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Assessment of Kalamazoo County's Education for Employment (EFE) Programs Using 1996 Survey Data

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by

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Executive Summary

The Kalamazoo Regional Educational Service Agency (K/RESA)[1] administers a career and technical education consortium titled Education for Employment (EFE). The consortium members include all of the nine local school districts in Kalamazoo County, the Intermediate School District, and Kalamazoo Valley Community College (KVCC). EFE offers programs and activities to students from a wide range of grade levels, and its supports professional development activities for teachers. The largest share of EFE's mission, however, is coursework for high school students, and those activities are the subject of this study.

EFE classifies programs as either (1) school-based programs or (2) work-based programs. The school based programs comprise 16 occupational clusters. Each of the 11 high schools in the county offer courses in one or more of these clusters and students from any of the high schools may enroll in them. Approximately 15 percent of the enrollment comes from another high school in the county. Four types of work-based programs are offered by EFE. Worksite-based classroom programs involve formal classwork at worksite settings. Workforce entry (or co-op) programs are paid work experiences in students' occupational areas of interest. Business/industry worksite training is paid or unpaid work experiences where there is no related instructional class either because there is not enough demand to support a class or because the class is not traditionally taught at the high school level. Apprenticeships are formally approved worksite and educational requirements that lead to a trade.

In Spring 1996, EFE contracted with the Upjohn Institute to collect information from three key stakeholder groups: students currently enrolled in EFE programs, parents of students currently enrolled, and high school graduates who had participated in EFE programs. In addition, EFE gave the Institute access to survey data from Kalamazoo County employers that had been collected as part of a national study. This document presents the results of analyses of the data that were collected.

Students

About half of EFE students were seniors, and the other half were juniors. The students self-reported cumulative GPA was 2.8 on average, and their self-reported level of homework was 2.5 hours/week. The students reported relying on several sources of information when they decided to enroll in their EFE classes, but the predominant sources were guidance counselors, friends or acquaintances, and parents/guardians. About three-quarters of students were satisfied with all aspects of their class, and, on average, the students assigned their class a B+ grade for overall quality. The minority of students who were dissatisfied with EFE were disproportionately females and disproportionately nonwhites.

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[1]Formerly, the Kalamazoo Valley Intermediate School District (KVISD).

Twenty-two percent of the students indicated that they were in a work-based program experience. About three-quarters of these experiences were paid. The average wage was $5.28 per hour and the average hours/week was 18.9. Participants in these experiences were quite satisfied in terms of how well the worksite experience related to their classwork and how supportive their workplace mentors were.

About 85 percent of students indicated that they were planning to attend a postsecondary institution either right after high school (74 percent) or after working for a few years (11 percent). More than 50 percent of the students aspired to white-collar, professional occupations. In particular, a higher percentage of females intended to enter white-collar, professional occupations than males. A total of 60 percent of students reported that they were employed (other than in a EFE work-based program.) They worked, on average, about 19 hours per week and earned $5.35 per hour. Students with work-based program experiences were more likely to report that the skills learned in EFE were useful in their part-time jobs than were students without work-based experiences.

Parents

Parents were not particularly active participants in their students' decisions to enroll in an EFE class. About one-third of the parents/guardians indicated that they had no role at all. Among the 80 percent who indicated that they had played some role, most of the parents characterized their roles as having "little" or "some" influence. Parents/guardians who were involved mostly relied on student information. For the most part, parents felt that the information they received was adequate. However, an area in which the parents/guardians would have liked more information was potential career ladders.

Many of the parents/guardians had met their student's teacher, but few had observed a class period. They were highly satisfied with virtually all aspects of their student's EFE class, but they felt less knowledgeable about textbooks and equipment/materials. Finally, parents/guardians were well-satisfied with the programs of the EFE consortium. They particularly liked the technical skills that were being taught and the introduction to the work world and real-life experiences for students.

Employers

Establishments that had had a student intern during the 1995-96 school year were called participants and establishments that had not had an intern were called nonparticipants. While there were not striking differences between participants and nonparticipants, there were a few characteristics that were correlates of participation. Participants had fewer production workers and more white-collar workers. Participants had higher percentages of employees under age 25 and nonwhite employees. Participants were more likely to report that skill levels for entry-level workers had increased over time. Furthermore, participants did more training than nonparticipants and were more likely to offer external training programs and tuition reimbursement. Finally, participants were

more likely to have established job rotation, self-managed work teams, and employee problem-solving groups.

The most important (self-reported) motives for participating with EFE were public-mindedness or altruism. Specifically, 90 percent of participating employers noted that they wanted to help improve the public education system or to contribute to the local community. The most often mentioned concern about internships by participants was student quality. The lack of basic skills concerned 34 percent of participants and 58 percent of nonparticipants. Forty-five percent of participants and 71 percent of nonparticipants were concerned that students were not always available when needed. Immature or unreliable students were a concern for 28 percent of participating establishments and 56 percent of nonparticipating firms. The second most important area of concern was economic costs. The lost productivity of workers who train and supervise students was a concern for 28 percent of participants and 46 percent of nonparticipants. The concern that students might leave after training was completed was shared by 25 percent of program participants and 63 percent of nonparticipants. The wage cost of students, however, was not an important factor.

Almost 90 percent of all internships were characterized by a workplace mentor, documentation and assessment of student learning, a written agreement, and a student in-person or telephone screening interview. Fifty-six percent of the internships involved rotation among several jobs and only 44 percent had employer input on curriculum content.

Student interns were clearly productive in the workplace—they were assessed by employers as being equally or more productive than entry-level, permanent employees along many dimensions of job performance. About three-quarters of employers who participated in student internship programs were satisfied with their interactions with schools and students. An exception was that only half of the employers were satisfied with the extent to which there was classroom support for the work experience.

Program Completers

In addition to current students, parents of current students, and employers, this study also analyzed information from individuals who were classified as seniors in 1994/95 and enrolled in an EFE class at the end of that school year. Program completers were almost perfectly divided into thirds among those attending a two-year institution, those attending a four-year institution, and those not attending either. For the students who were attending a postsecondary institution, almost one in six named a business-related major or program field. Other fields with more than 10 percent of the students were education and medical-related programs. Over 70 percent of the postsecondary students indicated that their major field or program was related to their EFE class.

All together, about 88 percent of the program completers were working for pay at the time of the survey. The employment rates of whites, students who participated in a work-based program,

and students attending a four-year postsecondary institution were significantly higher than minorities, students who did not participate in a work-based program, and individuals who were attending a two-year institution or were not attending a postsecondary institution. Almost 30 percent of minorities were not working. The official unemployment rate for the sample was 6.5 percent.

For those who were working, the average work week was about 35 hours, the average wage was $6.61 per hour, and just over half indicated that their EFE class was relevant to their job.

Completers were asked to rate their satisfaction with the EFE courses and work-based program experiences that they had taken in high school. They were highly satisfied and gave ratings that exceeded the levels that were given by current students. Between 75 to 95 percent of the respondents gave favorable ratings to questions about eight different aspects of the classes. When asked to provide the three best aspects and the three worst aspects about EFE programs, the completers mentioned "no worst aspects" the largest number of times of any response.

Two EFE outcome indicators were calculated. About 89 percent of completers were either attending college or were employed one year after completing their high school courses. The second indicator measures the percentage of individuals who were pursuing a major field or occupational program area in a postsecondary setting that was related to their EFE coursework or who were employed in a job where their EFE coursework was related. This indicator was about 65 percent.

Recommendations

The report culminates with several recommendations for EFE administrators to consider. These recommendations are listed here. A full explanation of the recommendations and their bases in the data is provided in the last chapter of the report.

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

- *EFE has some excellent teachers who are impacting students. Even many EFE completers report one year after their enrollment that their favorite aspect of the EFE class was their instructor. But EFE also has some teachers that are not liked or impacting students. Thus, like any organization, EFE needs to have rewards/incentives and sanctions/correctives.*

- *Parents/guardians play a passive role in enrollment decisions, but they should not be overlooked. EFE should send them information that includes course content and student expectations as well as economic outcomes such as expected employment, career ladders, and wage rates.*

- *Guidance counselors are key gatekeepers to EFE enrollment. EFE should keep them well informed about classes and opportunities.*

- *Academic teachers should not be overlooked as important gatekeepers for EFE. They should receive information about EFE programs and opportunities.*

- *A large share of students who enrolled in EFE classes, and work-based experiences in particular, pursued postsecondary education at two- and four-year institutions.*

- *Standards and student expectations could be ratcheted up; projects and homework assignments should be interesting, challenging, and essential.*

- *EFE needs to improve the alignment between work-based experiences and school-based learning. Employers should always be asked for input and asked to evaluate school curricula.*

- *EFE should attempt to get a higher percentage of students in work-based experiences to be exposed to all aspects of the industry.*

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

- *Work-based experiences are matching students with caring and supportive workplace mentors. Little priority should be placed on mentor training since the status quo seems to be working very well.*

- *Students participating in work-based programs are productive. They're doing real work as well as or better than comparable employees. Many of the comparable employees have some postsecondary education.*

- *Employers' biggest concern about student interns is their lack of skills and maturity. This concern can be addressed by reminding employers that the students are in learning situations and they may make mistakes and by working with students to emphasize the importance of their behavior at the worksite.*

- *It is unlikely that the number of employers willing to offer work-based program "slots" is a constraint on the availability of this type of learning experience. Many of the nonparticipant firms that were surveyed had not been approached, and two-thirds of them indicated that they would consider participating if they were asked.*

- *In "selling" EFE to employers, staff should refer to potential benefits in existing employee morale and to the association of student internship usage with high performance workplace practices.*

- *Data suggest that females are less satisfied with their EFE experiences than males.*

- *Minorities are less satisfied with their EFE experiences and have much lower rates of positive outcomes than whites. Two recommendations are that EFE consider (1) whether it could play a role in placement of ex-students and (2) whether it should create a staff position for an advocate for minorities or other students with problems.*

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

- *This assessment does not examine the important issue of the impact of EFE on student academic achievement.*

A Final Caution

To the author's knowledge, few other educational programs have collected and analyzed the type of market information that is presented in this assessment. Thus EFE is in a unique position to be able to respond appropriately to its customers. Overall, that customer base is quite satisfied with the instruction and student outcomes that EFE provides. However, a number of areas of improvement have been identified.

It is particularly important to understand the limitations of the analysis. No data were collected about students who did not participate in EFE programs. Consequently, we can not draw evaluative conclusions. In particular, we can not be critical of EFE because of the lower satisfaction indicators and outcomes for females and minorities. A heuristic example can be cited to explain why. Suppose that a particular outcome was measured for all secondary students in Kalamazoo County, e.g., educational satisfaction or employment rate. We might find that, on average, this indicator was 70 percent for minority students and 80 percent for whites. Furthermore, we might find that the indicator was 80 percent for minority students who had enrolled in EFE programs and 85 percent for whites in EFE. The obvious conclusion would be that EFE was achieving success for all students, but relatively more success for minorities even though examination of data from EFE would show that minorities' outcomes were lower than whites. Of course, if the overall county average for the indicator was 80 percent for both minorities and whites, then we would reach a different conclusion. Unfortunately, all this report can document is the differential among EFE students.

Nevertheless, despite this caution, EFE is to be commended for its commitment to measuring and assessing the information presented in this report. The broad base of information can be used to develop and implement program improvements.

1. EFE Programs

The Kalamazoo Regional Educational Service Agency (K/RESA)[1] administers a career and technical education consortium titled Education for Employment (EFE). The consortium members include all nine local school districts in Kalamazoo County, the Intermediate School District, and Kalamazoo Valley Community College (KVCC). EFE offers programs and activities to students from a wide range of grade levels, and it supports professional development activities for teachers. For example, the consortium presents a career introductory program to districts' first graders using puppets; a career exploration day for all 8th graders in the county; job shadowing experiences for 10th graders; a variety of career and technical education programs for 11th and 12th graders; and services for community college students (through the Tech Prep program). An example of its professional development activities is Why Math?, a teacher internship program in which middle school and high school math teachers visit local businesses to observe and learn how mathematics is used in the workplace. The largest share of EFE's mission, however, is the coursework for high school students, and those activities are the subject of this study. Note that most course offerings are fully articulated with KVCC and with Davenport College allowing students to obtain transferable college credits.

EFE classifies programs as either (1) school-based programs or (2) work-based programs; but this simple dichotomy does not do justice to the wide variety of offerings. The school-based programs comprise 16 occupational clusters—accounting/computing, agriscience, automotive collision repair, automotive technology, business services technology, child care, commercial design, construction trades, drafting technology, electro-mechanical technology, graphic and printing

[1]Formerly, the Kalamazoo Valley Intermediate School District (KVISD).

communications, machine tool, manufacturing cluster, marketing, photography, and welding. Each of the 11 high schools in the county offer courses in one or more of these clusters and students from any of the high schools may enroll in them. Approximately 15 percent of the students enrolled in these school-based programs come from another high school in the county.[2]

EFE offers four types of work-based programs. The first type, referred to here as **worksite-based classroom programs**, involves formal classwork at worksite settings. EFE has established programs in seven occupational areas. In each of these occupational areas, local businesses, nonprofit organizations, or government agencies have provided classroom space and have worked with EFE on developing curriculum and on-the-job experiences. These programs include a two-year health occupations program offered at a local hospital, a two-year hospitality program offered at a hotel, a two-year law enforcement program offered at a community probation facility, a two-year plastics program at a plastics manufacturer, a two-year paper science program at a paper company, a two- or three-year theater technician program at a community auditorium facility, and a cosmetology program at two local beauty academies. In all cases, these innovative programs extend beyond classroom instruction to actual experiential learning. As with all 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 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.

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[2]In Fall 1995, 25 students from schools other than the 11 high schools that comprise the EFE consortium were enrolled in school-based programs or work-based programs. Most of those were students from the two private, religious-affiliated high schools in the county.

The second type of work-based program is called **workforce entry**, or **co-op**. These are paid work experiences in students' occupational areas of interest. In all cases, students are enrolled in a school-based program simultaneously with the co-op experience and the workforce entry activity is meant to enhance the school-based program. In Fall 1995, about 210 students from 10 of the 11 high schools in the county were engaged in workforce entry experiences. The intent of these experiences is to supplement and contextualize the school-based program by providing actual employment in the occupational cluster that is being taught.

The third type of work-based program is called **business/industry worksite training**. It is tempting to define this program as unpaid workforce entry (co-op) experience, but that description is not accurate for four reasons. First, these activities are offered to serve students interested either in (1) occupational areas that do not have sufficient student interest to fill a (school-based program) class or (2) occupational areas that are not traditionally taught at the high school level. For example in Fall 1995, 87 students engaged in a teacher externship program to explore teaching as an occupation. Teacher education is not traditionally taught in secondary schools, but these externships allowed students to begin to gauge their interest in teaching as a career. An additional 33 students had training in veterinarian assistance, paralegal, aviation, TV production, and a few other occupational areas where there was not enough enrollment to fill a class. A second reason why these experiences are different from an unpaid co-op is that EFE staff are proactive in establishing content guidelines for the employer/supervisors to follow. The EFE staff members who develop these positions consult with employers to determine objectives, content, and assessment standards. The workforce entry (co-op) experiences supplement existing courses, so the objectives and content have been developed. The business/industry worksite training positions are offered precisely because

there are no related courses, so the objectives and content need to be developed. Third, there is no requirement of students to take a school-based program in concert with the worksite training because there are no related courses. Fourth, some students get paid.

The final type of work-based program is **apprenticeship**. Individuals with apprenticeships are working for pay outside of school just as the co-op students are. However, in this case, the employers have agreed to provide the students with the experience and postsecondary education requirements of a formal U.S. Department of Labor-approved apprenticeship leading to journey-person status. In Fall 1995, EFE had seven students in formal apprenticeships.

In Spring 1996, EFE contracted with the Upjohn Institute to collect information from three key stakeholder groups: students currently enrolled in EFE programs, parents of students currently enrolled in EFE programs, and high school graduates who had participated in EFE programs. The latter were surveyed approximately one year after graduation. EFE also cooperated with a national study during 1996 that collected data from employers. The Institute for Education and the Economy (IEE) of Columbia University conducted a survey of both employers who participated in business/education partnerships and employers who did not participate in them. EFE provided IEE with a sample frame that listed Kalamazoo area employers, and a large number of local organizations were sampled for the survey. This document also presents analyses of the IEE data.

The next section of the paper documents the methods that were used to collect the data. This is followed by a section that presents data from the survey of current students. Next, data from the parent survey are discussed. Then, findings from the employer data are analyzed followed by a section presenting data from the follow-up survey of high school graduates. The final section of the

paper summarizes the major findings from the data collection activities and offers some recommendations for the EFE program to consider.

2. Methods

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

The first survey was administered in May 1996 to all students in EFE school-based or work-based programs. The survey collected data about the students' high school experiences, the information that they used to decide to enroll in the EFE class or program, their experiences in and opinions about the class/program, and their career and postsecondary plans. We estimated that there were approximately 2,300 students enrolled at the time of the survey, and we received 1,034 usable responses (a response rate of about 45 percent). The biggest loss in response came from classes where the instructor did not administer the survey because he or she would not relinquish instructional time. We estimate that perhaps half of the nonresponse came from these situations, i.e., no responses were received from any students enrolled in a particular class offering. Other reasons for nonresponse included student absences on the day that the survey was administered, student refusal to respond, or unusable responses.

A major printing error occurred in preparing the student surveys. The final page of the questionnaire, which asked for demographic information about the respondent including race and sex, was not printed for about half of the surveys. Thus the analyses that are presented in the next

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[3]K. Hollenbeck, "In Their Own Words: Student Perspectives on School-to-Work Opportunities, " National Institute for Work and Learning, Washington, DC, 1996, provides an in depth examination of EFE students' perspectives.

chapter use three categories to classify students by sex (male, female, and data not available) and three categories to classify race (white, nonwhite, and data not available).

The second survey that we conducted was a mail survey of a sample of parents/guardians of current EFE students. A random sample of 200 parents were selected to receive the survey. Responses were received from 72. This computes to a 36 percent response rate, which is reasonable for a mail survey. The subjects covered in this brief survey included information about enrollment in the EFE class or program, opinions about the class/program, and general reactions to the EFE consortium.

The third survey that was used to collect data for this study was a telephone survey of employers. The survey was conducted by individuals from the RAND Corporation under subcontract to the Institute for Education and the Economy (IEE) of Teachers College, Columbia University. This was a national study to which a sizable number of Kalamazoo employers responded. The survey actually used two separate questionnaires; one for employers who participated in programs like EFE and had student interns sometime during the 1995-96 school year, and the other for employers who did not participate. The process that IEE used to draw its sample of participants was to have the local educational agency, which was EFE in the case of Kalamazoo County, provide a list of participating employers. The nonparticipant samples were drawn from commercially available lists of business establishments that had been cross-checked to eliminate establishments that participated in internships. Unfortunately, we do not know the Kalamazoo initial sample sizes for either of the surveys. We did receive usable data from 72 participating employers and 78 nonparticipants.

The final survey was a telephone follow-up of students who had completed their EFE class during the second semester of 1994-95. For the most part, they were individuals who had graduated from high school at the end of the 1994-95 school year and who had been enrolled in an EFE class or program at the end of that year. The State of Michigan mandates and regulates this survey because funding for career and technical education in the State is partially determined by the data from this survey. The main purpose of the survey is to measure postsecondary and employment outcomes. We took the opportunity to add a few questions to the State's survey that were aimed at gauging satisfaction with the EFE classes/programs. The response rate for this survey was just under 50 percent. Attempts to contact just under 1,000 students were made, and we received usable data from 468. The main reasons for nonresponse were that EFE had recorded wrong or obsolete telephone numbers or that students had moved and could not be traced. We estimate that these problems were encountered for over 200 students. Refusals and inability to contact students within the timeframe of the survey were the primary reasons for the remainder of the nonresponse.

3. EFE Students

This section of the report presents characteristics of the students who 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-based programs, postsecondary and career plans, and current employment. For most of these data, we have disaggregated the information to examine differences between males and females, whites and nonwhites, and whether or not the students were in a work-based program.

High School Experiences

Table 3.1 provides summary data about the students' overall experiences in high school. Note that all of the data were self-reported, and as the previous section of the report points out, only

Table 3.1
High School Experiences and Characteristics of EFE Students

	Sex			Race			Work-based program			
Characteristic	M	F	N/A	W	NW	N/A	Yes	No	Total	
Class standing										
Junior	54.1%	54.7%	42.3%	53.6%	56.1%	50.2%	25.6%	56.4%	49.2%	
Senior	45.9	45.3	57.7	46.4	43.9	49.8	74.4	43.6	50.8	
Avg. hours of homework/week	2.2*	3.3	2.1	2.7	3.4	2.2	2.3	2.6	2.5	
Avg. GPA	2.86	2.93	2.74	2.94*	2.75	2.74	2.89	2.81	2.83	(B-)
Avg. number of activities/year	2.3*	2.8	2.3	2.6	2.7	2.3	2.4	2.5	2.5	
Avg. number of tardies/year	7.7	6.9	8.4	6.7*	10.0	7.4	7.5	7.8	7.8	
Avg. number of absences/year	6.8	6.9	7.4	6.6	7.7	7.4	7.9*	6.8	7.1	
Total Sample	240	327	467	456	86	492	242	792	1,034	

Note: N/A means not available.
*Difference between population groups is statistically significant at the .05 level.

about half of the students responded to the survey. In addition, note that because of an error in the administration of the survey, we were able to identify race and sex for a little over half of the respondents.

Approximately half of the survey respondents were juniors and half were seniors. This was true for both sex and both racial groups. However, individuals who reported that they were in work-based learning situations were preponderantly seniors (by about a 3-to-1 ratio).

Respondents averaged about 2.5 hours of homework per week. Females averaged a full hour more per week than males (3.3 to 2.2), which was a statistically significant difference. Nonwhites also averaged more homework than whites, but this difference was not significant. The students were asked how many extracurricular activities they engaged in during the school year. On average, the students indicated that they had participated in about 2.5 activities. Females reported having participated in more activities than males (2.8 to 2.3). The student survey asked for an approximate level of grades earned to date. We converted responses to a 4.0 scale, and the average cumulative grade point average in the sample was 2.83 (B-). Among the disaggregated groups, whites reported a higher grade point average than nonwhites.

The last items in the table are average number of absences and tardies during the school year.[4] The overall averages for the entire sample were about eight tardies and seven days of absence. (Assuming there were about 180 days of instruction, these averages work out to about 4 percent.) Whites had less tardiness than nonwhites (approximately seven instances on average as compared

[4]Note that the absences were supposed to exclude absences due to illness.

to ten), and individuals with work-based experiences had more absences than individuals who did not have a work-based experience as part of their EFE program.

EFE Enrollment Decisionmaking

Students were asked about how they learned about the EFE class that they were enrolled in. Table 3.2 presents summary data for this issue. The entries in the table are composed of two

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

	Sex			Race			Work-based program		
Source/Individual	M	F	N/A	W	NW	N/A	Yes	No	Total
Information source used/most important									
Guidance counselor advice	.64*/.34	.74/.39	.66/.33	.72/.38	.66/.34	.65/.33	.72/.42*	.67/.33	.68/.35
Poster	.20/.02	.22/.02	.29/.03	.20*/.01*	.31/.07	.28/.03	.26/.02	.25/.03	.25/.03
Academic subject teacher	.26/.08	.28/.10	.31/.09	.26*/.08*	.36/.18	.30/.09	.32/.10	.28/.09	.29/.09
Technical ed. teacher	.24/.11	.28/.10	.36/.16	.25*/.10	.36/.10	.35/.16	.36*/.19*	.29/.11	.31/.13
Brochure	.22/.06	.24/.05	.28/.03	.22*/.04*	.36/.13	.27/.03	.27/.06	.25/.04	.26/.04
High school handbook	.58*/.29	.66/.33	.62/.28	.63/.32	.66/.33	.61/.27	.62/.34*	.62/.28	.62/.29
Friends/acquaintances	.61/.36	.65/.38	.60/.34	.65/.38	.59/.36	.59/.34	.61/.34	.62/.36	.62/.36
Brother/sister	.28/.11	.28/.11	.31/.11	.26*/.10*	.41/.18	.30/.11	.33*/.10	.28/.12	.29/.11
EFE staff presentation	.25/.05*	.28/.10	.30/.08	.25/.07	.35/.11	.30/.08	.34/.11	.26/.07	.28/.08
Employer	.19/.05	.19/.05	.22/.05	.18*/.04*	.29/.12	.22/.06	.26*/.08*	.19/.04	.21/.05
Other	.02/.01	.02/.01	.02/.01	.02/.01	.01/.01	.02/.01	.04*/.03*	.02/.01	.02/.01
Individual who assisted/ most important									
Guidance counselor	.62*/.33	.71/.39	.61/.29	.67/.35	.75/.45	.60/.30	.67/.36	.64/.32	.64/.33
Academic subject teacher	.22/.04*	.25/.10	.29/.06	.23/.07	.30/.11	.28/.06	.28/.08	.25/.07	.26/.07
Technical ed. teacher	.21/.07	.20/.05	.30/.12	.19*/.05	.33/.08	.29/.12	.32*/.13*	.23/.08	.25/.09
Other school admin.	.19/.03	.17/.03	.23/.04	.17/.02	.24/.05	.22/.04	.24/.03	.19/.03	.20/.03
Parent/guardian	.44*/.23	.53/.28	.48/.26	.48/.24*	.57/.37	.48/.26	.46/.26	.49/.26	.49/.26
Friends	.55/.30	.54/.27	.55/.28	.55/.29*	.49/.20	.55/.28	.52/.23*	.55/.30	.55/.28
Brother/sister	.24/.09	.22/.06	.28/.10	.22/.07	.30/.08	.28/.10	.28/.07	.25/.09	.25/.08
Employer	.18/.05	.16/.03	.21/.04	.15/.03*	.29/.06	.21/.04	.27*/.07*	.17/.03	.19/.04

Note: 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 1,034. N/A means not available.

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

numbers. The first represents the proportion of respondents who reported that they used that information source or got assistance from that particular individual. 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 .64*/.34. This means that 64 percent of the male students reported that guidance counselor advice was a source of information about their EFE class, and that 34 percent of the students indicated that guidance counselor advice was among the most important sources of information. (The asterisk indicates that the 64 percent for males was statistically significantly different from the 74 percent for females.)

The data show us that about two-thirds of the students relied on guidance counselor advice, high school handbooks, and friends as sources of information about the EFE classes. About a third of the students relied on advice from an academic subject teacher, a technical education teacher, a sibling, or EFE staff presentations. The most important sources closely aligned with the overall reliance. Friends, guidance counselor advice, and high school handbooks were the most important information sources. Note that posters and brochures were information sources used by around a quarter of the students, but they were cited as most important sources by less than five percent of the students.

A number of the differences in the proportions among the sex, race, and work-based experience groups were significant. Females reported a greater reliance on guidance counselors, high school handbooks, and EFE staff presentations. Nonwhites reported more information sources than whites, which may indicate that EFE had made a successful attempt to get more information to nonwhites. Over 40 percent of nonwhites got information about EFE from siblings, whereas only about 25 percent of whites received information from their brothers or sisters. About one-third of

nonwhites were exposed to or paid attention to brochures and posters versus only about one-fifth of whites. Also, the differences in the proportions of nonwhites to whites was greater than or equal to ten percentage points for academic subject teachers, technical education teachers, and employers as sources of information. Students who were in work-based programs tended to rely more heavily on guidance counselor advice, technical education teachers, siblings, and employers than did other EFE students.

The bottom panel of the table reports 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 as the most helpful individuals. Friends were next, followed closely by parents/guardians. Among the groups, females reported that they tended to be assisted by guidance counselors, parents/guardians, and academic subject teachers more than did males. Nonwhites were assisted more often by technical education teachers, parents/guardians, and employers than were whites. Whites were somewhat more reliant on friends. Students in work-based education were assisted more often by technical education teachers and employers.

Opinions about EFE Classes

The students were presented with a number of survey questions to gauge their opinions about their EFE classes. The surveys asked for students' opinions about different aspects of the course; the students 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 the opinion questions and the letter-grade question. The top portion of the table presents the proportion of students who agreed or strongly agreed with

Table 3.3
EFE Class Satisfaction Indicators

Indicator	Sex			Race			Work-based program		Total
	M	F	N/A	W	NW	N/A	Yes	No	
Agree/strongly agree with "This course is one of the best..."	77	72	71	74	75	71	83*	70	73
Disagree/strongly disagree with "This class is too hard..."	82	86	86	87*	71	86	88	84	85
Agree/strongly agree with "I get along with other students and we work together..."	84	78	81	82*	73	80	81	80	80
Agree/strongly agree with "The equipment and facilities meet..."	77	75	69	78*	68	68	74	72	72
Disagree/strongly disagree with "Not enough information"	76	76	75	76	72	75	77	75	75
Agree/strongly agree with "This course treats everybody fairly."	75	71	72	73	70	72	74	72	73
Agree/strongly agree with "I can get questions answered..."	80*	70	72	75	72	72	77	72	73
Disagree/strongly disagree with "This course is disorganized."	74*	63	73	67	73	73	71	70	71
Average grade for course quality (converted to 4.0 scale)	3.43*	3.25	3.23	3.37*	3.20	3.21	3.41*	3.25	3.28 (B+)

Note: Table entries for the first eight rows are percentage of the sample who gave a favorable rating of 1 or 2 (or 4 or 5 for the negatively worded questions) 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 1,034. Approximately 30 responses are missing for each item. Sample size for average letter grade is 988. N/A means not available.
*Difference between population groups is statistically significant at the .05 level.

various statements about their EFE class. (Note that some of the questions were worded negatively, so we have tabulated these when the respondent disagreed or strongly disagreed.) The entries in the columns can be interpreted as indicators of student satisfaction.

Note that the levels of satisfaction are reasonably high—all ranging between 71 percent and 85 percent. The first question asked students to agree or disagree with the statement that the EFE course "is one of the best courses that I have had in high school." Approximately three-quarters of the students agreed with the statement. There was particularly strong agreement from students who

were in work-based experiences, where the rating was 83 percent as opposed to 70 percent for the other EFE students. The next item asked for agreement or disagreement with the statement, "This class is too hard." Here, about 85 percent of the students disagreed. A higher proportion of whites disagreed than nonwhites. It should be recognized that students would disagree with this statement if they felt that the class was too easy, however, so that we cannot interpret all of the responses as positive indicators.

The third statement was, "I get along well with other students and we work together frequently in the class." Overall, about 80 percent of the students agreed with this statement, but note that females and nonwhites agreed less often than males or whites. This may indicate that females and nonwhites felt less comfortable in the EFE classes than their counterparts. The next item was intended to measure student opinion about the equipment and facilities in the classrooms. The item was phrased, "The equipment and facilities meet the needs of the course." Overall, about 73 percent of the students agreed with this statement, but nonwhite students were in less agreement.

The next survey question asked students whether they thought enough information about the course had been given to students and families. Overall, about three-quarters of the students were satisfied, and there were no differences across groups. The following item asked about whether everyone was treated fairly in the course. The results were quite similar to the previous question; about three-quarters of the respondents were satisfied, and there were no significant differences across groups.

Students were asked for their agreement with the statement, "I can easily get questions answered or problems resolved in this class." Females were in less agreement than males on this item, suggesting that they may have perceived less access to instructors. While the difference

between females and males was significant, at least 70 percent of all groups in the sample were satisfied with this indicator. The last opinion question was disagreement with the statement that, "This course seems disorganized." Again, females were unhappier than males—63 percent of females disagreed or strongly disagreed as opposed to 74 percent of males. No other differences between groups were significant, and the proportion of the overall sample that disagreed with the statement was 71 percent.

The average grade for course quality is given in the bottom row of the table. The sample average of 3.24 indicates that, all in all, students were quite satisfied with their classes. Significant differences exist across all groups, however. The assigned grades were much higher for males than females, and for whites than nonwhites. These data buttress the suggestion that females and nonwhites may not have felt as comfortable in the EFE classes as their male and white classmates. Students with work-based experiences rated the classes more highly than did students without such experiences, suggesting that this type of instructional experience was especially effective for students.

Table 3.4 provides data about the students' responses to the open-ended questions about the best and worst aspects of their EFE classes. Over 1,000 students responded to the survey, so the potential number of best aspects and worst aspects that could have been named was over 3,000. In fact, a little over 2,100 positive aspects were named and almost 1,300 worst aspects. This, in itself, is probably a good sign: respondents could more easily name positive characteristics than negative ones. Among the best aspects, students were most appreciative of the skills they were learning and the "real world" experiences they were having. The next factor most often mentioned was a specific

Table 3.4
EFE Class Best and Worst Aspects

Aspect	Percentage mentioning	
Best aspects		
Equipment	3.4	
Instructional materials (books, videos, projects, etc.)	9.3	
No homework; no tests	1.4	
Pace	10.3	
Specific teacher	15.6	
Work-based learning	6.0	
Skills learned; experience	24.3	
College-relatedness	0.5	
Hands-on instruction	5.9	
Other students	8.0	
Other	15.4	n = 2,125
Worst aspects		
Equipment	5.6	
Books/software	5.8	
Too difficult	1.9	
Too easy; boring	8.4	
Too much work	22.3	
Teacher/pupil ratio (not enough help)	2.8	
Specific teacher	12.0	
Logistics (transportation, schedule)	7.2	
Class environment	5.8	
Other students	6.6	
Other	13.1	
None–no worst aspect	6.6	
Unfair	2.0	n = 1,294

teacher or other staff person. The pace of instruction was the third highest rated positive aspect.

On the other side of the ledger, the item that was mentioned most often as among the three worst aspects was that the course required too much work. Of the total number of responses to this question, this type of response was received almost a quarter of the time. About one-eighth of the respondents singled out a specific teacher or other staff person as another of their three worst.

Work-Based Program Experiences

Table 3.5 shows that a little under one-quarter of the sample participated in a work-based program experience. The percentages were approximately equal for males and females and for whites and nonwhites. About three-quarters of the students who participated in a work-based program experience received pay, and on average, the pay was $5.28 per hour. The percentage of males who were paid for their work-based experience is quite a bit higher than the percentage of females, and the percentage of nonwhites who were paid exceeded the percentage of whites.

Table 3.5
Work-Based Program Experiences

Characteristic	Sex			Race			Total
	M	F	N/A	W	NW	N/A	
Participation (n=1,034)	21	22	24	22	18	23	22
If participated:							
Paid? (n = 215)	81	65	74	68	87	74	73
Average wage (n = 144)	$5.61*	$4.77	$5.38	$5.28	$5.04	$5.37	$5.28
Average hours (n = 203)	21.0*	15.3	20.2	17.7	17.2	20.2	18.9
Strongly disagree/disagree with "Work is unrelated..." (n = 221)	62	60	65	64	50	64	63
Agree/strongly agree with "Mentors are supportive and answer questions." (n = 215)	63*	86	74	78	71	74	74

Note: Table entries are percentages, except where noted. N/A means not available.
* Difference between population groups is statistically significant at the .05 level.

However, these differences were not statistically significant. However, the hourly pay differential of almost $1.00 per hour between males and females was significant. The work-based program experiences averaged almost 20 hours per week. Males worked more than females (21 hours to 15 hours), but there were no other significant differences among groups.

We asked the students who were participating in work-based experiences two questions to measure their satisfaction with aspects of the experience. The first item dealt with the extent to which the work experience was related to the content of the EFE class that the student was taking. Approximately two-thirds of the students disagreed or strongly disagreed with the statement that the work experience was "unrelated to their EFE class." The level of disagreement, which in this case is the positive indicator, was slightly lower for females and nonwhites, but these differences were not statistically significant. The second item asked for agreement with the statement that "workplace mentors are supportive and willing to answer questions." Three-quarters of the sample

agreed with this statement. A large and significant difference holds between males and females, with the latter reporting a much higher level of agreement. Apparently, young women are being matched with supportive mentors who are willing to help them in their assignments.

Table 3.6
Postsecondary Plans and Relevance of EFE Class

	Sex			Race			Work-based program		
Plan/Relevance	M	F	N/A	W	NW	N/A	Yes	No	Total
Apprenticeship program after high school?	34*	23	24	28	32	24	30	25	26
Postsecondary college/university (including community college)									
Yes, right away	67*	85	71	77	79	71	74	74	74
Yes, after working	13	9	12	11	7	12	11	11	11
Don't Know	11*	5	10	7	10	10	9	9	9
No	9*	2	7	5	4	7	6	6	6
Relevance of EFE Class									
Agree/strongly agree with "EFE classes helped me to decide..."	45	43	43	44	45	42	55*	40	43
Agree/strongly agree with "...helpful in choosing program."	46*	58	42	51	59	42	55*	45	48

Note: Table entries are percentages of the overall sample, except for item nonresponse. Overall sample size is 1,034. N/A means not available.
* Difference between population groups is statistically significant at the .05 level.

Postsecondary and Career Plans

The next general topic that we examined in the survey of students was postsecondary and career plans. Table 3.6 presents summary data about postsecondary plans. A surprisingly high proportion of students reported that they planned to pursue an apprenticeship program after high school, about a quarter of the entire sample. It is not clear why such a high percentage of students had this aspiration; apparently there was 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, 85 percent of the sample indicated that they were planning postsecondary attendance either right after high school or in the future after a few years of work. Females reported a much higher rate of college attendance right after high school, 85 percent to 67 percent. Furthermore 20 percent of the males indicated that they did not plan to go on to postsecondary or that they did not know whether they would or not. Only seven percent of females did not know or reported that they did not plan to go.

The students' EFE classes had an impact on their postsecondary plans. Forty-three percent of students reported that they agreed or strongly agreed with the statement that "EFE classes helped me to decide whether or not to attend postsecondary schooling." While this seems like a modest impact, it should be noted that the majority of students reported that they were college bound prior to their enrollment in EFE classes. Apparently work-based experiences had an impact on students' postsecondary decisions. Fifty-five percent of students participating in work-based experiences agreed that EFE classes helped them to decide whether or not to attend a postsecondary institution whereas only 40 percent of the remainder of students were influenced.

We also asked if EFE classes had been influential in choosing a particular institution or postsecondary program. About half of the respondents indicated agreement with the statement that "EFE classes had been helpful in choosing a particular college or program." Again, students in work-based experiences were more likely to agree or strongly agree with this statement. Also females were more likely than males to agree, 58 percent to 46 percent.

Table 3.7 presents data on occupational/career aspirations of students when they reach 30 years of age. The students were clearly aspiring to white collar/professional positions. Approximately 60 percent of the sample aspired to the following occupations: manager/ administrator, professional, proprietor/owner, or school teacher. Females and minorities,

Table 3.7
Career Plans and Relevance of EFE Classes

	Sex			Race			Work-based program		
Plan/Relevance	M	F	N/A	W	NW	N/A	Yes	No	Total
Occupational aspiration at age 30									
Clerical	1	10	5	7	9	5	9	5	6
Craftsperson	19	2	14	9	4	14	12	11	11
Farmer	0	1	2	1	0	2	3	1	1
Manager, administrator	15	10	7	11	15	7	12	9	10
Military	4	1	3	2	2	2	2	3	2
Operative	5	0	3	3	1	3	0	3	3
Professional	24	48	29	37	44	29	30	35	34
Proprietor/owner	9	7	7	8	5	7	7	8	8
Protective service	5	1	8	3	2	8	7	5	5
Sales	4	3	4	4	1	4	2	4	4
School teacher	4	10	6	8	5	7	6	7	7
Service	0	5	3	2	6	3	4	3	3
Technical	7	2	7	4	4	7	6	5	5
Not working	1	1	2	0	1	3	1	2	2
Relevance of EFE Class									
Agree/strongly agree with "EFE classed helped me to decide..."	44	44	42	46	42	41	49*	42	43

Note: Table entries are sample percentages. Sample size for occupational aspiration is 911. Sample size for relevance is 926. Columns may not add to 100 due to rounding. N/A means not available.
* Difference between population groups is statistically significant at the .05 level.

particularly, had set their sights in these directions. Almost half of the females in the sample reported that they would like to be in a professional occupation when they reach 30. Less than a quarter of males shared that aspiration. On the other hand, almost 20 percent of males aspired to be craftspersons versus only 2 percent of women.

Again, we asked about the influence of EFE on the students' career aspirations. This indicator is arrayed in the bottom row of table 3.7. The survey question asked the students to agree or disagree with the statement that the "My participation in this class or other EFE classes helped me to decide what job or career I would like to have when I'm 30." A little over 40 percent of the students agreed or strongly agreed with this statement, that is, indicated that their EFE class had had a strong influence on their career choice. Students in a work-based program experience were more likely to agree with the statement than other EFE students.

Current Employment

The last topic covered by the survey was current employment experiences. As table 3.8 indicates, about 60 percent of the students indicated that they were currently working for pay apart from any work-based program experience that they were having through EFE. Whites had a higher

Table 3.8
Current Employment Characteristics

	Sex			Race			Work-based program		
Characteristic	M	F	N/A	W	NW	N/A	Yes	No	Total
Currently employed? (n = 950)	57	61	60	61*	49	60	56	61	60
If yes:									
Apprenticeship? (n = 536)	10	6	7	6*	18	7	20*	4	7
Average hours (n = 301)	21.3*	16.8	17.0	18.9	18.0	16.7	20.0	18.4	18.7
Average pay (n = 292)	$5.50	$5.25	$4.95	$5.38	$5.05	$5.60	$5.37	$5.34	$5.35
Use training from EFE class? (n = 314)									
A lot	18	21	25	19	26	18	20	20	20
Some	29	32	50	33	23	29	38	30	31
Hardly ever	17	19	25	17	18	29	11	20	18
Never	36	28	0	31	33	24	31	31	31

Note: Sample size reduction for average hours, average pay, and use training from EFE is due to printing error on questionnaire. Table entries for rows 1-2 and 5-8 are sample percentages. N/A means not available.
* Difference between population groups is statistically significant at the .05 level.

employment rate than nonwhites—61 percent to 49 percent. For those with jobs, the average hours of work per week was around 19, and the average wage was $5.35. Males worked more hours per week than females, 21.3 to 16.8; otherwise, there were no statistically significant differences. None of the wage differences between groups were statistically significant.

We asked the students whether they were using the training that they had received through their EFE course in their current job. Approximately half 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. The other half reported that they used hardly any of the EFE skills and training or none at all.

Summary

The survey of students indicated the following:

- The overall GPA of EFE students averaged about 2.8 (B-). Minority students had an average GPA that was lower than whites (2.75 to 2.94).
- Male EFE students reported doing less homework per week and participating in fewer activities per week than did females. Note that male students spent more hours per week in their work-based experiences and in their part-time jobs than did females.
- The major sources of information used in deciding to enroll in EFE classes or programs were guidance counselor advice, high school handbooks, and information from friends/acquaintances. The most frequently mentioned individuals who assisted students in their enrollment decisionmaking were guidance counselors, friends, and parents/guardians.
- Minority students and females reported, on average, more sources of information about EFE than did whites or males suggesting that EFE may have particularly targeted these populations. Minority students and females relied less on friends than did whites or males suggesting a lack of peers.

- Students were quite satisfied with virtually all aspects of their EFE classes. Indicators of satisfaction were measured at 70 percent or better. However, females and nonwhites tended to be disproportionately represented among the students who were not satisfied.

- The most often-mentioned complaints about EFE classes were that they required "too much work," or were about a specific teacher or staff person.

- A little over 20 percent of the students were engaged in work-based experiences. About three-fourths of these were paid at an average rate of $5.28.

- Students, particularly females and minority students, were quite satisfied with their workplace mentors.

- Eighty-five percent of students planned to go to a college/university (including two-year programs at community colleges) either right after high school (74 percent) or later (11 percent).

- The majority of students, particularly minority students and females, aspired to white-collar, professional occupations. Less than a fifth of students saw themselves in craftsperson/ technical occupations at age 30.

- Sixty percent of students held part-time jobs (not counting EFE work-based experiences).

4. Parents

Parents are an important stakeholder group in EFE programs and services. To gauge their level of satisfaction with EFE classes, we conducted a brief mail survey of parents. Note that the student and follow-up surveys were administered to the entire universe of existing and completing students. The parent survey was sent to a random sample of about 200 parents/guardians of existing students. We received 72 completed surveys, so the overall completion rate was about 36 percent, which is reasonable for a mail survey.

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

Involvement in and Information about Enrollment in EFE Class

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

About 80 percent of the respondents indicated that they had had some involvement in their child's decision to enroll. However, most of the respondents indicated that their involvement could be characterized as "little" or "some." Only about one in seven parents indicated that they had had "a great deal" of involvement.

Table 4.1
Parent Involvement in and Information about Enrollment Decision

Involvement/Information	Percentage
How much involvement did you have? (n = 72)	
A great deal	13.9
Some	38.9
Little	26.4
None	20.8
Sources of information used (n = 57)	
Student's knowledge/opinion of class/teacher	71.9
Own knowledge of class/teacher	21.1
High school handbook	17.5
Written information (brochure)	26.3
Guidance counselor	21.1
Adequacy of information (n = 56)	
Very adequate	21.4
Adequate	73.2
Inadequate	5.4
What additional information would have been helpful? (n = 72)	
Percentage of students who took this class and went on to college	29.2
Career ladders	62.5
Starting salaries in occupation	44.4
Description of course content	40.3

Note: Percentages for involvement and adequacy may not add to 100.0 due to rounding.

The source of information that parents used most was what their child told them about the class or teacher. Over 70 percent of the parents who were involved in student decisionmaking indicated that they relied on their student's knowledge. The other sources of information were each used by 20-25 percent of parents who got involved. These included the parents' own knowledge of the class or teacher, a high school handbook, written information such as a brochure, and information from guidance counselors.

The parents who responded to the survey were quite pleased with the adequacy of the information that they had consulted. Seventy-three percent of the parents felt it was adequate, 21 percent felt it was very adequate, and only five percent felt it was inadequate. We asked what additional information would have been helpful to them in the enrollment decision. The most frequent response was "career ladders in the occupation." Over 60 percent of parents who were involved in their student's enrollment decision would have liked additional information about career ladders. Around 40 percent wanted more information about starting salaries in the occupation and

wanted more descriptive information about course content. Just under 30 percent would have liked information on the percentage of students who enrolled in this class and went on to college.

Knowledge of and Opinions about Their Student's EFE Class

Table 4.2 provides data concerning parents' knowledge of and opinions about their student's EFE class. A little over two-thirds of the parents reported that they had met the teacher. Less than 10 percent had actually observed a class period, though. Most parents/guardians (about 85 percent) felt that they had some information about the instructional content of the EFE class. They did not claim to have a great deal of knowledge, however. Most parents indicated that they had "only a little" or "some" information. Only one out of seven respondents who said that they knew something about the instructional content of the class indicated that they knew "a great deal."

Table 4.2
Parent Knowledge of/Opinions About Instruction in Class

Characteristic/Opinion	Percentage	Percentage with don't know response
Met teacher (n = 72)	68.1	--
Observed class period (n = 72)	8.3	--
Amount of information about instructional content (n = 71)		
A great deal	12.7	--
Some	43.7	--
Only a little	26.8	--
None	16.9	--
Opinion about amount of information given about student expectations (n = 70)		
Too much	1.4	--
Just right	55.7	--
Not enough	21.4	--
No information given	21.4	--
Approve/greatly approve of:		
Instruction (n = 60)	83.4	5.0
Equipment/materials (n = 60)	73.3	18.3
Textbook (n = 59)	59.4	23.7
Class size (n = 60)	68.3	11.7
Subject matter (n = 60)	91.7	3.3
Amount of time on projects (n = 58)	75.9	8.6
Chance to learn employability skills (n= 60)	86.7	6.7
Student expectations (n = 60)	81.6	10.0

Note: Percentages may not add to 100.0 due to rounding. -- denotes not applicable.

We asked parents for their opinions about the amount of information they had been given about student expectations in the EFE class. Over 40 percent indicated that they had no information or not enough information about what was expected of their students. Virtually all of the other parents reported that the amount of information they had been given about student expectations was "just right."

The bottom panel of the table provides indicators about how parents perceived the quality of various characteristics of the class. The respondents were asked how well they approved of eight class characteristics: instruction, equipment/materials, textbook, class size, subject matter, amount of time spent on projects, chance to learn employability skills, and student expectations. The data show that the parents were generally quite pleased. Over 80 percent of the parents approved of or greatly approved of the EFE class instruction, content (subject matter), chance to learn employability skills, and student expectations. The approval ratings for the class textbook and for equipment/ materials appear low, but a significant share (20-25 percent) of parents indicated that they did not know about them. If we adjust the data to account for the "don't know's," then the approval ratings would be much higher and would be consistent with the other class characteristics. The lowest rated class characteristics were class size and amount of time on projects. However, even for these characteristics, about 70-75 percent of parents approved or greatly approved of them.

This section of the questionnaire also asked parents open-ended questions to list three positive aspects about their students' class and three recommendations for improvement. Table 4.3 presents the responses that we received. The positive aspects that were mentioned most often included "introduced student to real world," "enjoyable class, learned a lot," "supplemental opportunities" (apprenticeships, other work site opportunities, student vocational organizations),

"learned useful skills," and "(name) of a specific teacher or EFE staffperson." Note that among the recommendations for improvement, the comment that was mentioned most often was "None (everything was positive)." Along with that positive result, there were a few complaints. A total of 13 parents mentioned some logistical problem such as transportation or communication with parents; five parents were concerned about the pace or relevance of the class; and another five thought that there was not enough individual attention.

Table 4.3
Positive Aspects and Recommendations for Improvement from Parents

Aspect	Number of times mentioned
Positive aspects	
Introduction to work/real world	26
Helpful for postsecondary plans	2
Hands-on instruction	9
Learn useful skills	14
Supplemental opportunities	15
Specific teacher/staff person	14
Enjoyed class/learned a lot	18
Individual attention	10
Other	16
Recommendations for improvement	
None (everything was positive)	14
Pace or relevance	5
Specific teacher/staff person	1
Logistics, organization (e.g. communication w/parents, transportation)	13
Not enough individual attention	5
Facilities	2
Other	14

Opinions about EFE

The last two questions in the parent survey asked for opinions about the Education for Employment (EFE) consortium. Data from these questions are displayed in table 4.4. First, parents were asked how well they approved of the way EFE prepares students for employment, college, learning technical skills, learning academic skills, work environments, and productive careers. For each of these items, about 15 percent of the respondents were noncommittal; they indicated that they didn't know. However, by the remainder of the respondents, EFE was viewed favorably. About two-thirds of the entire sample (or 80-85 percent of the respondents who gave an opinion) approved

or greatly approved of EFE's preparation of students for these outcomes. As would be expected, the lowest ratings of approval were for college preparation and learning academic skills. The highest rating was for learning technical skills.

Table 4.4
Parent Opinions about EFE

Opinion	Percentage	Percentage with don't know responses
Approve/greatly approve of way EFE prepares students for		
Employment (n = 66)	66.7	13.6
College (n = 65)	63.1	15.4
Learning technical skills (n = 66)	75.7	13.6
Learning academic skills (n = 66)	63.7	13.6
Work environments (n = 65)	69.2	13.8
Productive careers (n = 66)	71.3	12.1
Comments about EFE	Number of times mentioned	
Very positive	20	
More information needed for parents	3	
Counselors were a problem	2	
More programs suggested/needed	4	
Negative comment about specific individual	3	
Not enough information to comment	7	
Other	6	

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

Summary

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

- The respondents were not particularly active participants in the decision to enroll in the EFE class. They mostly relied on student information, which was deemed adequate by them.
- If there were an area in which the parents would have liked more information, it was in the career outcomes of various programs: career ladders and starting salaries.
- Many of the parents had met their student's teacher, but few had observed a class period.

- Parents approved or greatly approved of all aspects of the EFE class, although they were least knowledgeable about textbooks, equipment, and student expectations.

- Parents particularly liked EFE classes for introducing their students to the work world and real-life experiences.

5. Employer Involvement with EFE

The telephone survey of employers that was conducted in Summer 1996 collected data from respondents at 72 establishments who had student interns through EFE during the 1995-96 school year and from 78 establishments who had not. In this chapter, we refer to the former as "participants" and the latter as "nonparticipants." First, we examine the difference between the two populations.

Characteristics of Participant and Nonparticipant Establishments

Table 5.1 displays various characteristics of participant and nonparticipant establishments. A large majority of both were private for-profit corporations, 76 percent of participant employers and 86 percent of nonparticipant employers. The establishment was the sole facility in a corporation or partnership in 62 percent of the participant group and 73 percent of the nonparticipant group. Note that due to limited sample sizes, neither of these differences were statistically significant.

The establishments were mostly local or metropolitan-centered. Upon being asked to categorize the main market for their goods or services, the majority of both participant and nonparticipant responses defined the main market for their goods and services to be the metropolitan area, 51 percent of participants and 47 percent of nonparticipants. Next for both groups was the neighborhood market, 22 percent of participants and 29 percent of nonparticipants. Only about a quarter of the establishments served national or international markets. Again, these differences were not significant.

Table 5.1
Characteristics of Participant and Nonparticipant Establishments

Characteristic	Participants	Nonparticipants	p-value[a]
Establishment type			
Private for-profit corporation	76	86	.39
Private non-profit	13	10	--[b]
Local government	4	3	--[b]
State government	4	0	--[b]
Federal government	1	1	--[b]
Main market for the firms goods/services			.14
Neighborhood	22	29	
Metropolitan area	51	47	
National	19	23	
International	6	0	
Establishment characteristics			
Sole facility in a corporation or business	62	73	.14
Years establishment has been in business	33 years	28 years	.31
Total employees at establishment	142 workers	73 workers	.22
Some or all nonmanagerial workers unionized	13	11	.77
Trends in profits[c]			.27
Increasing	49	40	
Remained the same	31	48	
Decreasing	9	7	
Degree of competition from both domestic and foreign companies			.85
None	4	7	
Very little	13	12	
A moderate amount	27	28	
A great deal	55	52	
Most important factor in how firm competes in its market			.27
Price	18	25	
Quality	55	57	
Innovation of new products/service	5	9	
Customization	7	4	
Brand name loyalty	9	1	

Notes: Table entries are percentages, except as noted. Columns may not add to 100 due to rounding.
[a]p-value from t-tests for differences in means (assuming equal variances) and χ^2 test for discrete frequencies.
[b]Not tested.
[c]Question did not specify time period.

Participant establishments had been in business longer and were larger in terms of employment. The average time that the establishment had been in business was 33 years for participants and 28 years for nonparticipants. The average participating employer establishment had 142 employees, while the average number of workers for a nonparticipating employer was 73.

There was little difference in the percentage of firms that had unionized nonmanagerial workers, 13 percent versus 11 percent for participants and nonparticipants, respectively.

Reflecting the positive nature of general trends in the economy, most respondents indicated that their firms' profits were either increasing (49 percent of participants and 40 percent of nonparticipant firms) or not changing (31 percent of participants and 48 percent of nonparticipants.) Decreases in profits were reported by only 9 percent of participants and 7 percent of nonparticipants. Over four-fifths of the respondents in both the participant and nonparticipant group reported a moderate level of or a great deal of competition from domestic or foreign firms.

Employers were asked to identify how their firms compete in the market. Quality was the primary mechanism. Over half of the participating, and nonparticipating establishments noted that the most important factor in how their firms competed was through quality. Eighteen percent of participants and one-quarter of nonparticipants competed through prices. Innovation of new products or services was the most important factor for five percent of participating firms and nine percent of nonparticipating firms. Customization of products or services was the most important competitive factor for seven percent of participants and four percent of nonparticipants. Established brand-name was the most important competitive factor for nine percent of participants and one percent of nonparticipants.

Summary information from the data that were collected about the workforces of the establishments is displayed in table 5.2. Full-time workers comprised, on average, 66 percent of workers for participant employers and 72 percent of workers for nonparticipant employers. The average percentage of workers who were part-time was 31 percent for participant firms and 26 percent for nonparticipant firms. The average percentage of workers who were temporary was 3

Table 5.2
Characteristics of Workers

Characteristic	Participants	Nonparticipants	p-value[a]
Full-time status			
Percentage of workers full-time	66	72	.19
Part-time	31	26	.23
Temporary	3	2	--[b]
Occupation			
Managers, professionals, and technical staff	32	24	.07
Sales	13	11	--[b]
Service workers and clerical staff	33	26	.19
Production workers	22	36	.01*
Yearly turnover rate among nonmanagerial workers	24	14	.04*
Age of nonmanagerial employees			
Under age 25	32	22	.07
Age 50 or older	11	13	.36
Percentage of nonmanagerial employees who are female	46	39	.18
Percentage of nonmanagerial employees who are nonwhite	13	8	.08
Changes in skill level required for entry-level work in recent years:			.00*
Increased a lot	10	10	
Increased somewhat	57	32	
Remained the same	25	53	
Decreased somewhat	8	1	
Decreased a lot	0	0	

Notes: Table entries are percentages. Columns may not add to 100 due to rounding.
[a]p-value from t-tests for differences in means (assuming equal variances) and χ^2 test for discrete frequencies.
[b]Not tested.
* Difference is statistically significant at the .05 level.

percent for participant firms and 2 percent for nonparticipant firms. None of these differences were statistically significant.

Some of the occupational differences between participant and nonparticipant establishments were significant. In particular, participants had more managers, professionals, and technical staff and fewer production workers. An average of 32 percent of participant and 24 percent of nonparticipant employees were managers, professionals, and technical staff. Sales employees were, on average, 13 percent of the workforce for participant establishments and 11 percent for

nonparticipant establishments. Service workers and clerical staff made up an average of 33 percent of the workforce for participants and 26 percent for nonparticipants. Production workers were an average of 22 percent of participant employers' workforce and 36 percent of nonparticipant employers' workforce.

The yearly turnover rate among nonmanagerial workers was significantly higher for participants in EFE's internship programs. This group had an average of 24 percent of their nonmanagerial workforce turn over yearly. The average annual turnover rate for the nonmanagerial workforce of nonparticipants was 14 percent. The percentage of nonmanagerial employees under age 25 was, on average, 32 percent for participant employers and 22 percent for nonparticipant employers. The participant employers reported that an average of 11 percent of their nonmanagerial employees were age 50 or older, the nonparticipant employers reported a slightly higher average of 13 percent. Female employees were an average 46 percent of nonmanagerial employees for participant firms and 39 percent for nonparticipant firms. The nonwhite share of the workforce was an average of 13 percent of the nonmanagerial workforce for participants and 8 percent for nonparticipants. These differences were not statistically significant.

The majority of employers reported an increase in the skill level required for entry-level work. Ten percent of respondents from both participant and nonparticipant establishments reported that skill levels required for entry-level work increased a lot. Skill levels required for entry-level work were reported to have increased somewhat by 57 percent of participants and 32 percent of nonparticipants. Twenty-five percent of participants and 53 percent of nonparticipants reported that required skill levels have remained the same. These differences were significant and may be an important explanation for participation. Only eight percent of participants and one percent of

nonparticipants reported that skill levels required decreased somewhat, and no employers in either group reported skill level requirements decreasing a lot.

The employers were also surveyed about various human resource policies and training practices. Table 5.3 provides summary data from the responses the these questions. Training practices included registered apprenticeships in 28 percent of participant firms and 12 percent of nonparticipant firms. External training programs paid for by the establishment were provided by 63 percent of participants and 41 percent of nonparticipants. Training included in-house training departments or staff for 62 percent of participant employers and 59 percent of nonparticipant employers. Customized training by community colleges was provided to nonmanagerial workers by 31 percent of participants and 15 percent of nonparticipants. Remedial math or reading courses were provided by 13 percent of the participants and 5 percent of the nonparticipants. Forty-nine percent of participant firms and 23 percent of nonparticipant firms provided tuition reimbursement to nonmanagerial workers. In short, participant establishments provided more training of each type, but the differences were particularly significant for registered apprenticeships, external training programs, customized training, and tuition reimbursement.

Workforce growth was also investigated by the survey. Establishments that had used interns were growing slightly faster than nonparticipants. The percentage of participants reporting that the total number of employees was increasing was 46 percent versus 38 percent of nonparticipant firms. Respondents were also asked about their use of temporary workers, how that use was changing over time, about their use of subcontracting, and how that practice has changed over time. The table

Table 5.3
Human Resource Policies and Training Practices

Policy or Practice	Participants	Nonparticipants	p-value[a]
Types of training for nonmanagerial workers			
Includes registered apprenticeships	28	12	.02*
Includes external training programs paid for by the establishment	63	41	.01*
Includes in-house training departments or staff	62	59	.71
Includes customized training provided by community colleges	31	15	.03*
Includes remedial math or reading courses	13	5	.13
Includes tuition reimbursement	49	23	.001*
Trend in total number of employees at establishment			.44
Increasing	46	38	
Decreasing	10	6	
Unchanging	44	54	
Trends in use of temporary workers and subcontractors			.00*
Use of temporary workers is increasing	17	9	
Use of temporary workers is decreasing	6	8	
Use of temporary workers is unchanging	47	14	
Never used temporary workers	29	69	
Firm is now subcontracting work that was previously performed in-house	25	8	---[b]
Use of subcontractors is increasing	50	67	.71
Use of subcontractors is decreasing	6	0	
Use of subcontractors is unchanging	44	33	
Human resource practices			
Job rotation	47	30	.03*
Self-managed work teams	46	27	.02*
Employee problem-solving groups	43	28	.06
Total quality management	36	25	.15
ESOP or profit-sharing plan	35	26	.25

Notes: Table entries are percentages. Column totals may not add to 100 due to rounding.
[a]p-value from t-tests for differences in means (assuming equal variances) and χ^2 test for discrete frequencies.
[b]Not tested.
* Difference is statistically significant at the .05 level.

shows a dramatic difference in the use of temporary workers and in the use of subcontracting between participating and nonparticipating organizations. Almost 70 percent of the nonparticipants indicated that they had never used temporaries, whereas only about 30 percent of participating establishments had never used them. A quarter of the participants have subcontracted work that was previously conducted "in-house," whereas only 8 percent of nonparticipants reported this practice.

The last item in the table addresses various human resource practices. As with the types of training, participant firms had a higher likelihood of using each of the practices. Job rotation was a practice used by 47 percent of participants and 30 percent of nonparticipants. This was a significant difference, as were the differences for self-managed work teams and employee problem-solving groups. Self-managed work teams were used by 46 percent of participants and 27 percent of nonparticipants, and employee problem solving groups by 43 percent of participants and 28 percent of nonparticipants. Total quality management was a practice used by 36 percent of the participant employers and 25 percent of nonparticipant employers. ESOP or profit-sharing plans had been established at 35 percent of participants and 26 percent of nonparticipants.

In summary, establishments that had employed interns tended to be larger and were more likely to be part of a larger corporation than were nonparticipants. They tended to have more workers in the occupational classes of managers, professionals, and technical workers and fewer production workers. They provided more training to their nonmanagerial workers, were much more likely to employ temporary workers, and more likely to have started subcontracting work that had previously been done "in-house." They were also more likely to have instituted the practices associated with high performance workplaces, especially self-managed teams and job rotation.

Motivations of Participants and Descriptive Information about Internship Practices

The average number of interns hired by a participating establishment between September 1995 and May 1996 was 2.0, with a minimum of one intern hired by many establishments and a maximum of 19 interns hired by one. Respondents were asked how they learned of the EFE internships. Of the specific response categories, only phone contact from an EFE representative

(indicated by 29 percent of the employers) and students approaching the employer directly (19 percent) were significant responses. A plurality of responses came from "other," but unfortunately the data provided did not elaborate on what these means of contact were.

The participants were asked about the elements of the program that were included in their firm's participation. Table 5.4 summarizes their responses. Eighty-nine percent used a mentor or supervisor to teach the student job-related skills. Documentation and evaluation of student learning at the worksite was also conducted by 89 percent of the participants. Eighty-five percent of the participants include a written agreement between the firm and the school or student. Rotation of students among several jobs was implemented as part of the program by 56 percent of employers. Advice on the content of school curriculum was given by 44 percent of the employers. Customized training programs designed especially for the student were created by 42 percent of the employers participating in the program. Twenty-eight percent of the employers provided some training for the mentors or supervisors participating in the program. The company served on the advisory board of the school-to-work program in 21 percent of the participants responses. Twenty-one percent of the participating

Table 5.4
Elements of the Internship Programs

Elements:	Percentage
Program included:	
Written agreement between the firm and school or student	85
Workplace mentor or supervisor who counsels students or teaches students their job-related skills	89
Rotation of students among several jobs	56
Employer advises school on content of curriculum	44
Training for mentors or supervisors	28
A customized training plan designed specifically for each student	42
Company provides classrooms at the work site	21
Student learning at the work site is documented and assessed	89
Company staff teaches or makes presentations to students at the school	19
Company serves on the advisory board to the program	21
To screen an intern, firms will:	
Interview the student either in person or over the phone	88
Administer a paper and pencil competency test	11
Get references from the school or other sources	74
Request transcripts from the school	15

Note: Sample size is 72.

employers' programs included providing classrooms at the worksite. Company staff taught or made presentations to students at school in 19 percent of the cases.

In screening potential interns for positions, 88 percent of the participants interviewed the student either in person or over the phone, 74 percent got references for the student from the school or other sources, 15 percent requested student transcripts, and 11 percent administered a paper and pencil competency test.

The average internship lasted 36 weeks, with the intern working on average 16 hours per week. In the average internship, it took about 18 hours for the intern to learn their job. About two-thirds of the interns were paid, and for them, the pay averaged $5.17 per hour.

The interns compared favorably to entry-level workers in terms of their work performance. Table 5.5 displays summary data from the responses to a question in which participants were asked to compare interns to entry-level employees at their firm. Two-thirds or more of the respondents felt that interns were "as good as" or "better than" entry-level workers in all of the dimensions listed in the table: attendance, reliability, attitude, productivity, training required to learn the job, writing skills, math skills, communication skills, and technical skills.

Table 5.5
Comparison of Interns to Entry-Level Workers

Characteristic	Better	The Same	Not as Good	N/A
Attendance	31	54	13	3
Reliability	31	47	19	3
Attitude	33	53	11	3
Productivity	17	53	28	3
Training required to learn the job	14	61	21	3
Communication skills	15	49	33	3
Writing skills	18	53	19	10
Math skills	17	61	11	11
Technical skills	14	51	29	6

Note: Table entries are percentages. Sample size is 72. N/A means respondent chose not to answer or didn't know. Rows may not add to 100 due to rounding.

Obviously, employers perceived that they were receiving a productivity benefit from the EFE interns. As shown in the table, 70 percent of the employers reported that the productivity of interns equaled or exceeded the productivity of entry-level workers. Furthermore, table 5.6 shows that most respondents indicated that the interns were doing tasks that would have been assigned to employees. That table shows that over two-thirds of the participants responded that if a student intern were not available, the work would be reassigned to existing employees or the employers would have hired additional staff.

Table 5.6 also shows the educational attainment of workers who would be reassigned to the tasks that student interns were performing. The reported education level for a non-intern in this position was a high school diploma in 61 percent of responses, some postsecondary education in 16 percent, a technical certificate or two-year college degree in 13 percent, an elementary education in 7 percent, and a four-year college degree in 3 percent. The average starting wage reported by participants for entry-level employees in the type of position held by the intern was $5.99 per hour.

Table 5.6
Characteristics of the Work Undertaken by EFE Interns

Characteristic	Percentage
Without interns, how would the work get done?	
Work would be reassigned to existing employees	49
Additional staff would be hired	19
Unpaid volunteers would be recruited	6
The work would not get done	3
Other/Don't know	15
Education level of regular employees in this position:	
Elementary school education	7
High school diploma	61
Some postsecondary education	16
Technical certificate or two-year college degree	13
Four-year college degree	3
What is the starting wage per hour for entry-level employees in this position? (n = 66)	$5.99

Note: Table entries, except as noted, are percentages. Except as noted, sample size is 72. Columns may not add to 100 due to rounding.

The fact that interns, for the most part, were productively engaged in actual work tasks required by the firm was obviously a benefit to the employers.

Another advantage of internships for both employers and students was the possibility that the internship may lead to a permanent hire. Of the participants surveyed, 57 percent reported that they make offers of permanent employment to some or all interns. The percent of interns that the firms offered permanent positions to was, on average, 66 percent. Of those who responded that they do not make offers of permanent employment, 36 percent reported requiring a higher level of skill for permanent jobs, 16 percent only used interns for temporary work, and 13 percent faced budget constraints.

The survey collected information about motives to participate in an EFE internship. As shown in table 5.7, 90 percent felt that a desire to improve the public education system and an opportunity to contribute to the local community were important factors. Access to a pool of qualified workers was an important motivation for 68 percent of the respondents. The ability to gain access to pre-screened applicants and increased training being necessary for their industry to remain competitive were important to 65 percent of establishments. Sixty percent found the program important as a good way to hire

Table 5.7
Motivating Factors for Participants

Factor	Percentage who find factor important	Percentage who find factor most important
Local labor shortage	39	6
Opportunity to test the performance potential of employees	57	10
Good way to hire part-time or short-term workers	60	19
Desire to help improve the public education system	90	26
Encouragement from industry groups or other employers	33	0
Good way to reduce firm's expenditures on benefits	24	3
Opportunity to contribute to the local community	90	16
Gain access to pre-screened applicants	65	1
Increased training is necessary for your industry to remain competitive	65	6
Access to a pool of qualified workers	68	14

Note: Sample size is 72.

part-time or short-term workers. An opportunity to test the performance potential of employees was an important factor to 57 percent. Local labor shortages were an important impetus to 39 percent, encouragement from industry groups or other employers was important to 33 percent, and a good way to reduce firm's expenditures on benefits was important to 24 percent of firms.

Each respondent was asked to choose the most important factor from their list of important motives. The desire to help improve the public education system was the top choice for 26 percent of employers. The second highest, 19 percent, indicated that it was a good way to hire part-time or short-term workers. Sixteen percent of respondents felt the most important factor was the opportunity to contribute to the local community. Access to qualified workers was the most important factor to 14 percent of firms, whereas 10 percent of firms felt that the opportunity to test the performance of potential employees was the most important factor.

Table 5.8
Employer Opinions about Working with EFE

Aspects of the Program	Poor	Fair	Good	Excellent	Don't Know
Overall program coordination	1	14	53	28	4
School's response to problems	3	11	42	29	15
Communication channels between workplace and school	4	17	54	21	4
Quality of students	3	10	67	18	3
Program flexibility	0	10	61	24	6
Classroom support for work experience	4	24	35	15	22

Note: Table entries are percentages. Sample size is 72. Rows may not add to 100 due to rounding.

Participating employers provided ratings about how easy or difficult it was to work with the EFE program. This data is presented in table 5.8. All in all, employers were satisfied with the program. For most aspects of the program, three-quarters or more of the employers rated EFE as "Good" or "Excellent." Overall program coordination was rated good by 53 percent and excellent by 28 percent of respondents (the other choices were poor, fair, or don't know). EFE's response to problems was rated good by 42 percent and excellent by 29 percent of employers. Responding employers were satisfied

with communication channels between the workplace and school—54 percent good and 21 percent excellent. Eighty-five percent of employers rated both the quality of students and program flexibility as good or excellent. Classroom support for the work experience received more mixed reviews; a large share of employers, 22 percent, indicated that they didn't know. However, four percent of the total sample rated it as poor, 24 percent as fair, 35 percent as good, and 15 percent as excellent.

Table 5.9
Employer Concerns about Participating in Internship Programs

Concern	Participants		Nonparticipants	
	Mentioned as a concern	Most important concern	Mentioned as a concern	Most important concern
Resistance among employees	6*	0	26	1
Lost productivity of workers who train and supervise the students	28*	20	46	21
Students might leave after training is completed	25*	4	63	24
Opposition from unions	4*	2	17	4
Uncertain economic climate	14	4	27	1
Students lack basic skills	34*	16	58	9
Violation of child labor laws and OSHA health and safety regulations	24*	22	47	12
Students are not always available when needed	45*	18	71	15
Students are unreliable or immature	28*	13	56	12
Student wages are too costly	1*	0	19	0
Problems working with schools	3*	0	17	0

Note: Table entries are percentages. Sample size for participants is 71; for nonparticipants is 77. Frequency distributions for "Most important concern" are not significantly different (p-value = .189).
* Difference between participants and nonparticipants is significant at the .05 level.

Both the participants and nonparticipants were asked about specific concerns that they might have about participation in student internships. Table 5.9 provides summary data for these questions. For each area of concern, fewer participants than nonparticipants expressed concern about the issue. All of the differences are statistically significant. The specific concerns could be classified into four general areas: reactions from existing workers to the use of interns, economic concerns about the costs and benefits of

interns, concerns about the skills or maturity or students, and concerns about working with school systems.

The primary area of concern was with the skills and maturity of the students. The lack of basic skills of students concerned 34 percent of participants and 58 percent of nonparticipants. Forty-five percent of participants and 71 percent of nonparticipants were concerned that students were not always available when needed. Immature or unreliable students were a concern for 28 percent of participating firms and 56 percent of nonparticipating firms. The age of the students also seemed to be a concern. The percentage of participants concerned with violation of child labor laws and OSHA health and safety regulations was 24 percent, while 47 percent of the nonparticipants were concerned with this issue.

The second most important area of concern was economic costs and benefits. The lost productivity of workers who train and supervise students was a concern for 28 percent of participants and 46 percent of nonparticipants. The concern that students might leave after training was completed was shared by 25 percent of program participants and 63 percent of nonparticipants. The wage cost of students, however, was not an important factor. The concern that student wages were too costly was only expressed by 1 percent of participants and 19 percent of nonparticipants in EFE internships.

Reactions from existing workers was not a significant concern. Resistance among current employees to having interns was a concern for only 6 percent of participating establishments and a concern for 26 percent of nonparticipants. The concern that unions would oppose the program existed for 4 percent of participant respondents and 17 percent of nonparticipants. Fourteen percent of the participants and 27 percent of the nonparticipants considered uncertain economic climates to

be a concern. Only 3 percent of participating employers expressed concern over problems working with the schools, and 17 percent of nonparticipating employers shared this concern.

Respondents were asked to identify their most important concern from the items that were listed. In this case, the frequency for participants could not be distinguished statistically from the frequency for nonparticipants. The most important concern of participants was child labor laws and OSHA health and safety regulations; this was the top concern of 22 percent of participants. The second most frequent choice, chosen by 20 percent of participants, was the lost productivity of workers who train and supervise the students. Third was the concern that students were not always available when needed, the most important concern of 18 percent of participants. Next was the concern that students lack basic skills, the most important concern of 16 percent of participants. Thirteen percent of participants stated that students being unreliable or immature was their most important concern.

The nonparticipants seemed to be more concerned about economic items. The items most important to this group were headed by the concern that students would leave after being trained and the lost productivity of workers who train and supervise the students, at 24 percent and 21 percent, respectively. Students not always being available when needed was the most important concern for 15 percent of the nonparticipants. Students being unreliable or immature and OSHA health and safety regulations were each the most important concern of 12 percent of the nonparticipants.

In short, about one-third to one-half of the participants were concerned about student skills or availability, compared with about two-thirds of nonparticipants. Somewhat fewer employers, perhaps a quarter to one-third of the participants and about half of the nonparticipants, were concerned about the economic costs of training and the likely loss of investment when students

leave. Relatively few respondents reported that they had concerns about employee reactions to the use of interns or about working with schools.

EFE Participation Besides Internships

Most of the survey concerned EFE internships, but respondents were asked whether they collaborated with EFE or other community institutions in other ways. Table 5.10 displays the data for participants and nonparticipants. Not surprisingly, a much higher percentage of participant establishments indicated that they were engaged in other forms of involvement, except for donations to charities or community institutions. The percentage of respondents who recently participated in career days at local high schools or colleges was 51 percent of participants and 20 percent of nonparticipants. Establishments that reported recently providing workplace tours, mentors, or job shadowing for high school or college students made up 67 percent of participant firms and 17 percent of nonparticipants. Fifty-two percent of participants and 27 percent of nonparticipants recently served on advisory boards of community institutions. All of these differences were statistically significant. The percentage of participants who recently donated money or equipment

Table 5.10
Participation Other Than through Internships

Type of Participation	Participants	Nonparticipants
Recently participated in career days at local high schools or colleges	51*	20
Recently donated money or equipment to charities or community institutions	76	74
Recently provided workplace tours, mentors, or job shadowing for high school or college students	67*	17
Recently served on advisory boards of community institutions	52*	27

Note: Table entries are percentages. Sample size is 72 participants and 78 nonparticipants.
* Difference is statistically significant at the .05 level.

to charities or community institutions was 76 percent of participants and 74 percent of nonparticipants.

Incentives for Nonparticipants

The employers who did not participate in EFE internships were asked questions about familiarity with and interest in participating in EFE programs. Familiarity was not much of an issue. Almost two-thirds of nonparticipants had heard of the term "school-to-work" program. When asked if they knew of any employers who participate in this type of program, 32 percent responded positively. Fourteen percent said they had been approached and asked to participate in a school-to-work program. Of those who had been approached, 64 percent said they were still considering it. When asked if they would consider participating if a school called today and asked, 66 percent of the nonparticipating employers said they would consider it.

Incentives that would increase the likelihood of a firm participating in a school-to-work program included targeted jobs tax credit or other tax incentive (according to 60 percent of nonparticipants), wage subsidies for student workers (70 percent), subsidies covering worker's compensation for interns for (67 percent), and reimbursement for staff time spent training or supervising students (72 percent).

6. EFE Completers

Another stakeholder group that was surveyed was former EFE students. The sampling frame for this survey was students who were classified as seniors in 1994/95 and who were enrolled in an EFE class at the end of that school year. These students were surveyed by telephone in May through July 1996, which was a little over a year after they graduated from high school. As noted in a table below, about 3 percent of the students did not graduate in 1995, and reported that they graduated in 1996. We estimated the sample size to be around 1,000 students, and responses were received from about 470 students.

Note that the data that we have from EFE completers is different from what the population for the student survey would look like if we reinterviewed students 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 were systematic differences in the characteristics of respondents and nonrespondents.

The main subjects of the survey included the postsecondary experiences of the students, 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 by whether or not the students participated in a work-based program while in EFE.

Postsecondary Experiences

Table 6.1 summarizes the postsecondary experience data for the EFE completers. The respondents were almost perfectly divided among three groups: attending a four-year institution,

Table 6.1
Postsecondary Experiences of EFE Completers

Characteristic	Sex		Race		Work-based program		Total
	M	F	W	NW	Y	N	
Postsecondary Status							
Not attending school	31.3	26.6	28.9	29.8	27.3	29.7	29.0
-- Full time active duty military	10.2	1.0	6.0	0.0	3.7	6.5	5.8
Just completed high school	3.3	3.2	3.0	5.3	0.7	4.6	3.3
2 year institution	32.1	34.9	33.7	31.6	37.8	31.7	33.4
4 year institution	33.3	35.3	34.4	33.3	34.3	34.0	34.3
For those in 2 or 4 year postsecondary, major field/program							
Accounting/finance	5.8	6.4	6.0	5.6	3.9	7.2	5.9
Business-related	22.1	12.8	17.6	16.7	10.8	20.5	17.5
Communications	3.3	2.0	3.0	0.0	2.9	2.6	2.6
Computers	5.2	1.3	3.8	0.0	1.0	4.6	3.3
Cosmetology	0.0	0.7	4.0	0.0	0.0	0.5	0.3
Criminal justice	6.5	7.4	6.4	11.1	5.9	7.7	6.9
Education	4.6	16.8	11.6	2.8	18.6	6.7	10.6
Engineering	6.5	2.7	4.1	8.3	4.9	4.6	4.6
Graphic/fine arts	6.5	4.0	5.2	5.6	6.9	4.1	5.3
Marketing	7.8	6.0	7.9	0.0	4.9	8.2	6.9
Medical-related	6.5	18.1	10.5	25.0	14.7	11.3	12.2
Agriculture	2.6	2.0	2.6	0.0	4.9	1.0	2.3
Liberal arts	2.6	1.3	1.1	8.3	1.0	2.1	2.0
Sports/leisure	0.7	0.7	0.8	0.0	1.0	0.5	0.7
Trade & industrial	5.2	0.7	3.4	0.0	3.9	2.6	3.0
Travel & tourism	1.3	1.3	1.5	0.0	2.0	1.0	1.3
Undecided	13.0	16.1	14.2	16.7	12.8	14.9	14.5
Training related to named field							
A lot	49.3	52.2	51.9	42.4	60.4	46.1	50.7
Some	26.8	14.9	22.2	12.1	15.4	23.3	21.0
Hardly any	13.4	17.2	15.6	12.1	15.4	15.6	15.2
None	10.6	16.8	10.3	33.3	8.8	15.0	13.0
Degree working on							
Associate's	21.9	26.3	25.6	13.5	27.2	23.2	24.1
Bachelor's	56.8	58.6	57.8	56.8	54.4	59.1	57.7
Other/none/don't know	21.3	15.1	16.7	29.7	18.5	17.7	18.2
Sample Size	248	220	410	58	144	314	468

Note: Table entries are percentages. Full-time active duty military is a subset of not attending school. Columns may not add to 100.0 due to rounding.

attending a two-year institution, or not attending school (including just graduated from high school). None of the differences between sex, race, or participation in a work-based program in the rates of postsecondary attendance were statistically significant, although males appear to have lower rates than females. For example, 31 percent of males reported that they were not attending school, whereas 27 percent of females were not attending school.

The military was an option for a number of EFE completers. Almost 6 percent reported that they were in full-time active duty. Not surprisingly, these survey respondents were primarily male (only 2 females out of 220 respondents indicated that they were in the military.) However, we were surprised to find that none of the minority students had chosen this option compared to 6 percent of the whites.

If we compare the postsecondary attendance plans of the current EFE students with the actual postsecondary attendance rates of EFE completers, we find that the latter were slightly lower than the former. In table 3.6, we reported that roughly three-quarters of current students planned to attend a postsecondary institution right after high school. Table 6.1 shows that about two-thirds were attending. The actual rates were lower than the planned rates for current students for all population groups, but the greatest discrepancy was for females. Eighty-five percent of current students planned to go on to postsecondary schooling right after graduation, but only 70 percent of female students in the follow-up survey were in school.

The other items in the table concern the postsecondary experiences of the EFE completers who reported that they are attending a two- or four-year institution. About 15 percent of those students reported that they were undecided about a major or program. For those who named a major or program field, business-related had the highest percentage of students—about 18 percent. Other

fields with more than ten percent of the students were medical-related programs and education. Males were much more likely to be in business-related, computer-related, and engineering programs/majors than were females. Conversely, females were more likely to be in education and medical-related fields. Minority students were more likely to be in criminal justice, engineering, and medical-related fields than whites, but much less likely to be in education, marketing, and trade & industrial fields. Students with work-based program experience were more likely to be in education (reflecting the teacher externship program), medical-related, and agricultural fields. They were less likely to be in business-related fields.

Attention is often focused on the extent to which career and technical education students pursue majors or programs in postsecondary schooling that are related to their courses in high school. About 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." Training-relatedness was higher for males than for females, for whites than for minorities, and for students who had a work-based program. Note that a third of the minority students were in a major or field that was not related to their EFE class.

About a quarter of the students (half of that fraction for minorities) in a postsecondary institution reported that they were pursuing an associate's degree. About 60 percent, with almost no variation across the groups, were pursuing a bachelor's degree. A fifth of the students were pursuing other degrees or were not sure about what degree they were pursuing.

Employment Status

Another subject of the survey was current employment status. Note that these data represent an amalgam of part-time work experiences of students who might be pursuing summer school, summer jobs for students who were pursuing postsecondary education, and full-time or part-time employment of students who were not attending postsecondary institutions. All together, table 6.2 shows that about 90 percent of the survey respondents indicated that they were currently working for pay. The employment rates of whites, students who participated in a work-based program, and postsecondary attendees were significantly higher than minorities, students who did not participate in a work-based program, and individuals who were not attending a postsecondary institution. Almost 20 percent of students who didn't pursue postsecondary education were not working and almost 30 percent of minorities were not working.

Table 6.2
Employment and Unemployment Status of EFE Completers

	Sex		Race		Work-based program		Postsecondary			
Characteristic	M	F	W	NW	Y	N	2-yr	4-yr	No	Total
Employment rate	90.4	86.0	90.7*	71.4	93.3*	85.7	91.7	90.1	81.8*	88.2
If employed: (n=357)										
Apprenticeship?	3.4	1.7	2.8	0.0	4.1	1.7	2.3	1.6	4.3	2.5
Usual hours/week	36.7*	34.3	35.8	32.9	36.4	35.2	34.5	33.9*	39.2*	35.5
Hourly wage	$7.06*	6.14	6.61	6.60	7.13	6.35	6.17*	6.49	7.48*	$6.61
EFE training - relatedness (n=345)										
A lot	32.0	28.3	31.4	18.2	37.0	26.6	33.6	25.0	32.6	30.1
Some	24.4	19.7	22.8	15.2	19.3	23.4	23.2	21.8	19.6	22.0
Hardly any	16.3	13.9	16.0	6.1	12.6	16.7	15.2	15.3	14.1	15.1
None	27.3	38.2	29.8	60.6	31.1	33.3	28.0	37.9	33.7	32.8
Unemployment rate	5.5	7.5	3.8	24.5	2.3	8.4	5.0	4.2	11.6	6.5

Note: Sample size for employment rate and unemployment rate is 422. Table entries, except for usual hours and hourly wage, are sample percentages. Columns may not add to 100 due to rounding.
* Difference between population groups is significant at the .05 level.

Among the respondents who reported that they were employed, about 3 percent indicated that they were in a formal apprenticeship. This percentage is higher for males than females, whites than minorities, individuals who had participated in a work-based program, and individuals who did not pursue postsecondary education. The average work week for employed individuals was 35.5 hours. It was almost 40 hours per week for respondents who did not go on to college, which is almost five hours more per week, on average, than for individuals who did go on to postsecondary education. Males also averaged more hours per week than females.

The average hourly wage in the survey was about $6.60. The average was almost $1.50 higher for individuals not in school than for college attendees and was almost $1.00 higher for males than females.

We also asked respondents about how related the training in their EFE classes was to their current job. Just over half of the respondents indicated that it was relevant; just under half indicated that their EFE training had "hardly any" or "no" relatedness to their current job. Among the population groups, minorities reported a much lower rate of training-relatedness than did whites.

The unemployment rate is defined as the share of the labor force who are not working for pay and are looking for employment. For the sample as a whole, the unemployment rate was 6.5 percent. Note that it was much higher for minorities, for whom it was 24.5 percent, and it was much higher for individuals who did not attend postsecondary education, 11.6 percent. The unemployment rate was exceptionally low—only 2.3 percent—for individuals who had participated in a work-based program.

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 6.3 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 far fewer incidents of tardiness or absences in their senior year of high school

Table 6.3
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=416)	4.61	4.05	4.04*	6.57	3.88	4.60	3.77	3.77	5.13*	4.34	
Average number of absences (n=423)	4.72	3.76	4.25	4.41	3.83	4.55	3.63	3.55	5.26*	4.27	
Average GPA (n=437)	2.78*	2.98	2.90	2.74	3.04*	2.80	2.87	3.20*	2.54*	2.88	(B-)

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

than the current students reported. This data, of course, is subject to recall error since it pertains to a time period of over a year prior to the survey date.

The overall mean high school GPA for the follow-up sample, 2.88, is almost precisely the same as the GPA for current students, which suggests some consistency in reporting. Each of the population groups had significant differences in GPA. Males reported lower GPA's in high school than females. Whites had higher GPA's than nonwhites, and students who participated in work-based programs had higher GPA's than the students who did not participate in such experiences. Finally, as expected, students who went on to four-year colleges/universities had higher GPA's.

Table 6.4 provides identical data on EFE class satisfaction indicators for the completers as table 3.3 does for current students. Of course, the follow-up survey asked respondents to think back about their EFE classes, which they would have been enrolled in over a year before, and to provide their opinions about those classes. The current students were providing assessments of classes they were enrolled in at the time. 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

Table 6.4
EFE Program Satisfaction Indicators from Completers

	Sex		Race		Work-based program		Postsecondary			
Indicator	M	F	W	NW	Y	N	2-yr	4-yr	No	Total
Agree/strongly agree with "The classes are among the best..."	78	77	78	73	84*	74	80	76	77	78
Disagree/strongly disagree with "These classes are too hard..."	95	93	94	93	94	94	95	96	90*	94
Agree/strongly agree with "I got along with other students and we worked together..."	97	96	96	98	92*	99	95	97	97	97
Agree/strongly agree with "The equipment and facilities were excellent."	81	76	79	81	75	81	79	79	80	79
Disagree/strongly disagree with "not enough information..."	69	75	71	78	76	71	76	70	71	72
Agree/strongly agree with "The program treated everybody fairly."	93	88	91	89	88	92	93	91	89	91
Agree/strongly agree with "I could get questions answered..."	94	92	94	87	92	94	95	93	93	93
Disagree/strongly disagree with "the program seemed disorganized."	84	80	81	85	75*	85	81	81	84	82
Letter grade for program quality	3.51	3.41	3.47	3.37	3.54*	3.42	3.46	3.55*	3.37*	3.46 (A-/B+)

Note: Table entries for the first eight rows are percentages of the sample who gave a favorable rating of 1 or 2 (or 4 or 5 for the negatively worded statements) 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 468. Approximately 30 responses are missing for each item. Sample size for average letter grade is 440.

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

statement that "EFE classes were among the best classes in high school." Almost 80 percent of the respondents agreed with this statement. Students who had participated in a work-based program had a higher level of agreement than did nonparticipants. Almost 95 percent of the respondents disagreed with the statement that "these classes were too hard." Students who attended postsecondary schooling disagreed more than those who didn't. Almost 97 percent of the sample agreed with the statement, "I got along well with other students and we worked together frequently." Fewer respondents with work-based experiences in EFE agreed than respondents without such experiences. Respondents to the next two items were less enthusiastic, and in closer agreement with current students. A little over three-quarters of the sample agreed the "equipment and facilities were excellent," and just under three-quarters disagreed with the statement that "not enough information was provided to students or their parents." No differences among population groups on these two items were statistically significant.

A little over 90 percent of the respondents agreed that "the program treated everybody fairly." Females were in less agreement than males. In the case of agreement with the statement that "I could get questions answered and problems easily resolved," minority students were in less agreement than whites. All together, almost 95 percent of the sample agreed, however. Finally, just over 80 percent of the respondents disagreed with the statement that "the program seemed disorganized."

As with the current students, the follow-up survey asked respondents to assign a letter grade to the EFE courses that represented their assessment of quality. The overall average for this grade, converted to a 4.0 scale, was about 3.5, which would be right between and A and a B. Males, students who participated in work-based programs, and students attending four-year postsecondary institutions assigned the highest grades for quality.

Table 6.5 tallies responses to the questions of what were the best and worst aspects of the EFE classes. Among the best aspects were the skills and experiences that the students indicated that they had learned, the opportunity to participate in work-based learning opportunities, and specific teachers or staffpersons. Far fewer negatives were mentioned. In fact, the response mentioned the most was that there were "no worst aspects," i.e., everything was fine. But among the complaints, the most often mentioned aspects were that too much work was expected, there had been a logistical problem such as transportation or schedule difficulties, and a particular staff person.

Table 6.5
Best and Worst Aspects about EFE Program
as Recalled by Completers

Aspect	Number of Times Mentioned
Best	
Equipment	23
Books, software	48
Pace	27
Hands-on	54
Specific teacher	134
Individual attention	5
Skills/experience	138
Work-based	101
College usefulness	20
Interesting/fun	45
Other students	19
Everything	41
Other	72
Nothing, no best thing	16
Total	743
Worst	
Equipment	13
Books, software	12
Pace: too easy	18
Pace: too fast	11
Pace: too much work	32
Specific teacher	25
Class size	17
Transportation/schedule	25
Guidance counselors	8
Classmates	10
Environment	7
Work experience	20
Unfair treatment	2
Didn't like it	3
Other	62
None	73
Total	338

Respondents were also asked to recall work-based experiences. Table 6.6 summarizes these data. All together, 31 percent of the respondents indicated that they had participated in a work-based program. (This is somewhat higher than the 22 percent of current students who reported that they were participating in work-based programs.) Of those who reported that they had participated in a work-based program, about half indicated

Table 6.6
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=458)	28.2	35.0	33.7	14.8	35.8	32.0	27.6	31.4
If participated: (n=140)								
Paid?	58.2*	41.1	49.2	50.0	59.3	20.8*	73.0*	49.3
Disagree/strongly disagree with "Work was unrelated..."	71	68	69	67	65	71	72	69
Agree/strongly agree with "Mentors were supportive and answered my questions."	95	96	95	100	93	98	95	95

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

that it had been a paid experience. Males and individuals who did not attend a postsecondary institution indicated that their work-based experiences were more often paid than females or college attenders. Note that only about 20 percent of the students who went on to four-year colleges/universities who had been in work-based programs were paid.

About 70 percent of the respondents who had been in work-based programs disagreed with the opinion question that "the work was unrelated to the EFE class." Over 95 percent agreed that "workplace mentors were supportive and answered my questions." There were no differences among population groups on these two opinion items.

EFE Outcomes

Two performance indicators of EFE outcomes are presented in table 6.7. The first indicator measures what percentage of EFE completers were either attending college or were employed one year after completing their high school course(s). Overall, about 90 percent of the sample met these criteria. Students who had participated in work-based programs had a higher percentage than

Table 6.7
EFE Performance Indicators

Indicator	Sex		Race		Work-based program		Postsecondary			Total
	M	F	W	NW	Y	N	2-yr	4-yr	No	
Postsecondary attendance or employed	87.7	90.9	90.1	82.5	93.8*	87.1	100.0	100.0	66.9	89.2
Training-related postsecondary attendance or employed	66.4	63.5	67.7*	45.3	73.5*	61.2	81.8*	78.4*	34.0	65.0

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

nonparticipants and minorities had a lower percentage than whites. (It is not sensible to look at this standard disaggregated by the different types of college attendance because all college attenders meet the standard, by definition.) A problem with using this indicator to assess program performance is that it is not difficult to reach a high percentage. A summer telephone interview of almost any population of 19-year-old's would yield high percentages of respondents who were either attending college during the academic year or currently working.

The second performance indicator may be more discriminating. It measures the percentage of individuals who were pursuing a major field or occupational program area in a postsecondary setting that was related to the coursework taken in high school or who were employed in a job where their EFE coursework is related. The overall percentage for this sample was 65 percent. There was no statistical difference in this indicator for males from females. However, whites have a higher level than nonwhites, students in work-based experiences have a higher level than nonparticipants, and postsecondary students have a higher level than individuals who did not go to college.

7. Findings and Recommendations

The purpose of this last chapter is to highlight the major findings from the data analyses and to offer recommendations to EFE administrators to consider as they shape their programs and practices. In some cases, these recommendations are based on rigorous analyses of the data. In other cases, the recommendations are based on anecdotal evidence that may have been derived from the comments of survey respondents. I will try to explain the basis for each recommendation.

Bottom Line Assessment

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

In all surveys that were conducted, respondents were asked several questions about their satisfaction with various aspects of EFE classes and programs. As shown in table 3.3, 70 to 85 percent of current students were pleased with various aspects of their EFE classes. The students also gave their classes a high letter grade for quality. Tables 4.2 and 4.4 show that parents were happy with their students' EFE classes and with the consortium, respectively. EFE completers were asked for their opinions about the same aspects of their EFE classes as current students were, and table 6.4 shows that their (recalled) levels of satisfaction were even higher than current students'.

> *EFE has some excellent teachers who are impacting students. Even many EFE completers report one year after their enrollment that their favorite aspect of the EFE class was their instructor. But EFE also has some teachers that are not liked or impacting students. Thus, like any organization, EFE needs to have rewards/ incentives and sanctions/correctives.*

This assessment is based on the responses of students and completers to the opportunity to list the best and worst aspects of their EFE classes. Parents also sometimes referred to staff members

in their comments and suggestions. By far and away, more positive comments were received about staff than negative comments. And it was usually the case that multiple comments were received about particular teachers, either positive or negative.

Student/Parent Outreach

> *Parents/guardians play a passive role in enrollment decisions, but they should not be overlooked. EFE should send them information that includes course content and student expectations as well as economic outcomes such as expected employment, career ladders, and wage rates.*

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

> *Guidance counselors are key gatekeepers to EFE enrollment. EFE should keep them well informed about classes and opportunities.*

Table 3.2 presents data that show the reliance of students on guidance counselors for advice about whether to enroll in EFE classes. Counselors are the most often mentioned source of information and individuals in the decisionmaking process. About two-thirds of the EFE students relied on counselors. It thus behooves EFE to make sure that counselors are well-informed about class offerings and opportunities for work-based experiences. Note that table 4.4 shows that some

parents had negative comments about experiences with counselors who lacked knowledge or enthusiasm for EFE programs.

Academic teachers should not be overlooked as important gatekeepers for EFE. They should receive information about EFE programs and opportunities.

Table 3.2 shows that a significant share (as high as a quarter) of students got advice from and listened to academic teachers or other school staff in making their EFE enrollment decisions. To the extent possible, EFE staff should keep all teachers informed about program opportunities and successes.

A large share of students who enrolled in EFE classes, and work-based experiences in particular, pursued postsecondary education at two- and four-year institutions.

About 85 percent of EFE students indicated that they planned to enroll in a postsecondary institution either right after high school or after working for a few years. The follow-up survey (table 6.1) shows that two-thirds of completers actually enrolled in postsecondary education right after high school. Oftentimes, parents and students misperceive EFE as being for non-college bound students. Thus it is important to provide them this evidence to show that such a stereotype is not correct.

School-Based Curriculum and Instruction

Standards and student expectations could be ratcheted up; projects and homework assignments should be interesting, challenging, and essential.

As noted below, there is a significant caveat to this overall study of the EFE programs. It really doesn't capture student achievement outcomes. Consequently, I have little to say about curriculum and instruction. However, the students' comments about the worst aspects of the class

and their response to the prompt that the "EFE class was too hard" suggest that a number of students thought that the pace was too slow or boring, that expectations were too low, and that too much "busy work" was assigned. I base my recommendation on these comments.

Work-Based Experiences

EFE needs to improve the alignment between work-based experiences and school-based learning. Employers should always be asked for input and asked to evaluate school curricula.

Table 3.5 shows that over one-third of the current EFE students who were engaged in work-based experiences did not disagree with the prompt that "the work they were doing was unrelated to school." Furthermore, table 6.6 shows that over 30 percent of EFE completers who had participated in work-based experiences did not disagree with this prompt. Table 5.8 reports that "classroom support for work experience" was the lowest rated aspect of EFE's internship programs as reported by employers. Finally, table 5.4 indicates that only 44 percent of the employers with internships advised schools on content of curriculum. It seems to me that as long as employers are receiving and agreeing to written plans for student internships, they should be asked for their assessment of and input into curriculum.

EFE should attempt to get a higher percentage of students in work-based experiences to be exposed to all aspects of the industry.

Table 5.4 shows that only a little over half of the student internships described by participating employers offered students the opportunity to rotate through several jobs. An important purpose of work-based experiences is career exploration, and so it would be in the best interest of students to gather additional input by working in multiple job settings. The School-to-Work

Opportunity Act of 1994 mandates programs to introduce students who are participating in work-based experiences to "all aspects of the industry."

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

Around 60 percent of current EFE students work in part-time (or full-time) jobs according to the survey data. Given the apparent advantages that work-based experiences provide to EFE students who participate in them, it would seem that there would be benefits from integrating the workplace learning that must be taking place in part-time jobs into the curriculum. It is not clear how such integration could occur, however. At a minimum, both EFE and other subject matter teachers should be asking students about their out-of-school activities, including employment, and tailoring instruction to those activities as appropriate situations arise. However, there may be more formal mechanisms for integration.

> *Work-based experiences are matching students with caring and supportive workplace mentors. Little priority should be placed on mentor training since the status quo seems to be working very well.*

Three-quarters of current students engaged in work-based experiences (table 3.5) and over 95 percent of completers who had participated in work-based experiences (table 6.6) strongly agreed or agreed with the statement that their mentors were "supportive and answered questions." Among the current students, the satisfaction with mentors was even higher for female students who otherwise expressed some concerns about access to their EFE instructors. Thus the data suggest that the mentors may be overcoming some equity problems.

In reviewing the literature about school-to-work programs, mentor training is an issue that sometimes gets raised. It would appear to be low priority in the EFE service area, although there certainly may be circumstances where it would be important.

Employer Outreach

> *Students participating in work-based programs are productive. They're doing real work as well as or better than comparable employees. Many of the comparable employees have some postsecondary education.*

Employer data support this finding. Table 5.5 presents the result that 70 percent of the employers indicated that student interns' productivity equaled or exceeded that of entry-level workers. Table 5.6 shows that two-thirds of the employers would assign existing employees or hire new employees to perform the work that student interns were doing if they did not have access to those interns. Furthermore, that table shows that almost a third of the entry-level workers who perform comparable work have some postsecondary education.

> *Employers' biggest concern about student interns is their lack of skills and maturity. This concern can be addressed by reminding employers that the students are in learning situations and they may make mistakes and by working with students to emphasize the importance of their behavior at the worksite.*

Data about concerns in working with student interns from both participant and nonparticipant employers are displayed in table 5.9. The most prevalent concern is the lack of skills and maturity that students exhibit. (In the table, these concerns are expressed as "students lack basic skills," "students are not always available when needed," and "students are unreliable or immature.") It seems to me that EFE could address this concern. When written agreements are being developed with employers or when employer contacts are being made, EFE staff should emphasize the learning

nature of the experiences. Students will not have, and should not be expected to have, all the skills or knowledge to discharge successfully the tasks they will be given. Furthermore, students will "test the boundaries" of what is appropriate in the worksite environments.

At the same time, EFE staff need to communicate clearly to students acceptable worksite behaviors, how that environment differs from school, and what the expectations are about learning and behavior. It is unlikely that this issue can be resolved totally, but explicit recognition of the problems on both ends may ease concerns.

> *It is unlikely that the number of employers willing to offer work-based program "slots" is a constraint on the availability of this type of learning experience. Many of the nonparticipant firms that were surveyed had not been approached, and two-thirds of them indicated that they would consider participating if they were asked.*

The survey of nonparticipants attempted to delve into reasons why firms were not engaged in student internships. Lack of familiarity or awareness was not a major problem. Many of the nonparticipants were aware of EFE. However, only about one-seventh of the establishments had been approached about collaborating with EFE. Among all of the nonparticipants, about two-thirds indicated that they would consider offering student internships if they were asked.

> *In "selling" EFE to employers, staff should refer to potential benefits in existing employee morale and to the association of student internship usage with high performance workplace practices.*

Anecdotes from the survey of participating employers and from other surveys indicate that an unexpected benefit of having students in the workplace is on the morale of existing workers. Workers like to teach young people and they like the vitality and vibrance that students bring to the workplace. Researchers' expectations were that current employees would tend to resist student internships because of the potential for displacement of employment, but in fact, just the opposite

seems to be occurring in many establishments. Workers are among the biggest advocates once they have become involved.

Another "selling" point that EFE might use to enlist employers comes from table 5.3. Participating firms were far more likely to be engaged in practices that have come to be called "high performance" workplace activities, such as job rotation, self-managed work teams, and problem-solving groups, than were nonparticipants. Apparently student internships can be complementary to these practices. This can be a significant advantage to students as well. Those students who participate in work-based programs at establishments that are using these high performance workplace practices can cite this experience on resumes and in interviews. Presumably these skills will be advantageous in competing for jobs.

Equity Issues

Data suggest that females are less satisfied with their EFE experiences than males.

The statistics presented in both tables 3.3 and 6.4 show that females were less satisfied with their EFE experiences than were males, both current students and completers. One clue as to why this is the case was that females among current students seem to feel that they have less access to instructors. One of the items that we asked was whether students agreed with the statement that "I can easily get questions answered or problems resolved in this class." Among current students, 80 percent of males agreed, but only 70 percent of females agreed. This situation should be monitored by EFE. For example, EFE should investigate whether it is females who are enrolled in male-dominated programs who are less satisfied. In any case, instructors should be alerted to the situation and, perhaps go out of their way to make sure that females get their questions answered.

Minorities are less satisfied with their EFE experiences and have much lower rates of positive outcomes than whites. Two recommendations are that EFE consider (1) whether it could play a role in placement of ex-students and (2) whether it should create a staff position for an advocate for minorities or other students with problems.

In table 3.3, we see that the average grade that white students assign to the quality of their EFE class is 3.37. For minorities, the average is 3.20. Eighty-two percent of the white students agree with the statement, "I get along with other students and we often worked together in class." Seventy-three percent of minority students agreed. In table 6.4, we see that a similar, but much smaller, racial gap exists among the EFE completers. But, perhaps of more concern, is the significant racial gap in postsecondary and employment outcomes shown in tables 6.1 and 6.2. Over 90 percent of whites were employed; only 71 percent of nonwhites were employed. The unemployment rate for nonwhites was 24.5 percent.

Two recommendations occurred to me when reflecting upon these data. First, perhaps EFE could assist former students with part-time, summer, or permanent job placement, or encourage students who are having difficulty finding work to contact EFE staff for referrals to agencies that could help with placement. Perhaps such placement assistance could be used in conjunction with an EFE skill certificate: students who complete EFE and have a skill certificate could be entitled to the placement assistance. Second, perhaps EFE could establish a staff ombudsman position. The duties of this job would be to be an advocate for students and try to resolve problems that may arise.

Outcomes

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

As shown in table 3.7, the career plans of EFE students were skewed toward professional and managerial occupations. Only about one-fifth of the current students saw themselves in clerical, crafts, or technician jobs when they are 30 years old. Over 60 percent aspired to manager, professional, school teacher, or ownership occupations. The occupational distribution in the labor force is almost exactly opposite—only one-fifth of jobs are in professional or managerial occupations. Thus there is a mismatch between the aspirations of EFE students and where they will end up in their careers. Some of this mismatch might be ameliorated by better information or more widely disseminated information on the employment and earnings prospects of certain occupations. In particular, many analysts are forecasting dire shortages and consequent wage growth in jobs that require less than a baccalaureate degree, such as technicians.

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

Finally, it should be recognized that ultimately EFE is part of the educational system in the county and that the primary outcome of this system is academic achievement. All students need to be educated to their full potential. The data that indicate that EFE students have high planned and actual rates of postsecondary attendance suggest that academic achievement is being reached. But EFE needs to evaluate the performance of its students on assessments such as the high school proficiency test, the Scholastic Assessment Test (SAT), or the ACT. 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.