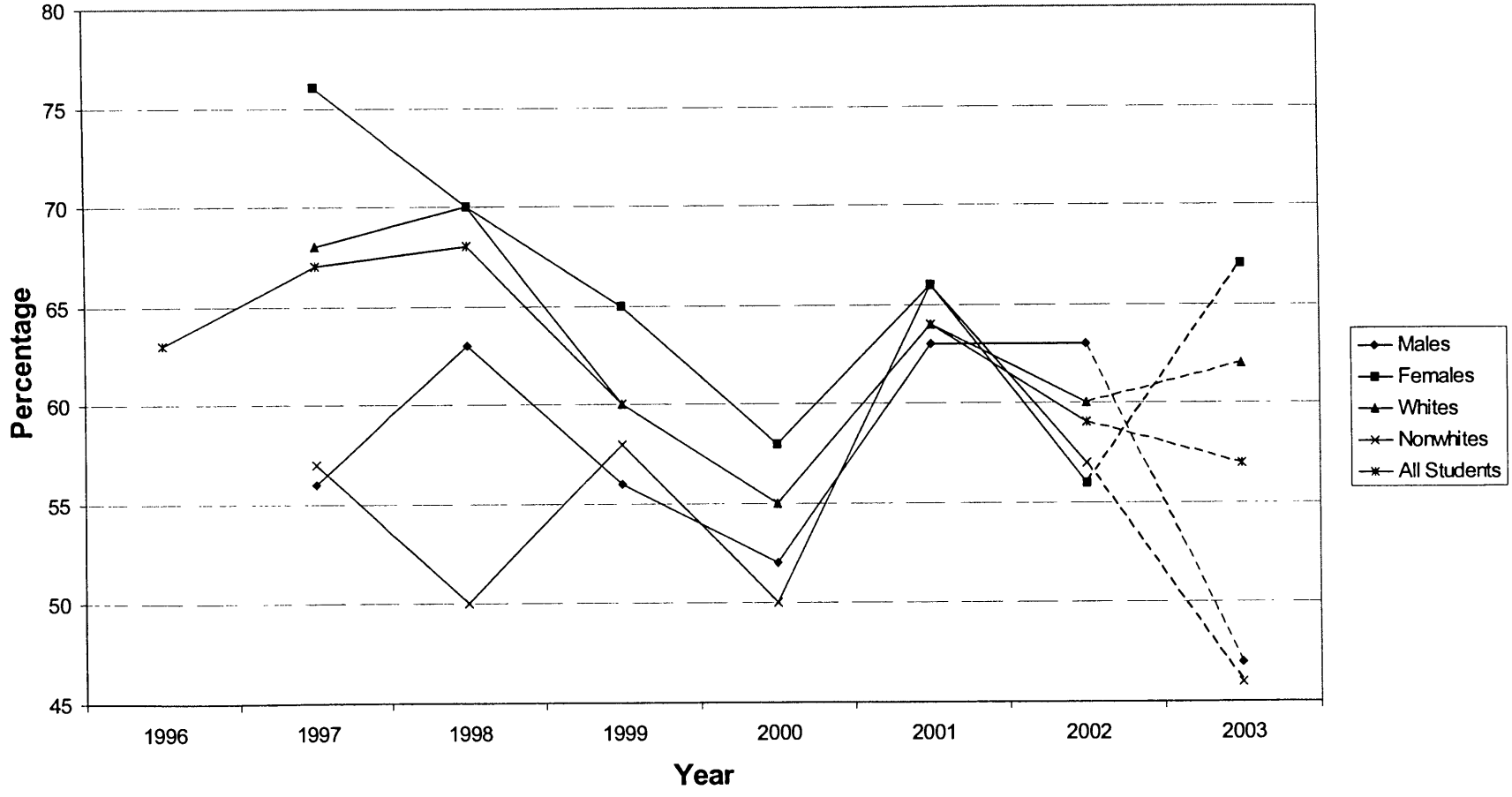
Note: Data by race and sex not available for 1996.

Figure 3.A.10 Percentage of Students in Work-Based Programs Receiving Pay, By Race



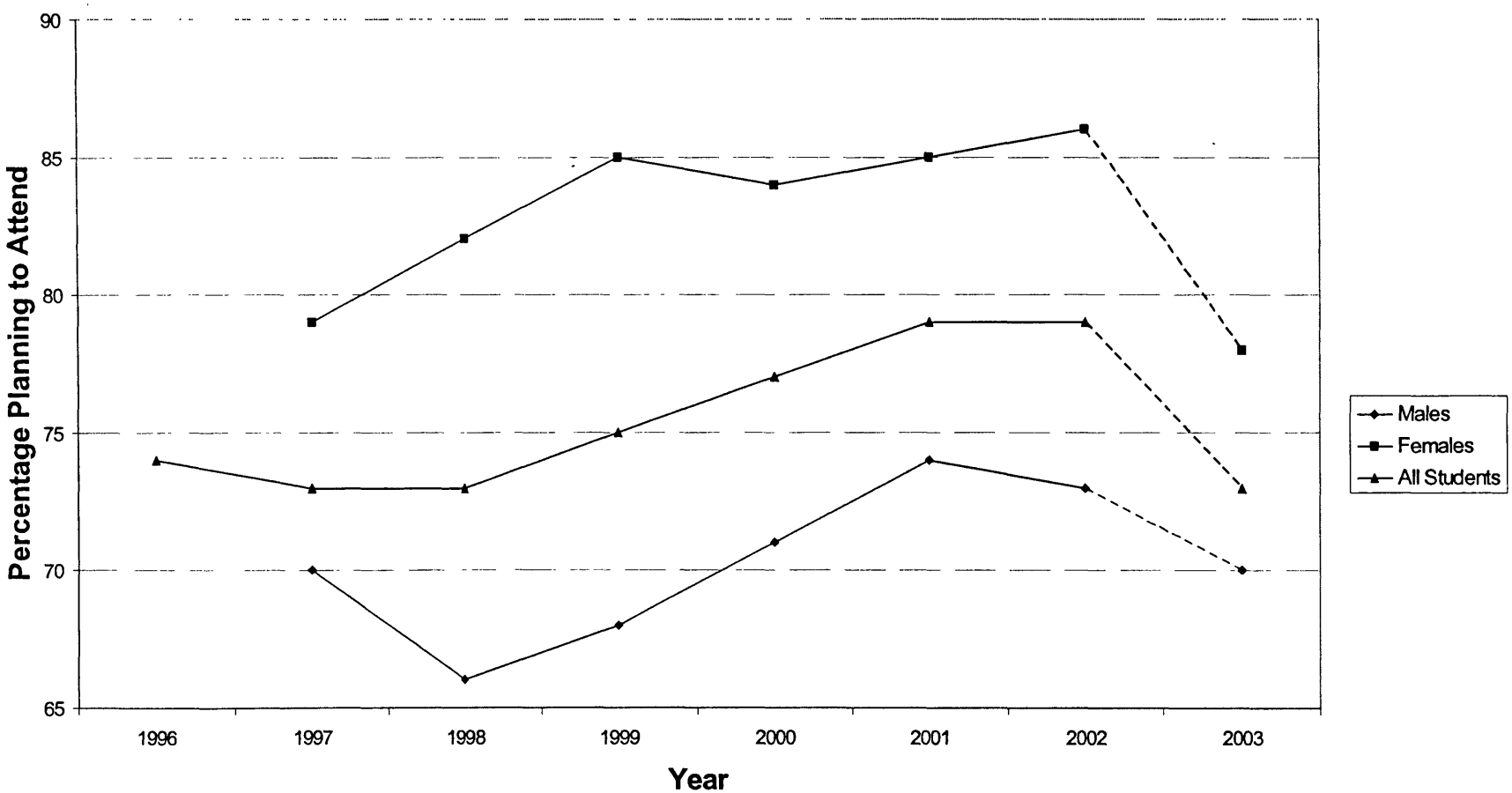
Note: Data by race not available for 1996.

Figure 3.A.11 Percentage of Participation in Work-Based Programs who Report Experience Related to EFE, By Race and Sex



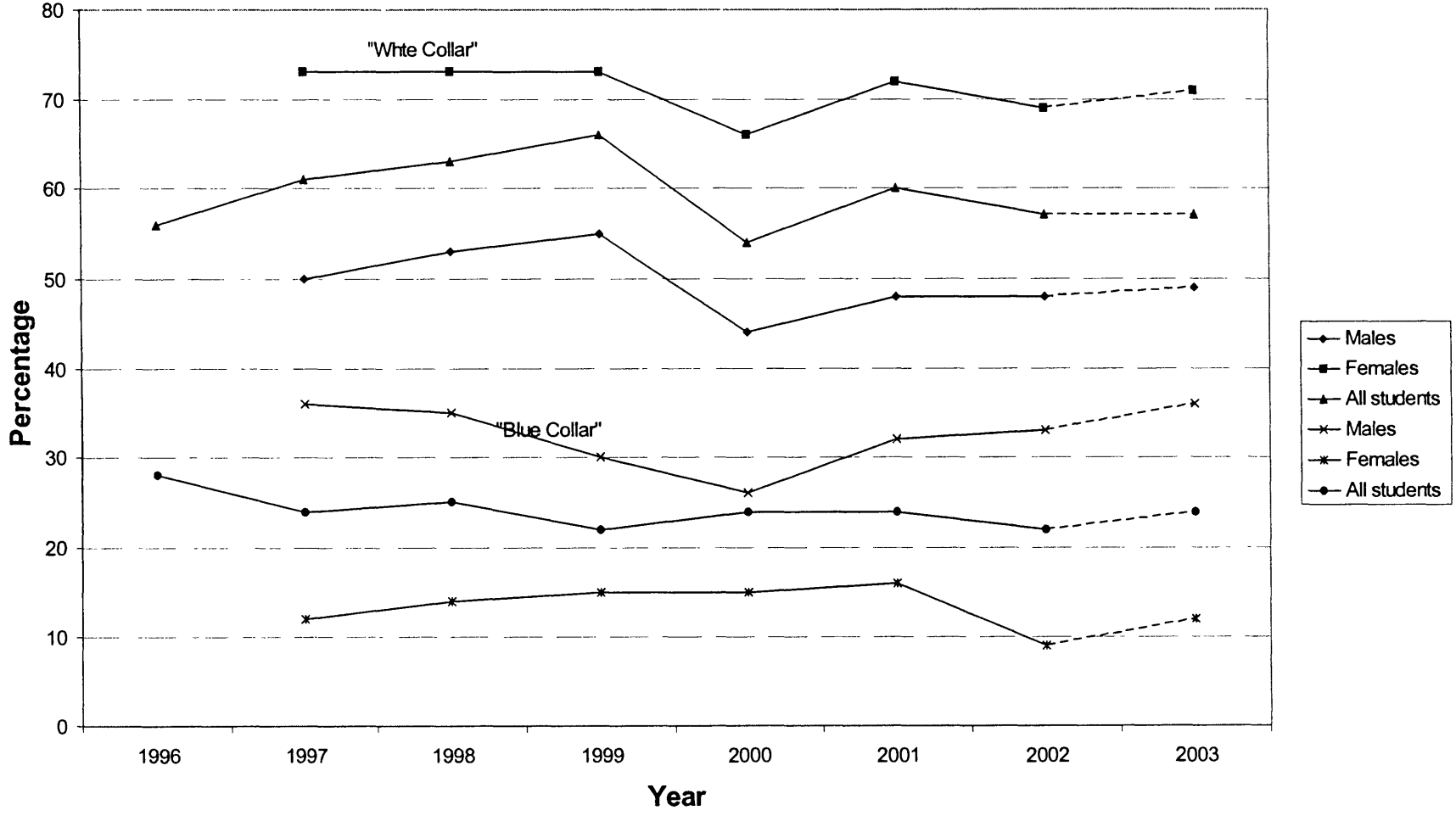
Note: Data by race and sex not available for 1996.

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



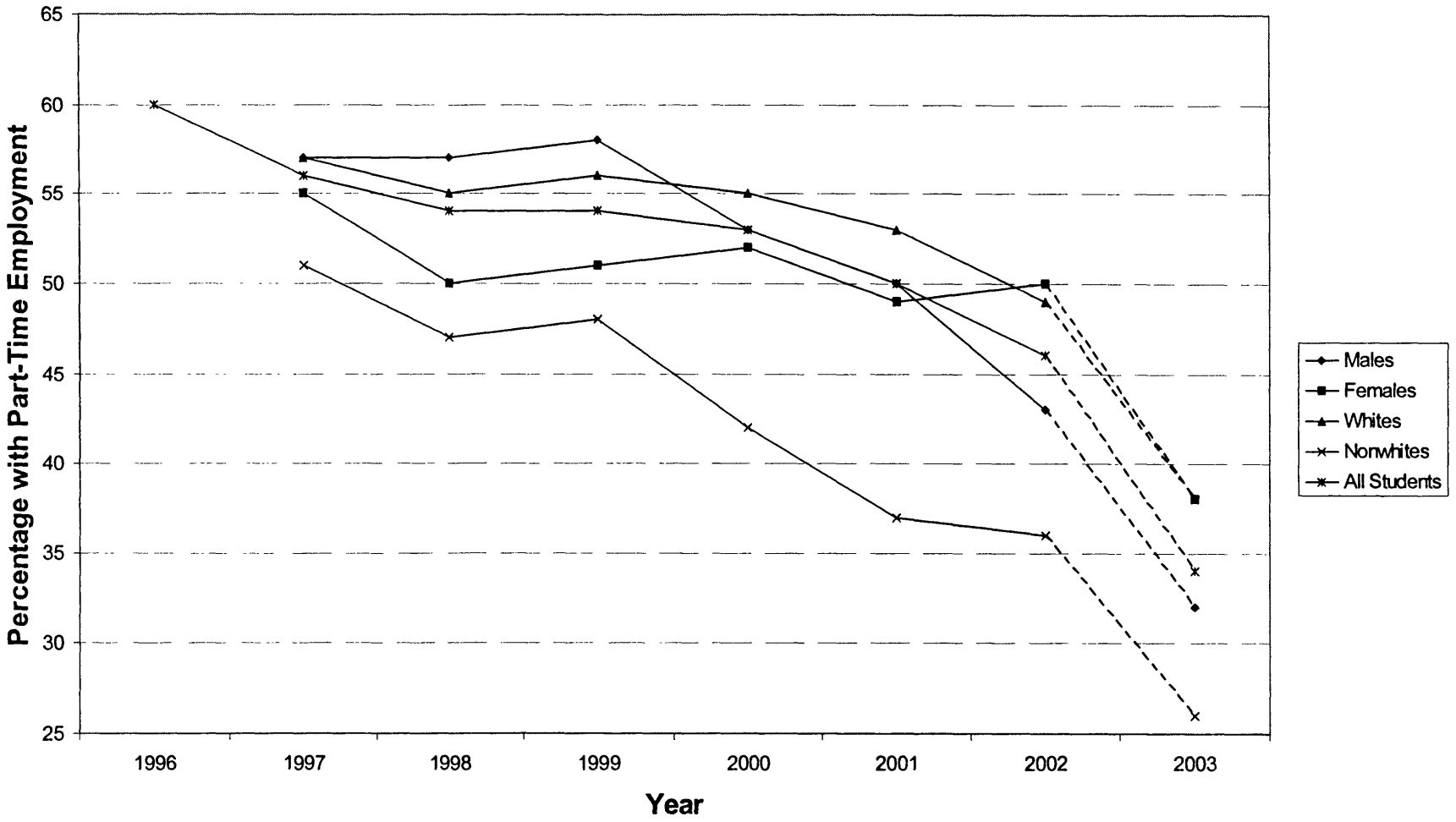
Note: Data by sex not available for 1996.

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



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

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



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

4. Findings and Recommendations

In previous reports, we have used the last chapter to summarize the main findings from the student and follow-up surveys and to offer recommendations to EFE administrators to consider as they shape their programs and practices in the future. In this report, we will just focus on the follow-up survey results and what they imply. Because of the exploratory nature of the online student survey and our sense of the selective nature of the response to that survey, we are wary of pushing the results too far.

Work-Based Learning Experiences

Students who participate in work-based learning experiences seem to have better outcomes and more favorable opinions about their EFE experiences than students who do not participate in these activities.

The data in table 2.1 show that students who had participated in work-based learning experiences in high school had a higher postsecondary attendance rate (75 percent to 70 percent); were far less likely to be undecided about their postsecondary program of study or major (10 percent to 18 percent); and were more likely to report that their training was related to their EFE class (73 percent to 70 percent). Table 2.2 shows that these student were far more knowledgeable about earning college credits while in high school and were far more likely to have arranged to transfer credits (59 percent to 37 percent). The employment and unemployment rates of students who had been in work-based programs are comparable, but table 2.3 shows that students who had been in work-based programs were far more likely to report that their current training is related to their EFE class(es) (63 percent to 43 percent).

The follow-up survey asked individuals to respond to various indicators of satisfaction concerning their EFE class(es) and to give them a letter grade for program quality. Students who had been in a work-based program rated six of the eight satisfaction indicators higher than students who had not participated in a work-based program, although none of the difference in the eight items were statistically significant. However, the average grade for program quality assigned by students who had been in a work-based program was 3.45 (converted to a 4-point scale), which was significantly higher than the 3.27 from students who had not been in a work-based program.

Finally, the two EFE performance indicators had higher averages for students who had been in a work-based program. The first indicator–employed or attending a postsecondary institution–had a value of 95 percent for students who had been in a work-based program as compared to 92 percent for the other students (not significant statistically). The second indicator, which adds training-relatedness to the statistic, had a value of 73 percent for work-based program participants comparec to 62 percent, and this was significant.

> *Only one-third of the EFE completers indicated that they had participated in a work-based program while in their EFE class(es). There seems to be a downward trend in work-based program participation.*

Table 2.7 shows that 34 percent of the respondents to the follow-up survey indicated that they had participated in a work-based program activity while in high school. This is the lowest overall percentage in eight years and continues a significant downward trend over the last three years (see figure 2.A.9). There has consistently been a higher percentage of females in a work-based program than males, and the gap this year was large (40 percent versus 29 percent). Despite clearly superior outcomes for work-based program participants and despite a commitment by EFE to increase the percentage of students who participate, there continues to be a decline in student participation.

Stakeholder Satisfaction

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

EFE completers were asked for their opinions about various aspects of their EFE classes as they recalled them. Table 2.5 shows that their (recalled) levels of satisfaction were quite high. They rated six out of eight indicators between 82 and 95, and they assigned a grade for program quality of 3.33. Even the two areas for which the satisfaction was less than 80 percent were not much below that mark. Seventy-nine percent agreed that "the equipment and facilities were excellent," and 68 percent agreed that the EFE class was "among the best classes taken in high school." Over the eight years of the survey, EFE has consistently gotten high marks for student satisfaction.

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

There has been a significant seven-year downward trend in this statistic for completers. In the first years of this survey—1996 and 1997—this indicator was at a level of about 80 percent, but it has dropped continuously to a level just under 70 percent. While not calamitous, the fact that this rating is far lower than any of the other quality ratings given by students and the downward trend should be a concern to EFE administrators.

Postsecondary Attendance

A high share of the students who enrolled in EFE pursued postsecondary education at 2- and 4-year institutions.

The follow-up survey (table 2.1) shows that 72 percent of completers actually enrolled in postsecondary education right after high school. This is broken down into 41 percent at a 4-year

college or university and 31 percent at a 2-year institution. The percentage at a 4-year college is the highest level over the course of the eight years of this survey. 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.

Equity Issues

Gender equity does not seem to be an issue in EFE programs.

There are a few differences in outcomes and schooling experiences between males and females, but all in all, it appears as though there is a high degree of equity. Virtually one-half of the respondents to the follow-up survey were females (50.3 percent). Seventy-two percent of the women were attending a postsecondary institution compared to 71 percent of men (well within statistical equality). As might be expected, males and females are pursuing different fields of study. Males predominated in business-related, computers, engineering, and trade and industrial fields. Females predominated in education and medical-related fields. Nevertheless, the extent of training-relatedness of the chosen fields was virtually identical (72 percent of females in postsecondary institutions were in a training-related field; whereas 70 percent of males were in a training-related field.)

In terms of outcomes, the employment and unemployment rates of females and males do not differ. However, the average hourly wage and the usual hours worked per week for those working were significantly lower for females. There was about a 10 percent wage disadvantage for women. As mentioned above, females were much more likely to have participated in a work-based program

in EFE—40 percent to 29 percent; but for those who were in such a program, males were far more likely to have been paid—54 percent to 40 percent.

All in all, it appears as though the EFE program has accomplished a high degree of gender equity and deserves credit for it.

> *Unlike gender equity, differences between white and minority students continue to be observed. The differences, while persistent, are not of crisis-proportion, and it is not possible to compare EFE racial gaps to existing gaps in other educational settings.*

Table 2.1 shows that the postsecondary attendance rate of whites was 72 percent compared to 68 percent for nonwhites. More stark was the difference in the attendance rate at 4-year institutions—42 percent compared to 32 percent. Concomitantly, 63 percent of whites aspired to a bachelor's degree compared to 53 percent of nonwhites.[8] The employment rates of the two groups were virtually identical, but the unemployment rate of nonwhites was 3.5 points higher and the hourly wage rate was about six percent lower. Thirty-five percent of the whites had been in a work-based program compared to only 28 percent for nonwhites. Interestingly, the satisfaction indicators and the ratings of EFE program quality were not statistically different between whites and nonwhites. In fact, the only difference that is significant between the two groups in table 2.5 was that nonwhites rated the equipment and facilities higher than whites.

Also notable is that nonwhites had higher percentages on the EFE performance indicators given in table 2.8 than did whites. Ninety-six percent of nonwhites were employed or in school compared to 92 percent, and 70 percent of nonwhites were in a training-related situation compared to 63 percent for whites.

[8]Because of limited sample sizes for nonwhites, these differences are not statistically significant.

While we have focused on the differences (or lack of differences) between males and females and between whites and nonwhites, we should point out that the study only followed-up on EFE students. It may be the case that in other educational programs or settings, the differences are greater or are smaller. Therefore, seeming equity between males and females may be a positive outcome if greater inequity occurs in general education, or it may be a negative outcome if even less inequity or favorable treatment of females occurs. The slight gap between whites and nonwhites may be a positive characteristic of EFE if a greater gap exists in other contexts, or it may be a negative if there is less of a gap. These sorts of comparisons can only be known if data were to be collected from all students, not just EFE graduates.

Outcomes

Perhaps the most striking result from the follow-up survey was the extremely low employment rate and the extremely high unemployment rate. Nevertheless, the EFE performance indicators were only slightly lower than they had been in past years.

As shown in table 2.3, the employment rate for respondents to the follow-up survey was only 57 percent. This is, by far, the lowest rate that we have measured over the eight years of this survey. The next lowest rate was last year's 72 percent. All subgroups of the population had lower employment rates than in the past, but the 4-year college attendees had an especially low rate of only 37 percent. Of course, this may or may not be a negative.

As would be expected from this drastic employment rate, the unemployment rate of 21.6 percent is the highest rate that we have observed over the eight years of the survey. The previous high was again last year, when it was 15.3 percent. These data suggest that youth were faced with an exceptionally soft labor market this year.

In spite of the bleak employment data, the performance indicators for EFE were only marginally off compared to last year. The bottom-line for EFE is the extent to which it improves the career prospects of its students. A one-year follow-up survey may be a premature means for drawing conclusions about students' ultimate careers and education choices. Nevertheless, the surveys of graduates have shown that EFE has done well each year in postsecondary attendance and employment outcomes, and EFE administrators can tout that they have remained virtually steady this year despite a poor economy. The share of respondents who are in a training-related postsecondary program or training-related job remained constant at 64 percent, and the share of respondent enrolled in a postsecondary institution or holding a job decreased from 94 to 93 percent.

Caveat

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 rates of postsecondary attendance suggest that academic achievement is being reached. But, in our opinion, EFE needs to evaluate the performance of its students on assessments that measure academic achievement. For example, 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.