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ABSTRACT

Evaluation of the Appalachia Educational Laboratory's (AEL) Experience-Based Career Education (EBCE) program focused on outcome data pertaining to students, parents, and employers collected at the demonstration site at AEL, and implementation sites located in Bremen, Georgia; Crowley, Louisiana; Ames, Iowa; and Staten Island, Ithaca, and North Syracuse, New York. To assess the effectiveness of EBCE as a viable alternative to traditional secondary education, comparison groups of students were established (when possible), and both the EBCE and comparison students were tested with the Student Information Questionnaire, Comprehensive Tests of Basic Skills, Career Maturity Inventory, and Assessment of Student Attitudes. Parents and employers were administered instruments to determine their attitudes toward the EBCE program. Positive changes in students' attitudes toward various aspects of the learning environment and in the area of career maturity attitudes were evidenced at most of the sites. Mixed results occurred in the basic skills areas and in the career knowledge/competence areas. Parents and employers were positively oriented towards EBCE: Employers indicated more perceived weaknesses in the programs than did parents. Although the results were not similar across all sites, the evidence did favor EBCE. (Demographic data is provided concurrently; the outcome data on students, parents, and employers is presented separately by site. Appendixes contain instruments used in the study.) (TA)

FINAL OUTCOME EVALUATION REPORT

DEMONSTRATION AND IMPLEMENTATION SITES

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The Final Outcome Evaluation Report has been produced through the efforts of numerous individuals. AEL/EBCE Program personnel contributed significantly to the successful completion of many evaluation data collection activities. Rose Peterson was responsible for aggregation and coding of all evaluation data. Directors of Operations and Learning Coordinators at the implementation sites coordinated the data collection from their EBCE students and comparison students. Dr. Jack Dunstone, University of Scranton, provided computer analyses of the evaluation data. Appreciation is also expressed to Dr. Keith Kershner, Research for Better Schools, for use of the Assessment of Student Attitudes instrument. Final typing of this report was completed by Carolyn Davis.

INTRODUCTION

The Appalachia Educational Laboratory's (AEL) Experience-Based Career Education (EBCE) program has been in existence for over four years. Originally the project was funded by the United States Office of Education (USOE) and later by the National Institute of Education (NIE). Based on a USOE directive, AEL developed a program that would be a community-based experientially-oriented alternative educational curriculum for high school students.

The first year of operation of the AEL/EBCE program was devoted to the development and trial of key components of the AEL/EBCE model. The second year of operation was spent in revising system components into an integrated transportable product. The third year of operation was spent in refinement of all sub-systems and materials and a field test of the system at a local high school. The fourth year of operation was devoted to implementation of the AEL/EBCE program at sites around the country.

This evaluation report focuses on outcome data pertaining to students, parents, and employers collected at the demonstration and implementation sites. Besides the demonstration site located at AEL, implementation sites were located in Bremen, Georgia; Crowley, Louisiana; Ames, Iowa; Staten Island, Ithaca and North Syracuse, New York. In order that anonymity remain among sites, the six implementation sites were randomly assigned an alphabetical designation for purposes of data analysis.

PROCEDURES/DESIGN

The primary objective of evaluation activities during FY'76 was to provide valid and reliable evidence of the effectiveness of the EBCE program. Program objectives were identified, and hypotheses were formed around which a research design was developed. Statistical analyses were selected to test the main effects and other effects associated with each hypothesis. Descriptive statistics were used to describe groups and univariate analysis of variance was used to measure gains within a given group (if appropriate) and to determine whether differences between groups within a site existed for basic academic skills mastery, career knowledge, career maturity, and attitude towards learning environment variables. An alpha value of .10 or less was determined to be satisfactory to warrant assumption of the existence of a significant difference.

In order to assess the effectiveness of EBCE as a viable alternative to traditional secondary education, staff at the implementation sites cooperated in establishing comparison groups of students (when possible) and testing both the EBCE and comparison students on a battery of instruments. Data were gathered from these groups through the administration of the following instruments:

a) Student Information Questionnaire (SIQ) - This instrument was used to provide baseline data on student characteristics. (See Appendix A)

b) Comprehensive Tests of Basic Skills (CTBS) - This standardized test of basic academic performance contained reading comprehension (RC), arithmetic concepts (AC), and arithmetic applications (AA) subtests. (See Appendix B)

c) Career Maturity Inventory (CMI) - This standardized instrument contained a career attitude scale and five subtests of several areas of career-related competencies. (See Appendix C)

d) Assessment of Student Attitudes (ASA) - This instrument (developed by Research for Better Schools) assessed students' attitudes and opinions toward their academic and career education programs. (See Appendix D)

The SIQ was administered to all groups at the beginning of their EBCE program. The CTBS, CMI, and ASA were administered in a pre-post fashion. One of the implementation sites (A) operated the program during both semesters (as did the AEL demonstration site), while the other five implementation sites (B through F) operated the program only during the second semester. Site B administered the battery of instruments once (about mid-semester) and sites C and D did not have a comparison group. Site F did not administer the CTBS Arithmetic Applications subtest during either the pretest or posttest period to either EBCE or comparison students.

Although students are the main group affected by the EBCE program, other respondent groups are also impacted by its implementation and subsequent operation. Parents and employers are two such groups which were administered instruments to determine their attitudes toward the EBCE program. Again, staff at the implementation sites cooperated in the management of the data collection system and procedures which utilized a mail-out questionnaire (See Appendices E and F) for both groups utilizing local letterhead at the implementation sites.

RESULTS

As implementation occurred at the field sites, AEL became involved in a system of mutual adaptations -- a process of modification of the AEL/EBCE model and of the implementation site such that a successful implementation could occur. Although adaptations of the model at each site were minor, cross-site comparisons would not necessarily provide meaningful or interpretable conclusions. Consequently, only the demographic data will be provided concurrently whereas the outcome data on students, parents, and employers will be presented separately by site.

Demographic Data

Of all the students for whom data were available, 119 were in EBCE and 45 were in comparison groups. Table 1 presents the demographic data obtained on the SIQ for the students at the demonstration site (AEL) and the six implementation sites (A-F).

Table 1

From Table 1 it can be seen that there were slightly more females than males enrolled in EBCE (52%) whereas about two-thirds (69%) of the comparison group were males. Nearly 91% of the EBCE students were white, and 8% of the students were black. For the comparison students, however, 80% were white and 18% were black. While none of the sites utilized sophomores in their programs, 59% of the EBCE students were seniors and 41% were juniors. For the comparison group 36% were seniors and 64% were juniors.

Table 1

Demographic Frequency (SIQ) of EBCE and Comparison Students

Variable	Site/Number of Students														Total	
	AEL		A		B		C	D	E		F					
n=	19		30	12	26	5	14	6	19	22	5	6			119	45
			E	C	E	C	E	E	E	C	E	C			EBCE	Comp.
Sex																
Male	13		10	6	13	3	6	3	10	18	2	4			57	31
Female	6		20	6	13	2	8	3	9	4	3	2			62	14
Ethnic Group																
White	16		23	6	26	4	13	6	19	21	5	5			108	36
Black	1		7	6			1			1		1			9	8
Other	2														2	
Missing						1										1
Grade																
12th Grade	16		27	12	5	1	14	6			2	3			70	16
11th Grade	3		3		21	4			19	22	3	3			49	29
Father's Education																
Less than High School	9		13	10	7		4	2	1	2		1			36	13
High School	3		9	1	5	1	6	2	4	4	2	2			31	8
More than High School	6		8	1	14	3	4	1	14	16	2	3			50	22
Missing	1					1		1				1			2	2
Mother's Education																
Less than High School	8		14	9	6		2	1	2	2					33	11
High School	8		8	3	12	1	9	4	9	10	2	4			52	18
More than High School	3		8		8	3	3	1	8	10	2	1			34	15
Missing						1										1
Number of Sibling Dropouts																
None	15		20	9	23	4	13	6	17	19	5	4			99	36
One	2		7	2	2		1		2	1					14	3
Two or more	2		3	1	1					2		1			6	4
Missing						1						1				2

Table 1 (Cont'd)

Demographic Frequency (SIQ) of EBCE and Comparison Students

Variable	AEL	A		B		C	D	E		F		Total	
n=	19	30	12	26	5	14	6	19	22	5	6	119	45
		E	C	E	C	E	E	E	C	E	C	EBCE	Comp.
Long-range Goals													
Clerical		2		1				1	1			4	1
Craftsman	2	2	1	3		1		3	4			11	5
Farmer												0	0
Homemaker		1										2	0
Laborer							1					1	0
Manager		1		1							1	2	1
Military	1		1		1			1	1			2	3
Operative		1										1	0
Professional	8	7	7	13	3	6	3	7	7	2	5	46	22
Proprietor	1	1		1				2	2			5	2
Protective Service	1						1					2	0
Sales				1					1			1	1
Service		1	2									1	2
Technical		4	1	2		1		1	1	2		10	2
Other		3				4	1		2			8	2
Don't Know	6	7		4		2		4	3			23	3
Missing					1							0	1
Expectation one year later													
Working full-time	7	12	1	3		1	1	5	2	1		30	3
Entering OJT		1										1	0
Military		1				1			1			2	2
Homemaker												0	0
Vocational School	1	5	3	5		1	2	4	6		1	18	10
Academics - Jun./Comm. Coll.						4		3	4			7	4
Tech/Voc. - Jun./Comm. Coll.		1		2		1	1			1		6	0
4-Year College/University	6	8	8	13	3	5	1	6	6	3	5	42	22
Working part-time	1											1	0
Other	4	2				1	1	1	3			9	3
Missing				3	1							3	1

Table 1 (Cont'd)

Demographic Frequency (SIQ) of EBCE and Comparison Students

Variable	Site/Number of Students														Total	
	AEL	A		B		C	D	E				F				
n=	19	30	12	26	5	14	6	19	22	5	6				119	45
		E	C	E	C	E	E	E	C	E	C				EBCE	Comp.
Major field of study																
General	9	18	5	7	2	6	3	8	9	3	1				54	17
Voc. Ed.	2	6	1	3		1		8	8						20	9
College Prep.	5	4	5	16	2	7		1	3	2	2				35	12
Other	1		1						1		1				1	3
Missing	2	2			1		3	2	1		2				9	4
Father's Occupation																
Clerical	1	1	1	1	1				2	1					3	3
Craftsman	2	2	3	1		2	1		1	1					9	4
Farmer		1				1		1	2						3	2
Homemaker	1														1	0
Laborer	3	4	5	1		1	1		1						10	6
Manager	1	1		5	1	1		4	3		1				12	5
Military	1	1				1		1							4	0
Operative	3	4	3	2						2	1				11	4
Professional	1	3		6	1	2		8	5	2	2				22	8
Proprietor	2	4		2	2	2	1		1		1				11	4
Protective Service				2		1		1							4	0
Sales		1		2		1		2	4						6	4
Service	1					2			1						3	1
Technical	1	2		2			2	1	2						8	2
Missing	2	6		2	1		1	1			1				12	2
Mother's Occupation																
Clerical	3	1	1	3	1	4	2	5	4	2	1				20	7
Craftsman						1									1	0
Farmer															0	0
Homemaker	11	22	7	11	2	1	3	4	13	1	1				53	23

Table 1 (Cont'd)

Demographic Frequency (SIQ) of EBCE and Comparison Students

Variable	Site/Number of Students														Total	
	AEL	A		B		C	D	E		F						
n=	19	30	12	26	5	14	6	19	22	5	6				119	45
		E	C	E	C	E	E	E	C	E	C				EBCE	Comp.
Mother's Occupation																
Laborer	1		1	1											2	1
Manager		1						1								0
Military															0	0
Operative							1	1							2	0
Professional	3	2	2	3	1	4		4	2	2	2				18	7
Proprietor															0	0
Protective Service															0	0
Sales	1	1		5		1		2	2						10	2
Service		2	1	1		2			1		1				5	3
Technical		1													1	0
Missing				2	1	1		2			1				5	2

Over 30% of the EBCE students' fathers had less than a high school education, 26% had a high school education, and nearly 44% had some post-secondary education. For comparison students, nearly 20% of the fathers had less than a high school education, nearly 18% had a high school education, and over 53% had some post-secondary education. For the mothers of EBCE students, nearly 28% had less than a high school education, 44% had a high school education, and over 28% had some post-secondary education. For the mothers of comparison students, nearly 25% had less than a high school education, 40% had a high school education, and over 35% had some post-secondary education. Thus the parental educational levels of EBCE students and comparison students were quite similar.

In terms of the number of siblings who dropped out of school, 83% of the EBCE students indicated that they had had no siblings who dropped out. For the comparison students, 80% also indicated no siblings who had dropped out of school.

In response to the SIQ question on long-range goals, 39% of the EBCE students indicated PROFESSIONAL goals, 19% indicated that they didn't know their long-range goals, and nearly 18% indicated CRAFTSMAN or TECHNICAL long-range goals. Nearly 49% of the comparison students indicated PROFESSIONAL goals and nearly 16% indicated CRAFTSMAN or TECHNICAL long-range goals. Not one of the EBCE or comparison students indicated a long-range goal of being a farmer or farm-manager.

Over 35% of the EBCE students expected to be attending a four-year college or university one year after completing high school, over 25% expected to be working full-time, and over 26% expected to be attending

or taking courses at a vocational, technical, trade, or business school or at a junior college. Nearly 49% of the comparison students expected to be attending a four-year college or university one year after completing high school, over 31% expected to be involved with a vocational or business school or a junior or community college, but only 7% expected to be working full-time. Although nearly one-half of the respondents were female, not one of the EBCE or comparison students indicated that they expected to be a homemaker or housewife one year after completing high school.

Over 45% of the EBCE students were enrolled in a general curriculum field of study, nearly 30% were enrolled in a college preparatory curriculum, and nearly 17% were enrolled in a vocational education curriculum. Nearly 38% of the comparison students were enrolled in a general curriculum, nearly 27% were enrolled in a college preparatory curriculum, and 20% were enrolled in a vocational education curriculum.

Nearly 38% of the EBCE students' fathers were employed in professional administrative, or proprietary positions; over 25% were employed as laborers, craftsmen, or operatives; nearly 11% were employed in sales and services; and over 9% were in clerical or technical occupations. Nearly 38% of the comparison students' fathers were employed in professional, administrative, or propietary positions; over 31% were employed as laborers, craftsmen, or operatives; over 10% were employed in sales and services; and over 10% were in clerical or technical occupations. Thus fathers of EBCE and comparison students were similarly represented in the various occupational groupings.

Nearly 45% of the mothers of EBCE students were homemakers or housewives; nearly 17% were employed in professional or administrative positions; over

13% were employed in sales and services; and nearly 18% were employed in clerical or technical occupations. Over 51% of the mothers of comparison students were homemakers or housewives; nearly 16% were employed in professional positions; over 11% were employed in sales and services; and nearly 16% were employed in clerical or technical occupations. Thus mothers of EBCE and comparison students were also similarly represented in the various occupational groupings.

In summary, demographic data indicate that EBCE and comparison students were very similar as a group. Sex, race, and grade level showed the greatest differences, while parents' education levels, parents' occupations, number of siblings who dropped out of school, long-range goals, field of study, and post-graduate expectancies were similar.

Outcome Data

The impact and effect of the EBCE program on various respondent groups was determined by testing a number of hypotheses. The format of this section is to state the hypotheses, give the sources of the data collected to test the hypotheses and the procedure used for hypothesis testing, a description of the findings, and a summary. Each of the seven sites (one AEL demonstration site and six implementation sites will be presented separately to reduce the tendency to make comparisons across sites (where comparison may well be inappropriate) and to preserve the anonymity of the sites.

AEL Demonstration Site

As can be seen from Table 1 there were 19 students at AEL for whom data were available. There were 16 seniors and 3 juniors, which included

16 white students and 13 males. No comparison group was available.

Hypotheses. There were four hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) AEL/EBCE students will maintain ($p < .10$) their mastery in basic academic skills;
2) AEL/EBCE students will acquire increased ($p < .10$) mastery in career knowledge;
3) AEL/EBCE students will acquire greater ($p < .10$) career maturity;
4) AEL/EBCE students will develop more positive ($p < .10$) attitudes toward learning environments;
5) Parents of AEL/EBCE students will have positive attitudes toward the EBCE program; and
6) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: AEL-1. Data used to evaluate the first hypothesis were AEL/EBCE students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: AEL-1. Table X-1 presents the statistics on the AEL/EBCE CTBS outcomes. AEL/EBCE students showed no significant gains or losses on any of the three subtests of the CTBS.

Table X-1

AEL/EBCE CTBS Data

	CTBS - RC (45 items)		CTBS - AC (30 items)		CTBS - AA (20 items)	
	Pre	Post	Pre	Post	Pre	Post
n	19	19	19	19	19	19
$\bar{X}$	33.21	33.57	19.32	18.63	12.53	12.47
s	10.49	10.70	6.66	7.11	5.36	5.26
range	10-45	14-44	4-30	8-30	1-20	6-20
F	0.081		1.000		.006	
p	>.25		>.25		>.25	

Summary: AEL-1. The first hypothesis was not rejected; AEL/EBCE students maintained their mastery in basic academic skills.

* * * * *

Data/Procedures: AEL-2. Data used to evaluate the second hypothesis were AEL/EBCE students' scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: AEL-2. Table X-2 presents the statistics on the AEL/EBCE CMI Competence Test outcomes. AEL/EBCE students showed no significant gains on any of the five subtests on the CMI Competence Test.

Table X-2

AEL/EBCE CMI Competence Data

		Pre	Post	F	p
CMI-1 (20 items)					
	n	19	19	2.079	> .10
	$\bar{X}$	13.21	12.05		
	s	3.78	4.66		
	range	5-18	3-18		
CMI-2 (20 items)					
	n	19	19	0.117	> .25
	$\bar{X}$	15.32	15.58		
	s	3.38	4.71		
	range	4-20	4-20		
CMI-3 (20 items)					
	n	19	19	0.516	> .25
	$\bar{X}$	13.05	12.58		
	s	4.05	4.15		
	range	5-20	3-18		
CMI-4 (20 items)					
	n	19	19	1.917	> .10
	$\bar{X}$	14.16	13.32		
	s	4.15	3.80		
	range	3-19	6-19		
CMI-5 (20 items)					
	n	19	19	0.216	> .25
	$\bar{X}$	11.16	10.68		
	s	3.32	4.41		
	range	4-16	3-17		

Summary: AEL-2. The second hypothesis was rejected. AEL/EBCE students did not acquire increased mastery in career knowledge.

* * * * *

Data/Procedures: AEL-3. Data used to evaluate the third hypothesis were AEL/EBCE students' scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: AEL-3. Table X-3 presents the statistics on the AEL/EBCE CMI Attitude Scale outcomes. AEL/EBCE students did not acquire greater career maturity.

Table X-3

AEL/EBCE CMI Attitude Data

CMI-Attitude (50 items)		Pre	Post	F	p
	n	19	19	0.015	>.25
	$\bar{X}$	35.95	36.05		
	s	6.61	6.36		
	range	19-46	25-45		

Summary: AEL-3. The third hypothesis was rejected. AEL/EBCE students did not acquire greater career maturity as originally hypothesized.

* * * * *

Data/Procedures: AEL-4. Data used to evaluate the fourth hypothesis were AEL/EBCE students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General, School Curriculum, 3) School Resources, and 4) School Counseling. The

composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: AEL-4. Table X-4 presents the statistics on the AEL/EBCE ASA outcomes. AEL/EBCE students showed significant gains in attitude towards education in general (Part 1) and towards the total learning environment (Total). The other subtests showed no significant gains.

Table X-4

Summary: AEL-4. The fourth hypothesis was rejected for Parts 2, 3, and 4 of the ASA (Attitudes toward school curriculum, school resources, and school counseling), but was not rejected for Part 1 (education in general) and the Total score (Total Learning Environment). AEL/EBCE students did acquire more positive attitudes toward education in general and toward the total learning environment, but did not acquire more positive attitudes toward the school curriculum, school resources or school counseling.

* * * * *

Data/Procedures: AEL-5. The data used to test the fifth hypothesis were from the results of a Parent Opinion Survey which was mailed to parents in June, 1976. Responses from 12 parents were received and tabulated.

Results: AEL-5. Most parents who responded were very positive toward all aspects of the EBCE program. All parents were enthusiastic about the amount of opportunity the career education program provided their sons and daughters for learning about occupations.

Table X-4

AEL/EBCE ASA Data

		Pre	Post	F	P
ASA-1 (35 points)	n	19	19	.211	<
	$\bar{X}$	23.05	38.05		
	s	.59	5.56		
	range	14-35	18-35		
ASA-2 (25 points)	n	19	19	3.301	> .10
	$\bar{X}$	18.68	20.16		
	s	4.67	3.50		
	range	7-25	12-25		
ASA-3 (45 points)	n	19	19	2.550	> .10
	$\bar{X}$	34.47	36.84		
	s	7.23	4.54		
	range	21-45	29-43		
ASA-4 (25 points)	n	19	19	1.796	>.10
	$\bar{X}$	16.79	18.89		
	s	5.90	4.70		
	range	6-25	8-25		
ASA - Total (130 points)	n	19	19	4.266	<.10
	$\bar{X}$	93.89	103.95		
	s	23.74	15.93		
	range	51-130	76-126		

Seven parents (58%) felt that EBCE offered their [illegible] opportunity for general learning; eight parents (67%) rated [illegible]s to learning used in the EBCE program as excellent. Almost all parent respondents (83%) thought that their son or daughter liked the career education program much better than past school experiences and all [illegible]dicated that they would allow their child to participate in EBCE [illegible] this choice to make again.

All parents except two felt that the greatest strength [illegible] the EBCE program was the on-the-job experiences of students. Five par[illegible] who responded to the questionnaire stated that they felt the EBCE progra[illegible] weaknesses. Six parents stated that there was a lack of commun[illegible]on between parent and teacher. One parent felt the expenses of transpo[illegible]ion to the sites was a weakness of the program.

Six of the 12 parents surveyed thought that the EBCE program had had a good effect on helping their children in the formation of career plans. Ten parents (83%) also thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools. Eight of the 12 parents rated the approaches to learning utilized in the EBCE program as excellent.

Parents also mentioned that they had noticed positive changes in their sons or daughters that might be attributable to participation in the EBCE program. Positive changes noted in their sons and daughters included students:

1) being more responsible,

2) being happier working than in school, and

3) having a better attitude towards school.

All parents stated that they had not noticed any negative changes in their children that might have resulted from participation in the EBCE program.

Eight of the 12 parents (67%) believed that their son or daughter talked with them "almost daily" about what's going on in the career education program; all parents stated that they had had frequent or very frequent contact with EBCE staff members. Eight of the 12 respondents (67%) had attended at least one meeting during the school year where other parents of EBCE students were present. Most parents (92%; n = 11) were definitely sure that they had received enough information about their children's progress in the EBCE program.

Almost all parents contacted (83%) rated the general quality of the EBCE program staff as very good or excellent. Eight rated their overall relationship with members of the EBCE staff as very good or excellent. (All but one of the remainder of the respondent group thought that it was satisfactory.) The enthusiasm of the EBCE staff was rated as very good or excellent by 10 parents (83%). All parents but one rated the approaches to learning used in the EBCE program as very good or excellent.

The majority of the parents (58%) indicated confidence in the occupational plans of their sons or daughters. Five parents (42%) believed that their son or daughter would be attending college one year after graduating from high school, three parents thought their child would be working at that time, three parents thought that one year after leaving high school their son or daughter would be going to a business or trade school, and one parent thought their child would be in the military.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important. Parents rated the ability to be punctual and organize their time, assume responsibility for themselves, communicate with others in a mature way, and ability to work with others as some of the most important types of learning and further indicated that EBCE was highly effective in fostering this learning. (See Table X-5a)

Table X-5a

Parents were also asked about where they had first heard about EBCE. Sources of initial information about EBCE most frequently mentioned by parents were the letters from AEL (four mentions), counselors (two mentions), friends of their children (two mentions), EBCE literature (two mentions), and their own children (one mention).

When parents were asked which kinds of students they thought would benefit most from career education, there seemed to be little consensus of opinion among the 12 parents who responded to the item. Table X-5b presents the parents' replies to this question.

Table X-5b

Summary: AEL-5. Hypothesis #5 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

* * * * *

Types of Learnings Fostered by [illegible]

Type of Learning:	Importance: Not Important 1	2	3	4	Highly Important 5	Effectiveness: No Effect 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills		0	2		8		0	0	6	5
b. Be punctual and organize their time	[illegible]	0	0		11		0	0	5	7
c. Assume responsibility for themselves		0	0		11		1	1	4	6
d. Make decisions and follow through		0	0		10		0	1	6	5
e. Communicate with others in a mature way		0	0		11		1	0	2	9
f. Be aware of more career opportunities	0	0	0	3	9	1	0	2	3	6
g. Work with others	0	0	0	1	11	1	0	1	2	8
h. Evaluate their own work	1	0	0	3	9	0	0	0	9	3
i. Perform basic academic skills	0	0	2	2	5	0	0	1	8	3
j. Think through and solve problems	0	0	0	2	10	0	0	1	6	5
k. Have a positive attitude toward self	0	0	[illegible]	0	[illegible]	1	0	1	3	7
l. Have a positive attitude toward work	0	0	0	1	11	0	1	1	5	5
m. Have a positive attitude toward learning	0	0	[illegible]	0	[illegible]	0	1	1	[illegible]	7
n. Prepare for further education	0	1	[illegible]	[illegible]	9	1	0	2	2	7
o. Improve interpersonal and social skills	0	0	[illegible]	3	9	0	1	1	5	5

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Table X-5b

Kinds of Students Who Benefit Most From EBCE

Type	Mentions	Percent
Students with good grades	2	17
Students undecided about careers	4	33
Any/all students	1	8
Below average student	3	25
Don't know	2	17
Totals	12	100%

Data/Procedures: AEL-6. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by AEL/EBCE staff in May and June of 1976. An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Fourteen (14) experience sites were randomly selected to be surveyed from a list of active experience sites for the FY'76 school year. The employer at each experience site received a questionnaire in the mail. Thirteen returned the completed questionnaire, but one employer preferred to write a letter which was not included in the tabulations (See Appendix G).

Results: AEL-6. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Seventy-seven percent (n=10) of the employers rated the EBCE program as being moderately effective to very effective, and 77% (n=10) also believed that their organization would continue to participate in the EBCE program in coming years. The three remaining employers were unsure of their organization's continued participation in the EBCE program.

Ten of the 13 employers (77%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Twelve employers (92%) believed that the EBCE program functioned as they had been initially led to believe.

Eighty-five percent of the employers (n=11) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=10), 2) talking about activities at the job site (n=11), 3) talking about job opportunities (n=6), 4) helping plan students' assignments (n=8), and 5) evaluating individual students' assignments (n=6). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table X-6a.)

Table X-6a

Sixty-two percent of the employers (n=8) believed that the greatest strength of the EBCE program was in providing an opportunity for students to explore their interest areas. They felt EBCE was an important means of exposing students to the world of work, enabling them to explore different careers and aiding them in career decision-making.

Table X-6a

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	10	3	0	0	0
Talking about job site activities	11	2	0	0	0
Talking about job opportunities	6	5	1	0	1
Helping plan students' assignments	8	2	0	2	1
Evaluating individual students' assignments	6	3	3	1	0
Talking about students' personal problems	2	5	4	2	0
Tutoring in an academic area	1	1	4	7	0
Assisting students in non-job-related assignments	0	4	1	7	1

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Ninety-two percent (n=12) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 92% (n=12) of employers' comments also mentioned favorable reactions toward EBCE students from top-level management.

Sixty-two percent of the respondents (n=8) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 69% of the employers (n=9) believed that EBCE students had had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 23% (n=3) of employers, and 8% (n=1) thought that there was a similar effect on company hiring practices. (For a more detailed breakdown of the answers to this question, see Table X-6b.)

Table X-6b

A few employers suggested specific changes to be made in FY'77 to ameliorate certain program weaknesses. Two employers (15%) felt that there should be more counselor conferences: One (8%) wanted a shorter training period; one employer (8%) felt that there should be better matching of students and experience sites in order to insure successful site placements.

Summary: AEL-6. Hypothesis six was not rejected; the majority of experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

* * * * *

AEL Summary. While the parent and employer data reflect favorable impact at the AEL demonstration site, student data reflect neutral to slightly

Table X-6b

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	6	6	1	0	9	0	4
Amount of employee work	6	4	3	0	8	0	5
Company hiring practices	12	0	0	1	1	0	12
Company training practices	9	2		1	3	0	10
Other	0	0	0	0	0	0	0

positive impact. These less than dramatic student outcome results may well be attributable to several factors. Nearly 2/3 of the senior students were in their second year of EBCE. Consequently, the outcome instrumentation may not have been sufficiently sensitive to pick up gains made by students in their second year. No comparison or baseline data were available against which the impact could be judged. Finally, the instrumentation (while possibly being insensitive to second year growth) may well be inappropriate to assessing the "real" impact of the EBCE program.

Implementation Site A

As can be seen from Table 1 there were 30 EBCE students at Site A for whom data were available. There were 27 seniors and three juniors, which included 23 white students (7 blacks) and 10 males (20 females). There were 12 students in the comparison group. This all senior group included six males and six females and six white and six black students.

Hypotheses. There were eight hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) EBCE students will maintain ($p < .10$) their mastery in basic academic skills;
2) EBCE students will acquire increased ($p < .10$) mastery in career knowledge;
3) EBCE students will acquire greater ($p < .10$) career maturity;
4) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments;
5) EBCE students will do as well ($p < .10$) in basic academic skills as comparison students enrolled in traditional high school programs;
6) EBCE students will acquire greater ($p < .10$) mastery in career knowledge than comparison students;
7) EBCE students will acquire greater ($p < .10$) career maturity than comparison students;
8) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments than will comparison students;
9) Parents of EBCE students will have positive attitudes toward the EBCE program; and

10) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

Hypotheses 1 through 4 also have parallel statements for the comparison students and consequently will be considered at the same time as the EBCE hypotheses.

* * * * *

Data/Procedures: Site A-1. Data used to evaluate the first hypothesis were EBCE students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills. Parallel analyses were conducted on comparison group data.

Results: Site A-1. Table A-1 presents the statistics on the CTBS outcomes. EBCE students showed no significant gains or losses on the RC or AC subtests of the CTBS, but a significant gain ($p < .10$) was obtained on the AA subtest. Table A-1 also presents the comparison group statistics on CTBS outcomes, which indicates no significant gains or losses on the RC or AA subtests of the CTBS, but a significant gain ($p < .10$) on the AC subtest.

Table A-1

Summary: Site A-1. The first hypothesis was not rejected; EBCE students maintained their mastery in basic academic skills, and in one case, even showed significant improvement. Similarly, comparison students also maintained their mastery in basic academic skills.

* * * * *

Table A-1
Site A CTBS Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
CTBS-RC								
n	30	30	1.932	>.10	12	12	0.232	>.25
$\bar{X}$	25.63	27.00			28.25	26.67		
s	8.67	8.72			9.83	10.55		
range	10-44	12-42			7-37	10-38		
CTBS-AC								
n	30	30	2.191	>.10	12	12	4.086	<.10
$\bar{X}$	15.13	15.90			13.17	20.33		
s	4.52	5.36			.12	5.96		
range	9-29	6-29			8-29	10-29		
CTBS-AA								
n	30	30	2.916	<.10	12	12	0.052	>.25
$\bar{X}$	9.43	10.37			11.42	11.17		
s	4.02	3.66			5.55	5.32		
range	3-19	3-19			3-19	5-19		

Data/Procedures: Site A-2. Data used to evaluate the second hypothesis were EBCE students' scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge. Parallel analyses were conducted on comparison group data.

Results: Site A-2. Table A-2 presents the statistics on the EBCE CMI Competence Test outcomes and comparison group outcomes. EBCE students showed no significant gains on any of the five subtests on the CMI Competence test; however, comparison students showed a significant loss ($p < .10$) on subtest 1.

Table A-2

Summary: Site A-2. The second hypothesis was rejected. EBCE students did not acquire increased mastery in career knowledge; similarly, the comparison students did not acquire increased mastery and in fact, showed a significant loss on one subtest.

* * * * *

Data/Procedures: Site A-3. Data used to evaluate the third hypothesis were EBCE student scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity. Parallel analyses were conducted on comparison group data.

Results: Site A-3. Table A-3 presents the statistics on the EBCE CMI Attitude Scale outcomes and comparison group outcomes. EBCE students did not acquire greater career maturity nor did comparison group students.

Table A-3

Summary: Site A-3. The third hypothesis was rejected. EBCE students did not acquire greater career maturity as originally hypothesized. Comparison group students also did not acquire greater career maturity.

* * * * *

Table A-2
Site A CMI Competence Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
CMI-1								
n	30	30	8.600	<.01	12	12	3.423	<.10
$\bar{X}$	10.20	11.57			13.50	11.00		
s	3.74	3.90			2.94	3.77		
range	2-18	3-20			8-18	3-17		
CMI-2								
n	30	30	2.648	>.10	12	12	0.241	>.25
$\bar{X}$	14.50	15.33			15.33	15.58		
s	4.08	2.72			2.19	2.35		
range	3-20	9-20			12-19	11-19		
CMI-3								
n	30	30	0.326	>.25	12	12	0.680	>.25
$\bar{X}$	12.30	12.63			12.83	11.83		
s	3.13	2.68			3.07	4.30		
range	7-18	8-18			8-18	2-17		
CMI-4								
n	30	30	6.051	<.05	12	12	1.850	>.10
$\bar{X}$	12.03	13.47			13.17	11.58		
s	4.27	3.49			3.10	4.50		
range	2-20	6-20			8-17	3-18		
CMI-5								
n	30	30	2.820	>.10	12	12	2.228	>.10
$\bar{X}$	9.40	10.17			11.33	9.92		
s	2.58	3.25			2.53	3.73		
range	3-16	4-17			9-17	4-16		

Table A-3
Site A CMI Attitude Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
n	30	30	0.474	>.25	12	12	0.156	>.25
$\bar{X}$	32.77	33.33			33.25	33.75		
s	4.47	5.12			4.90	5.69		
range	23-41	20-40			26-40	24-42		

Data/Procedures: Site A-4. Data used to evaluate the fourth hypothesis were EBCE students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. Parallel analyses were conducted on comparison group data. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site A-4. Table A-4 presents the statistics on the EBCE ASA outcomes. EBCE students showed very significant gains in attitude on all subtests of the ASA and on the total test score. Comparison students showed no gains on any subscale of the ASA or on the total score.

Table A-4

Summary: Site A-4. The fourth hypothesis was not rejected for any part

Table A-4
Site A ASA Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
ASA-1								
n	30	30	33.967	<.0001	12	12	0.289	>.25
$\bar{X}$	21.60	27.87			26.33	25.50		
s	5.86	4.87			5.85	6.26		
range	13-31	17-35			16-35	13-34		
ASA-2								
n	30	30	23.856	<.0001	12	12	0.000	>.25
$\bar{X}$	17.13	20.10			19.58	19.58		
s	2.98	3.40			4.46	3.32		
range	11-23	9-25			11-25	13-25		
ASA-3								
n	30	30	16.502	<.001	12	12	0.249	>.25
$\bar{X}$	28.73	34.73			28.75	29.58		
s	5.64	7.54			7.29	7.32		
range	21-39	18-45			18-42	18-42		
ASA-4								
n	30	30	10.901	<.01	12	12	1.477	>.10
$\bar{X}$	15.40	18.77			16.08	14.92		
s	4.77	4.89			4.46	4.48		
range	5-25	5-25			9-25	7-21		
ASA Total								
n	30	30	27.45	<.0001	12	12	0.073	>.25
$\bar{X}$	82.87	101.80			90.75	89.58		
s	15.78	19.92			19.55	19.10		
range	54-106	51-127			61-123	57-118		

or the totality. EBCE students did acquire more positive attitudes toward various aspects of education and toward the total learning environment; comparison students acquired no such gains in attitude.

* * * * *

Data/Procedures: Site A-5. Data used to evaluate the fifth hypothesis were students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: Site A-5. Table A-5 presents the statistics on the CTBS outcomes. While EBCE and comparison group students were comparable on pretest scores, the comparison group had significantly higher posttest scores on Arithmetic Concepts. Analysis of gain scores (posttest scores minus pretest scores) showed no significant differences across the three CTBS subtests.

Table A-5

Summary: Site A-5. The fifth hypothesis was partially rejected; EBCE students did as well as the comparison students in Reading Comprehension and Arithmetic Applications but comparison students did better than EBCE students in Arithmetic Concepts.

* * * * *

Data/Procedures: Site A-6. Data used to evaluate the sixth hypothesis were students' scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis

Table A-5
Site A CTBS Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
CTBS-RC						
n	30	12	30	12	30	12
$\bar{X}$	25.63	28.25	27.00	26.67	1.37	-1.58
s	8.67	9.83	8.72	10.55	5.39	11.39
F	0.724		0.011		1.316	
p	>.25		>.25		>.25	
CTBS-AC						
n	30	12	30	12	30	12
$\bar{X}$	15.13	18.17	15.90	20.33	0.77	2.17
s	4.52	7.12	5.36	5.96	2.84	3.71
F	2.740		5.508		1.745	
p	>.10		<.05		>.10	
CTBS-AA						
n	30	12	30	12	30	12
$\bar{X}$	9.43	11.42	10.37	11.17	0.93	-0.25
s	4.02	5.55	3.66	5.32	2.99	3.82
F	1.668		0.313		1.143	
p	>.10		>.25		>.25	

of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: Site A-6. Table A-6 presents the statistics on the CMI Competence Test Outcomes. EBCE and comparison group students were different initially on subtests 1 and 5 and had equivalent posttest scores on all five subtests. Analysis of gain scores indicated significant differences on subtests 1 and 5.

Table A-6
Site A CMI Competence Test
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
CMI-1						
n	30	12	30	12	30	12
$\bar{X}$	10.20	13.50	11.57	11.00	1.37	-2.50
s	3.74	2.94	3.90	3.77	2.55	4.68
F	7.470		0.184		11.922	
p	< .01		> .25		< .01	
CMI-2						
n	30	12	30	12	30	12
$\bar{X}$	14.50	15.33	15.33	15.58	0.83	0.25
s	4.08	2.19	2.72	2.35	2.80	1.76
F	0.444		0.078		0.444	
p	> .25		> .25		> .25	
CMI-3						
n	30	12	30	12	30	12
$\bar{X}$	12.30	12.83	12.63	11.83	0.33	-1.00
s	3.13	3.07	2.68	3.20	4.20	
F	0.251		0.532		1.242	
p	> .25		> .25		> .25	
CMI-4						
n	30	12	30	12	30	12
$\bar{X}$	12.03	13.17	13.47	11.58	1.43	-1.58
s	4.27	3.10	3.49	4.50	3.19	4.03
F	0.694		2.110		6.579	
p	> .25		> .10		< .05	
CMI-5						
n	30	12	30	12	30	12
$\bar{X}$	9.40	11.33	10.17	9.92	0.77	-1.42
s	2.58	2.53	3.25	3.73	2.50	3.29
F	4.857		0.047		5.443	
p	< .05		> .25		< .05	

Summary: Site A-6. Hypothesis six was rejected; EBCE students did not acquire greater mastery in career knowledge as compared to comparison group students. Inspection of the data for both subtests 1 and 5 (also see Table A-2) indicates that although comparison group students started higher than EBCE students, EBCE students demonstrated a significant growth and comparison students exhibited a significant decline in scores.

* * * * *

Data/Procedures: Site A-7. Data used to evaluate the seventh hypothesis were students' scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: Site A-7. Table A-7 presents the statistics on the CMI Attitude Scale outcomes. EBCE students did not acquire greater career maturity than the comparison students.

Table A-7
Site A CMI Attitude Scale
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
n	30	12	30	12	30	12
$\bar{X}$	32.77	33.25	33.33	33.75	0.57	0.50
s	4.47	4.90	5.12	5.69	4.51	4.38
F	0.095		0.053		0.002	
p	>.25		>.25		>.25	

Summary: Site A-7. The seventh hypothesis was rejected; EBCE students did not acquire greater career maturity than the comparison group students as originally hypothesized.

* * * * *

Data/Procedures: Site A-8. Data used to evaluate the eighth hypothesis were students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site A-8. Table A-8 presents the statistics on the ASA outcomes of EBCE vs. the comparison group. EBCE and comparison students were different initially on subtests 1 and 2 (comparison students having higher scores) but equivalent on posttest scores. The two groups were equivalent initially on subtests 3 and 4 and on the composite Total Score, but EBCE students had significantly higher posttest scores. Analysis of gain scores indicated a significant difference on all four subtests and the composite total score.

Table A-8

Summary: Site A-8. Inspection of the statistics presented in Table A-8 and in Table A-4 shows that EBCE students made significant gains on all components of the ASA, while comparison students made no significant losses or gains. However, the tremendous gains made by EBCE students coupled with slight variations evidenced by the comparison students are reflected in the set of significant differences found in the gain score analyses.

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Table A-8
Site A ASA Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
ASA-1						
n	30	12	30	12	30	12
$\bar{X}$	21.60	26.33	27.87	25.50	6.27	-0.83
s	5.86	5.85	4.87	6.26	5.89	5.37
F	5.591		1.717		13.059	
p	$<.05$		$>.10$		$<.001$	
ASA-2						
n	30	12	30	12	30	12
$\bar{X}$	17.13	19.58	20.10	19.58	2.97	0.00
s	2.98	4.46	3.40	3.32	3.33	3.62
F	4.320		0.201		6.490	
p	$<.05$		$>.25$		$<.05$	
ASA-3						
n	30	12	30	12	30	12
$\bar{X}$	28.73	28.75	34.73	29.58	6.00	0.83
s	5.64	7.29	7.54	7.32	8.09	5.78
F	0.000		4.062		4.040	
p	$>.25$		$<.10$		$<.10$	
ASA-4						
n	30	12	30	12	30	12
$\bar{X}$	15.40	16.08	18.77	14.92	3.37	-1.17
s	4.77	4.46	4.89	4.48	5.58	3.33
F	0.182		5.559		6.877	
p	$>.25$		$<.05$		$<.05$	
ASA Total						
n	30	12	30	12	30	12
$\bar{X}$	82.87	90.75	101.80	89.58	18.93	-1.17
s	15.78	19.95	19.92	19.10	19.79	14.95
F	1.865		3.296		10.025	
p	$>.10$		$<.10$		$<.01$	

Data/Procedures: Site A-9. The data used to test the ninth hypothesis were from the results of a Parent Opinion Survey which was mailed to parents in June, 1976. Responses from six parents were received and tabulated.

Results: Site A-9. Most parents who responded were very positive towards all aspects of the EBCE program. All parents were enthusiastic about the amount of opportunity the career education program provided their sons and daughters for learning about occupations. Three parents (50%) felt that EBCE offered their children more opportunity for general learning; all but two parents rated the approaches to learning used in the EBCE program as very good or excellent. Almost all parent respondents (83%) thought that their son or daughter liked the career education program much better than past school experiences and all of them indicated that they would allow their child to participate in EBCE if they had this choice to make again.

Parents felt that the greatest strength of the EBCE program was the on-the-job experiences of students (n=5). Three parents who responded to the questionnaire stated that they felt the EBCE program had no weaknesses, and one elected to make no comment on this subject; the remaining two parents mentioned the transportation expenses to sites as a weakness.

Five of the six parents surveyed thought that the Experience-Based Career Education program had had a good effect on helping their children in the formation of career plans. Five parents (83%) also thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools. Parents also mentioned that they had noticed positive changes in their sons or daughters that might be attributable to participation in the EBCE program (i.e., an eagerness to learn,

a better attitude toward school, more realistic job expectations, and ability to make a career decision). All parents stated that they had not noted any negative changes in their children that might have resulted from participation in the EBCE program.

Four of the six parents (67%) believed that their son or daughter talked with them "almost daily" about what was going on in the career education program; one stated that they had had frequent contact with EBCE staff members. Five of the six respondents (83%) had attended at least one meeting during the school year where other parents of EBCE students were present. Most parents (83%) were definitely sure that they had received enough information about their children's progress in the EBCE program.

Almost all parents contacted (83%) rated the general quality of the EBCE program staff as very good or excellent. The remaining parent felt that it was satisfactory. The enthusiasm of the EBCE staff was rated as very good or excellent by five parents (83%).

The majority of the parents indicated confidence in the occupational plans of their sons or daughters, where such plans existed; however, one of the parents (17%) stated that their son or daughter had made no firm occupational plans at the time of the survey. Three parents (50%) believed that their son or daughter would be attending college one year after graduating from high school; one thought their child would be working at this time. The remainder of the parents (33%) thought that one year after leaving high school their son or daughter would be going to a business or trade school.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important.

In Table A-9, parents rated the types of learning and further indicated that EBCE was highly effective in fostering this learning.

Table A-9

Parents were also asked about where they had first heard about EBCE. Sources of initial information about EBCE most frequently mentioned by parents were their own children (n=3), friends of their children (n=1), and counselors (n=2). When parents were asked which kinds of students they thought would benefit most from a career education program, there seemed to be little consensus of opinion among the five parents who responded to the item. Replies to this question included all students, below average students, students undecided about careers, and ambitious students bored with school.

Summary: Site A-9. Hypothesis #9 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: Site A-10. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by Site A staff in May and June of 1976.

An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Nineteen (19) experience sites were randomly selected to be surveyed from a list of active experience sites for the FY'76 school year. The employer at each experience site received a questionnaire in the mail which was returned after completion to AEL.

TABLE A-9

Types of Learnings Fostered by EBCE

Type of Learning:	Importance					Effectiveness				
	Not Important 1	2	3	4	Highly Important 5	Not Effective 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills	0	0	0	1	5	0	0	0	2	4
b. Be punctual and organize their time	0	0	0	0	6	0	0	1	1	4
c. Assume responsibility for themselves	0	0	0	0	6	0	0	0	1	5
d. Make decisions and follow through	0	0	0	0	6	0	0	1	1	4
e. Communicate with others in a mature way	0	0	0	0	6	0	0	0	2	4
f. Be aware of more career opportunities	0	0	1	1	4	0	0	1	2	3
g. Work with others	0	0	0	0	6	0	0	0	1	5
h. Evaluate their own work	0	0	0	2	4	0	0	0	3	3
i. Perform basic academic skills	0	0	0	1	5	0	0	0	4	2
j. Think through and solve problems	0	0	0	2	4	0	0	2	1	3
k. Have a positive attitude toward self	0	0	0	0	6	0	0	1	0	5
l. Have a positive attitude toward work	0	0	0	0	6	0	0	0	1	5
m. Have a positive attitude toward learning	0	0	0	1	5	0	0	1	3	2
n. Prepare for further education	0	0	0	1	5	0	0	2	2	2
o. Improve interpersonal and social skills	0	0	0	1	5	0	0	2	1	3

Results: Site A-10. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Eighty-five percent (n=16) of the employers rated the EBCE program as being moderately effective to very effective, and 89% (n=17) believed that their organization would continue to participate in the EBCE program in coming years. The remaining two employers were unsure of their organization's continued participation in the EBCE program.

Seventeen of the 19 employers (89%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Eighteen employers (95%) believed that the EBCE program functioned as they had been initially led to believe.

Seventy-nine percent of the employers (n=15) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=10), 2) talking about activities at the job site (n=18), 3) talking about job opportunities (n=13), 4) helping plan students' assignments (n=7), and 5) evaluating individual students' assignments (n=6). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table A-10a.)

Table A-10a

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	19	0	0	0	0
Talking about job site activities	18	1	0	0	0
Talking about job opportunities	13	4	2	0	0
Helping plan students' assignments	7	8	2	2	0
Evaluating individual students' assignments	6	10	2	1	0
Talking about students' personal problems	2	12	2	3	0
Tutoring in an academic area	2	4	5	8	0
Assisting students in non-job-related assignments	0	10	3	6	0

Fifty-eight percent of the employers (n=11) believed that the greatest strength of the EBCE program was the opportunity it gave students to pursue their interest areas. They felt EBCE was an important means of exposing students to the world of work, enabling them to explore different careers and aiding them in career decision-making.

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Eighty-nine percent (n=17) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 79% (n=15) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Sixty-three percent of the respondents (n=12) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 58% of the employers (n=11) believed that EBCE students had also had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 42% (n=8) of employers, and 21% (n=4) thought that there was a similar effect on company hiring practices. (For a more detailed breakdown of the answers to this question, see Table A-10b.)

Table A-10b

A few employers suggested that specific changes be made in FY'77 to ameliorate certain program weaknesses. Two employers (11%) felt that there should be more conferences with the counselor and three employers (16%) wanted a shorter training period.

Table A-10b

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	5	7	4	3	11	1	7
Amount of employee work	5	7	4	3	12	0	7
Company hiring practices	12	2	0	5	4	0	12
Company training practices	10	5	0	4	8	0	11
Other	0	0	0	0	0	0	0

Summary: Site A-10. Hypothesis #10 was not rejected; the majority of experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

* * * * *

Site A Summary. Positive Parent and Employer data obtained at Site A are indicative of successful implementation strategies. EBCE student data also reflect gains (though not always significant) in several areas that were tested; comparison group students reflect no such gains (except in Arithmetic Concepts). Consequently, even with students graduating at mid-term and new students being enrolled, the overall impact for all three respondent groups (students, parents, and employers) was unquestionably positive.

Implementation Site B

As can be seen from Table 1 there were 26 EBCE students at Site B for whom data were available. There were five seniors and 21 juniors, which included 26 white students and 13 males (13 females). There were five students in the comparison group. This group of one senior and four juniors included three males and two females, and four white students (1 missing).

Hypotheses. There were four hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) EBCE students will do as well ($p < .10$) in basic academic skills as comparison students enrolled in traditional high school programs;
2) EBCE students will require greater ($p < .10$) mastery in career knowledge than comparison students;
3) EBCE students will acquire greater ($p < .10$) career maturity than comparison students;
4) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments than will comparison students;
5) Parents of EBCE students will have positive attitudes toward the EBCE program; and
6) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: Site B-1. Data used to evaluate the first hypothesis were students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An

analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: Site B-1. Table B-1 presents the statistics on the CTBS outcomes. While EBCE and comparison group students were comparable on Reading Comprehension scores, the comparison group had significantly higher scores on Arithmetic Concepts and Arithmetic Applications.

Table B-1

Site B CTBS Data - EBCE vs. Comparison Group
(Post Only)

	CTBS - RC		CTBS - AC		CTBS - AA	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
n	26	5	26	5	26	5
$\bar{X}$	30.88	37.40	21.65	27.40	14.19	18.40
s	8.99	2.70	4.79	1.52	4.33	2.07
range	9-43	34-41	12-28	25-29	5-20	15-20
F	2.521		6.886		4.437	
p	$>.10$		$<.05$		$<.05$	

Summary: Site B-1. The first hypothesis was partially rejected; EBCE students did as well as the comparison students in Reading Comprehension, but comparison students did better than EBCE students in Arithmetic Concepts and Arithmetic Applications.

* * * * *

Data/Procedures: Site B-2. Data used to evaluate the second hypothesis were students' scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs,

3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: Site B-2. Table B-2 presents the statistics on the CMI Competence Test Outcomes. EBCE and comparison group students had equivalent posttest scores on all five subtests.

Table B-2

Summary: Site B-2. Hypothesis two was rejected; EBCE students did not acquire greater mastery in career knowledge as compared to comparison group students.

* * * * *

Data/Procedures: Site B-3. Data used to evaluate the third hypothesis were students' scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: Site B-3. Table B-3 presents the statistics on the CMI Attitude Scale outcomes. EBCE students did not acquire greater career maturity than the comparison students.

Table B-3

Site B CMI Attitude Data - EBCE vs. Comparison Group
(Post Only)

		EBCE	Comp.	F	p
CMI Attitude (50 items)	n	22	4	0.113	>.25
	$\bar{X}$	35.64	34.75		
	s	5.01	3.40		
	range	23-44	30-38		

Table B-2

Site B CMI Competence Data - EBCE vs. Comparison Group
(Post Only)

		EBCE	Comp.	F	p
CMI-1 (20 items)	n	23	4	0.183	>.25
	$\bar{X}$	13.83	14.50		
	s	2.84	3.42		
	range	9-18	11-19		
CMI-2 (20 items)	n	23	4	0.630	>.25
	$\bar{X}$	17.13	18.50		
	s	3.33	1.73		
	range	8-20	17-20		
CMI-3 (20 items)	n	23	4	0.229	>.25
	$\bar{X}$	14.22	15.00		
	s	3.03	2.94		
	range	8-19	11-18		
CMI-4 (20 items)	n	23	4	1.064	>.25
	$\bar{X}$	15.04	16.50		
	s	2.64	2.38		
	range	9-18	15-20		
CMI-5 (20 items)	n	23	4	0.591	>.25
	$\bar{X}$	11.04	12.75		
	s	3.88	5.44		
	range	3-16	5-17		

Summary: Site B-3. The third hypothesis was rejected; EBCE students did not acquire greater career maturity than the comparison group students as originally hypothesized.

* * * * *

Data/Procedures: Site B-4. Data used to evaluate the fourth hypothesis were students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site B-4. Table B-4 presents the statistics on the ASA outcomes of EBCE vs. the comparison group. EBCE and comparison students were significantly different on subtest 1 (EBCE students having higher scores) and significantly different on the composite Total Score (EBCE students had significantly higher scores).

Table B-4

Summary: Site B-4. The fourth hypothesis was partially rejected; EBCE students did not acquire more positive attitudes toward Education in General, School Resources, and School Counseling than the comparison group students. However, EBCE students did acquire more positive attitudes toward the School Curriculum and toward the Total Learning Environment.

Table B-4

Site B ASA Data - EBCE vs. Comparison Group
(Post Only)

		EBCE	Comp.	F	p
ASA-1 (35 points)	n	26	4	2.138	>.10
	$\bar{X}$	25.85	22.50		
	s	3.96	6.25		
	range	18-34	14-29		
ASA-2 (25 points)	n	26	4	4.675	<.05
	$\bar{X}$	19.04	15.50		
	s	2.93	3.87		
	range	14-25	10-19		
ASA-3 (45 points)	n	26	4	0.655	>.25
	$\bar{X}$	32.88	30.75		
	s	5.06	3.40		
	range	19-41	26-34		
ASA-4 (25 points)	n	26	4	2.802	>.10
	$\bar{X}$	15.54	11.75		
	s	4.06	5.32		
	range	9-23	4-16		
ASA Total (130 points)	n	26	4	3.008	<.10
	$\bar{Y}$	93.69	80.50		
	s	13.57	18.36		
	range	65-120	54-96		

* * * * *

Data/Procedures: Site B-5. The data used to test the fifth hypothesis were from the results of a Parent Opinion Survey which was mailed to parents in June, 1976. Responses from six parents were received and tabulated.

Results: Site B-5. Most parents who responded were very positive towards all aspects of the EBCE program. All but one parent were enthusiastic about the amount of opportunity the career education program provided their sons and daughters for learning about occupations. Five parents (83%) felt that EBCE offered their children more opportunity for general learning; all but one parent rated the approaches to learning used in the EBCE program as very good or excellent. Almost all parent respondents (83%) thought that their son or daughter liked the career education program much better than past school experiences and indicated that they would allow their child to participate in EBCE if they had this choice to make again.

Parents felt that the greatest strength of the EBCE program was the on-the-job experiences of students (67%). Only one parent who responded to the questionnaire stated that they felt the EBCE program had a weakness; one felt that her child had too much freedom.

Four of the six parents surveyed thought that the EBCE program had had a good effect on helping their children in the formation of career plans. Four parents also thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional school.

Parents also mentioned that they had noticed positive changes in their sons or daughters that might be attributable to participation in the EBCE program. The changes noted included students attitudes improved, students became happier, students became more responsible, students developed more realistic job expectations, and students made more realistic career

decisions. All parents stated that they did not know of any negative changes in their children that might have resulted from participation in the EBCE program.

Four of the six parents (67%) believed that their son or daughter talked with them "almost daily" about what was going on in the career education program; four (67%) stated that they had had very little contact with EBCE staff members. Five of the six respondents (83%) had attended at least one meeting during the school year where other parents of EBCE students were present. Most parents (67%) were definitely sure that they had received enough information about their children's progress in the EBCE program.

Almost all parents contacted (83%) rated the general quality of the EBCE program staff as very good or excellent. Four (67%) rated their overall relationship with members of the EBCE staff as very good or excellent. The remainder of the respondent group thought that it was satisfactory. The enthusiasm of the EBCE staff was rated as very good or excellent by five parents (83%).

The majority of the parents indicated confidence in the occupational plans of their sons or daughters, where such plans existed; however, two of the parents (33%) stated that their son or daughter had made no firm occupational plans at the time of the survey. Five parents (83%) believed that their son or daughter would be attending college one year after graduating from high school. One parent thought that one year after leaving high school their son or daughter would be going to a business or trade school.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important.

As seen from Table B-5, parents rated the ability to prepare for further education as the most important type of learning and further indicated that EBCE was effective in fostering this learning.

Table B-5

Parents were also asked about where they had first heard about EBCE. Sources of initial information about EBCE most frequently mentioned by parents were their own children (n=5).

When parents were asked which kinds of students they thought would benefit most from a career education, they mentioned all students, students interested in a trade, below average students, and students undecided about their careers.

Summary: Site B-5. Hypothesis #5 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: Site B-6. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by Site B staff in May and June of 1976.

An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Fourteen (14) experience sites were randomly selected to be surveyed from a list of active experience sites for the FY'76 school year. The employer at each experience site received a questionnaire in the mail which was returned after completion to AEL.

Results: Site B-6. Most employers were very receptive. The complimented EBCE strengths and offered suggestions for program improvement. Seventy-nine

TABLE B-5

Types of Learnings Fostered by EBCE

Type of Learning:	Importance					Effectiveness				
	Not Important 1	2	3	4	Highly Important 5	Not Effective 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills	0	0	0	0	5	0	0	1	2	3
b. Be punctual and organize their time	0	0	0	1	5	0	0	1	4	1
c. Assume responsibility for themselves	0	0	1	0	5	0	0	0	1	5
d. Make decisions and follow through	0	0	0	1	5	0	0	1	2	3
e. Communicate with others in a mature way	0	0	0	0	5	0	0	0	1	5
f. Be aware of more career opportunities	0	0	1	0	5	0	0	2	0	4
g. Work with others	0	0	0	0	5	0	0	0	2	4
h. Evaluate their own work	0	0	1	1	4	0	0	3	0	3
i. Perform basic academic skills	0	0	1	0	4	0	0	2	2	1
j. Think through and solve problems	0	0	1	0	5	0	0	1	3	2
k. Have a positive attitude toward self	0	1	0	0	5	0	1	1	0	4
l. Have a positive attitude toward work	0	0	1	0	5	0	0	3	0	3
m. Have a positive attitude toward learning	0	0	0	1	5	0	0	2	2	2
n. Prepare for further education	0	0	0	0	6	0	0	2	1	3
o. Improve interpersonal and social skills	0	0	0	1	5	0	0	0	1	5

percent (n=11) of the employers rated the EBCE program as being moderately effective to very effective, and 79% believed that their organization would continue to participate in the EBCE program in coming years. Two employers were unsure of their organization's continued participation in the EBCE program.

Eleven of the 14 employers (79%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Twelve employers (86%) believed that the EBCE program functioned as they had been initially led to believe.

Ninety-three percent of the employers (n=13) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=12), 2) talking about activities at the job site (n=11), 3) talking about job opportunities (n=7), and 4) evaluating individual students' assignments (n=7). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table B-6a.)

Table B-6a

Most employers (79%) believed that the greatest strength of the EBCE program was the opportunities which it gave students to explore their interest areas in the world of work. Few employers suggested that specific

Table B-6a

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	12	2	0	0	0
Talking about job site activities	11	3	0	0	0
Talking about job opportunities	7	7	0	0	0
Helping plan students' assignments	5	2	2	4	1
Evaluating individual students' assignments	7	5	0	1	1
Talking about students' personal problems	2	4	5	3	0
Tutoring in an academic area	3	2	3	5	1
Assisting students in non-job-related assignments	0	2	3	9	0

changes needed to be made in FY'77 to ameliorate certain program weaknesses. Two employers (14%) felt students should have objectives which would enable the resource persons to be more helpful. Two (14%) wanted more opportunities to meet with counselors. Three employers (21%) felt that there should be better monitoring of the students' activities.

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Eighty-six percent (n=12) of employers' comments mentioned favorable reactions toward EBCE students from employees, and also 86% (n=12) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Twenty-one percent of the respondents (n=3) believed that the EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 50% of the employers (n=7) believed that EBCE students had also had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 21% (n=3) of employers, and 21% also noted a similar effect on company hiring practices. (For a more detailed breakdown of the answers to this question, see Table B-6b.)

Table B-6b

Summary: Site B-6. Hypothesis #6 was not rejected; the majority of experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

* * * * *

Table B-6b

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	5	4	1	4	7	0	7
Amount of employee work	7	1	3	3	3	1	10
Company hiring practices	9	1	1	3	3	0	11
Company training practices	7	2	1	4	3	0	11
Other	0	0	0	0	0	0	0

Site B Summary. Parents and experience site resource personnel reacted very favorably towards the EBCE program at Site B. Student data favored EBCE participants in the affective domain and comparison students in the cognitive domain. These results may well be attributable to several things. Site B only operated the program one semester. Many students were not in the program full time, but instead were in the classroom from 2-5 periods each day. Since only mid-term testing was conducted, significant growth attributable to EBCE cannot be determined. Several important program documents (e.g., Cross Reference Catalogs and Experience Site Learning Guides) were not being utilized. Finally, the comparison group was so small that it may well have unfairly effected the results of the comparison.

Implementation Site C

As can be seen from Table 1 there were 14 students at Site C for whom data were available. There were 14 seniors, which included 13 white students (1 black) and 8 males (6 females). No comparison group was available.

Hypotheses. There were four hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) EBCE students will maintain ($p < .10$) their mastery in basic academic skills;
2) EBCE students will acquire increased ($p < .10$) mastery in career knowledge;
3) EBCE students will acquire greater ($p < .10$) career maturity;
4) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments;
5) Parents of EBCE students will have positive attitudes toward the EBCE program; and
6) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: Site C-1. Data used to evaluate the first hypothesis were EBCE students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: Site C-1. Table C-1 presents the statistics on the EBCE CTBS outcomes. EBCE students showed significant gains in Reading Comprehension,

but no gains (or losses) of significance were demonstrated in Arithmetic Concepts or Arithmetic Applications.

Table C-1

Site C CTBS Data

	CTBS-RC		CTBS-AC		CTBS-AA	
	Pre	Post	Pre	Post	Pre	Post
n	12	12	12	12	12	12
$\bar{X}$	35.00	38.00	24.58	24.75	15.75	15.42
s	5.64	4.99	4.38	3.86	3.67	3.80
range	24-42	30-45	17-30	17-30	9-20	7-30
F	9.281		0.062		0.400	
p	$<.05$		$>.25$		$>.25$	

Summary: Site C-1. The first hypothesis was not rejected; EBCE students maintained their mastery in basic academic skills, and in one instance, even showed a significant gain.

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Data/Procedures: Site C-2. Data used to evaluate the second hypothesis were EBCE students' scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: Site C-2. Table C-2 presents the statistics on the EBCE CMI Competence Test outcomes. EBCE students showed no significant gains on any of the five subtests on the CMI Competence Test.

Table C-2

Site C CMI Competence Test Data

		Pre	Post	F	p
CMI-1 (20 items)	n	11	11	2.883	> .10
	$\bar{X}$	14.91	13.45		
	s	2.66	3.30		
	range	11-19	7-19		
CMI-2 (20 items)	n	11	11	1.046	>.25
	$\bar{X}$	18.55	17.64		
	s	1.8	1.92		
	range	15-20	13-20		
CMI-3 (20 items)	n	11	11	0.281	> .25
	$\bar{X}$	13.73	13.09		
	s	2.49	4.78		
	range	9-18	4-18		
CMI-4 (20 items)	n	11	11	0.491	> .25
	$\bar{X}$	14.55	14.00		
	s	3.08	3.32		
	range	9-18	6-17		
CMI-5 (20 items)	n	11	11		
	$\bar{X}$	11.82	11.36	0.129	> .25
	s	2.27	2.77		
	range	8-16	8-16		

Summary: Site C-2. The second hypothesis was rejected. EBCE students did not acquire increased mastery in career knowledge.

* * * * *

Data/Procedures: Site C-3. Data used to evaluate the third hypothesis were EBCE students' scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: Site C-3. Table C-3 presents the statistics on the EBCE CMI Attitude Scale outcomes. EBCE students did not acquire greater career maturity.

Table C-3

Site C CMI Attitude Data

		Pre	Post	F	p
CMI Attitude (50 items)	n	11	11	0.190	> .25
	$\bar{X}$	35.82	36.45		
	s	3.87	4.61		
	range	29-41	26-42		

Summary: Site C-3. The third hypothesis was rejected. EBCE students did not acquire greater career maturity as originally hypothesized.

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Data/Procedures: Site C-4. Data used to evaluate the fourth hypothesis were EBCE students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General,

2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site C-4. Table C-4 presents the statistics on the EBCE ASA outcomes. EBCE students showed significant gains in attitude towards School Resources (Part 3) and towards the total learning environment (Total). The other subtests showed no significant gains.

Table C-4

Summary: Site C-4. The third hypothesis was rejected for Parts 1, 2, and 4 of the ASA (Attitudes toward Education in General, School Curriculum, and School Counseling), but was not rejected for Part 3 (School Resources) and the Total score (Total Learning Environment). EBCE students did acquire significantly more positive attitudes toward School Resources and toward the total learning environment, but did not acquire more positive attitudes toward Education in General, School Curriculum, or School Counseling.

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Data/Procedures: Site C-5. The data used to test the fifth hypothesis were from the results of a Parent Opinion Survey which was mailed to parents in June, 1976. Responses from nine parents were received and tabulated.

Results: Site C-5. Most parents who responded were very positive towards all aspects of the EBCE program. All parents were enthusiastic

Table C-4

Site C ASA Data

		Pre	Post	F	p
ASA-1 (35 points)	n	14	14	2.883	>.10
	$\bar{X}$	22.93	25.50		
	s	4.45	5.54		
	range	12-29	16-35		
ASA-2 (25 points)	n	14	14	2.9[illegible]	>.10
	$\bar{X}$	16.00	17.93		
	s	2.86	3.34		
	range	12-22	13-23		
ASA-3 (45 points)	n	14	14	6.276	<.05
	$\bar{X}$	28.43	32.57		
	s	4.38	4.78		
	range	22-37	25-40		
ASA-4 (25 points)	n	14	14	2.177	>.1[illegible]
	$\bar{X}$	13.86	15.79		
	s	3.48	3.72		
	range	7-21	9-23		
ASA Total (130 points)	n	14	14	4.899	<.05
	$\bar{X}$	81.21	91.79		
	s	10.42	15.34		
	range	59-96	66-119		

about the amount of opportunity the career education program provided their sons and daughters for learning about occupations. Eight parents (89%) felt that EBCE offered their children more opportunity for general learning; all parents rated the approaches to learning used in the EBCE program as very good or excellent. Almost all parent respondents (89%) thought that their son or daughter liked the career education program much better than past school experiences and indicated that they would allow their child to participate in EBCE if they had this choice to make again.

Parents felt that the greatest strengths of the EBCE program were on-the-job experiences of students (89%) and the enthusiasm of the staff (11%). One of the parents who responded to the questionnaire stated that he felt the EBCE program had no weaknesses, and the remaining eight parents mentioned a total of four different weaknesses. Most weaknesses were mentioned only once or twice. Program weaknesses mentioned included insufficient communication between parents and teachers, student wanted to earn money rather than go to college, and too much freedom for students.

Eight of the nine parents surveyed thought that the EBCE program had had a good effect on helping their children in the formation of career plans. All parents thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools.

Parents also mentioned that they had noticed positive changes in their sons or daughters that might be attributable to participation in the EBCE program; i.e., improved attitudes toward school, career decisions being made more easily, and more responsible students. All parents stated that they had not noted any negative changes in their children that might have resulted from participation in the EBCE program.

All of the parents believed that their son or daughter talked with them "almost daily" about what was going on in the career education program; five (56%) stated that they had had frequent or very frequent contact with EBCE staff members. All of the respondents had attended at least one meeting during the school year where other parents of EBCE students were present. Most parents were definitely sure that they had received enough information about their children's progress in the EBCE program.

Almost all parents contacted (89%) rated the general quality of the EBCE program staff as very good or excellent. Seven (78%) rated their overall relationship with members of the EBCE staff as very good or excellent and two rated the relationship as satisfactory. The enthusiasm of the EBCE staff was rated as very good or excellent by all parents.

The majority of the parents indicated confidence in the occupational plans of their sons or daughters. Seven parents (78%) believed that their son or daughter would be attending college one year after graduating from high school. One parent thought their child would be working at this time, and one of the parents thought that one year after leaving high school their son or daughter would be going to a business or trade school.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important. In Table C-5a, parents rated the ability to think through and solve problems as the most important type of learning and further indicated that EBCE was effective in fostering this learning.

TABLE C-5a

Types of Learnings Fostered by EBCE

Type of Learning:	Importance					Effectiveness				
	Not Important 1	2	3	4	Highly Important 5	Not Effective 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills	0	0	2	1	6	0	0	2	2	5
b. Be punctual and organize their time	0	0	0	2	7	0	0	1	5	3
c. Assume responsibility for themselves	0	0	0	3	6	0	0	1	4	4
d. Make decisions and follow through	0	0	0	1	8	0	0	2	4	3
e. Communicate with others in a mature way	0	0	1	0	8	0	0	0	0	9
f. Be aware of more career opportunities	0	0	2	2	5	0	0	2	1	6
g. Work with others	0	0	1	1	7	0	0	0	3	6
h. Evaluate their own work	0	0	1	3	5	0	0	0	4	5
i. Perform basic academic skills	0	0	0	5	4	0	1	1	4	3
j. Think through and solve problems	0	0	0	0	9	0	0	2	2	5
k. Have a positive attitude toward self	0	0	0	1	8	0	0	1	3	5
l. Have a positive attitude toward work	0	0	0	2	7	0	0	1	4	4
m. Have a positive attitude toward learning	0	0	0	2	7	0	0	2	4	3
n. Prepare for further education	0	0	1	4	4	0	0	2	2	5
o. Improve interpersonal and social skills	0	0	1	3	5	0	0	2	2	5

Parents were also asked about where they had first heard about EBCE. Sources of initial information about EBCE most frequently mentioned by parents were their own children (four mentions) and counselors (five mentions).

When parents were asked which kinds of students they thought would benefit most from a career education, there seemed to be little consensus of opinion among the nine parents who responded to the item. Table C-5b categorizes and displays parents' replies to this question.

Table C-5b

Kinds of Students Who Benefit Most From EBCE

Type	Mentions	Percent
Ambitious/unmotivated sutdents	4	44%
Students who are undecided about careers	2	22%
Students who aren't going to college	2	22%
Any/all students	1	11%
Totals	9	99%

Summary: Site C-5. Hypothesis #5 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: Site C-6. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by Site C staff in May and June of 1976.

An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Twenty-two (22) experience sites were randomly selected to be surveyed from a list of active experience sites

for the FY'76 school year. The employer at each experience site received a questionnaire in the mail which was returned after completion to AEL.

Results: Site C-6. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Seventy-three percent (n=16) of the employers rated the EBCE program as being moderately effective to very effective, and 77% (n=17) believed that their organization would continue to participate in the EBCE program in coming years. (All of the remaining five employers were unsure of their organization's continued participation in the EBCE program.)

Fifteen of the 22 employers (68%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Seventeen employers (77%) believed that the EBCE program functioned as they had been initially led to believe.

Ninety-five percent of the employers (n=21) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=15), 2) talking about activities at the job site (n=22), 3) talking about job opportunities (n=8), 4) helping plan students' assignments (n=14), and 5) evaluating individual students' assignments (n=8). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table C-6a.)

Table C-6a

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	15	5	0	2	0
Talking about job site activities	22	0	0	0	0
Talking about job opportunities	8	11	2	0	0
Helping plan students' assignments	14	1	2	5	0
Evaluating individual students' assignments	8	7	0	6	1
Talking about students' personal problems	2	12	4	3	1
Tutoring in an academic area	5	3	2	12	0
Assisting students in non-job-related assignments	2	7	4	10	0

Most employers (82%; n=18) believed that the greatest strength of the EBCE program was the opportunity it gave students to pursue their interest areas. They felt EBCE was an important means of exposing students to the world of work, enabling them to explore different careers and aiding them in career decision-making. Some employers suggested specific changes that could be made in FY'77 to ameliorate certain program weaknesses. Five employers (23%) felt that there should be closer supervision of experience site activities by EBCE staff and three felt the student should have his objectives more clearly defined.

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Eighty-two percent (n=18) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 73% (n=16) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Forty-one percent of the respondents (n=9) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 63% of the employers (n=12) believed that EBCE students had also had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 36% (n=8) of employers, and 5% (n=1) thought that there was a similar effect on company hiring practices. Many respondents perceived no impact whatsoever on company policies and practices (for a more detailed breakdown of the responses to this question, see Table C-6b.)

Table C-6b

Impact Reported by Employers on Company Policies and Practices

	Amount of Impact				Value of Impact		
Impact Area	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	8	11	1	2	12	0	10
Amount of employee work	10	8	1	3	9	0	13
Company hiring practices	14	2	0	6	1	1	20
Company training practices	10	6	3	3	8	0	14
Other	0	0	0	0	0	0	0

Summary: Site C-6. Hypothesis #6 was not rejected; the majority of experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

* * * * *

Site C Summary. Parent and employer data at Site C were very positive towards the EBCE program. While student data indicated positive growth for EBCE students in several areas, most results indicated non-significant growth. Possible reasons for lack of significant effects center on the small number enrolled in the program, the lack of a comparison group to measure comparative changes, the operation of the program for only one semester, and the possible insensitivity of the test battery to detect changes that occurred over the short period of one semester. While the program was relatively small, it did appear to be highly congruent to the AEL model.

Implementation Site D

As can be seen from Table 1 there were six students at Site D for whom data were available. There were six seniors, which included six white students and three males (three females). No comparison group was available.

Hypotheses. There were four hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) EBCE students will maintain ($p < .10$) their mastery in basic academic skills;
2) EBCE students will acquire increased ($p < .10$) mastery in career knowledge;
3) EBCE students will acquire greater ($p < .10$) career maturity;
4) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments;
5) Parents of EBCE students will have positive attitudes toward the EBCE program; and
6) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

* * * * *

Data/Procedures: Site D-1. Data used to evaluate the first hypothesis were EBCE students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: Site D-1. Table D-1 presents the statistics on the EBCE CTBS outcomes. EBCE students showed no significant gains or losses on any of the three subtests of the CTBS.

Table D-1

Site D CTBS Data

	CTBS - RC		CTBS - AC		CTBS - AA	
	Pre	Post	Pre	Post	Pre	Post
n	6	6	6	6	6	6
$\bar{X}$	32.67	34.50	20.50	20.33	12.17	12.17
s	5.43	3.99	4.72	4.63	5.19	4.62
range	24-38	29-39	13-27	12-26	7-19	6-18
F	2.738		0.014		0.000	
p	> .10		> .25		> .25	

Summary: Site D-1. The first hypothesis was not rejected; EBCE students maintained their mastery in basic academic skills.

* * * * *

Data/Procedures: Site D-2. Data used to evaluate the second hypothesis were EBCE students' scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: Site D-2. Table D-2 presents the statistics on the EBCE CMI Competence Test outcomes. EBCE students showed no significant gains on any of the five subtests on the CMI Competence Test.

Table D-2

Site D CMI Competence Test Data

		Pre	Post	F	p
CMI-1 (20 items)	n	5	5	1.185	> .25
	$\bar{X}$	13.80	14.60		
	s	1.92	2.51		
	range	11-16	11-17		
CMI-2 (20 items)	n	5	5	2.500	> .10
	$\bar{X}$	17.80	16.80		
	s	1.79	1.10		
	range	16-20	15-18		
CMI-3 (20 items)	n	5	5	0.048	> .25
	$\bar{X}$	14.40	14.20		
	s	3.29	2.17		
	range	9-17	11-16		
CMI-4 (20 items)	n	5	5	0.348	> .25
	$\bar{X}$	15.80	15.40		
	s	1.30	2.19		
	range	15-18	12-18		
CMI-5 (20 items)	n	5	5	0.851	> .25
	$\bar{X}$	12.20	10.20		
	s	1.79	3.11		
	range	11-15	5-13		

Summary: Site D-2. The second hypothesis was rejected. EBCE students did not acquire increased mastery in career knowledge.

* * * * *

Data/Procedures: Site D-3. Data used to evaluate the third hypothesis were EBCE student scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: Site D-3. Table D-3 presents the statistics on the EBCE CMI Attitude Scale outcomes. EBCE students did acquire greater career maturity.

Table D-3

Site D CMI Attitude Data

		Pre	Post	F	p
CMI Attitude (50 items)	n	5	5	6.964	< .10
	$\bar{X}$	37.80	41.20		
	s	2.73	4.36		
	range	34-41	38-45		

Summary: Site D-3. The third hypothesis was not rejected. EBCE students did acquire greater career maturity as originally hypothesized.

* * * * *

Data/Procedures: Site D-4. Data used to evaluate the fourth hypothesis were EBCE students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The

composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Resu' s: Site D-4. Table D-4 presents the statistics on the EBCE ASA outcomes. EBCE students showed a significant loss in attitude towards School Resources (Part 3). The other subtests showed no significant gains or losses.

Table D-4

Summary: Site D-4. The third hypothesis was rejected. EBCE students did not acquire more positive attitudes toward the various aspects of schooling or toward the total learning environment. In fact, a significant decline in attitudes toward School Resources occurred.

* * * * *

Data/Procedures: Site D-5. The data used to test the fifth hypothesis were from the results of a Parent Opinion Survey which was mailed to parents in June, 1976. Responses from four parents were received and tabulated.

Results: Site D-5. Most parents who responded were very positive towards all aspects of the EBCE program. All parents were enthusiastic about the amount of opportunity the career education program provided their sons and daughters for learning about occupations. Four parents (100%) felt that EBCE offered their children more opportunity for general learning; all but one parent rated the approaches to learning used in the EBCE program as very good or excellent. All parent respondents thought that

Table D-4

Site D ASA Data

		Pre	Post	F	p
ASA-1 (35 points)	n	6	6	0.474	> .25
	$\bar{X}$	17.17	15.33		
	s	3.25	6.19		
	range	14-22	9-24		
ASA-2 (25 points)	n	6	6	0.405	> .25
	$\bar{X}$	14.33	13.33		
	s	3.72	2.88		
	range	9-18	9-17		
ASA-3 (45 points)	n	6	6	9.57	< .05
	$\bar{X}$	32.83	28.33		
	s	2.56	2.73		
	range	30-36	25-33		
ASA-4 (25 points)	n	6	6	0.158	> .25
	$\bar{X}$	14.33	13.33		
	s	3.88	2.94		
	range	7-17	10-18		
ASA Total (130 points)	n	6	6	1.66	> .25
	$\bar{X}$	78.66	70.33		
	s	10.13	12.93		
	range	69-93	57-87		

their son or daughter liked the career education program much better than past shcool experiences and indicated that they would allow their child to participate in EBCE if they had this choice to make again.

Parents felt that the greatest strengths of the EBCE program were the on-the-job experiences of students (n=3) and the enthusiasm of the EBCE staff. One parent who responded to the questionnaire stated that the EBCE program had no weaknesses, and one mentioned the transportation expens the sites as a weakness. The remaining two parents stated t is a ack of parent-teacher communication and that the student was separated from school activities.

All of the parents surveyed thought that the EBCE program had had a good effect on helping their children in the formation of career plans. Also, all parents thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools.

Parents also mentioned that they had noticed positive changes in their sons or daughters that might be attributable to participation in the EBCE program. Three of the parents stated that the EBCE program had made their children more responsible and one of the parents felt that it had helped his son make a career decision. Only one parent mentioned that he/she had noted any negative change in his/her child that might have resulted from participation in the EBCE program. The parent believed that the child had been sent to a site in which she had no interest and the student lost enthusiasm for the program.

Three of the four parents (75%) believed that their son daughter talked with them "almost daily" about what was going on in the career education program. Three (75%) stated that they had had frequent or very fre-

quent contact with EBCE staff members. Only one of the four respondents (25%) had attended at least one meeting during the school year where other parents of EBCE students were present. All parents (n=4) were definitely sure that they had received enough information about their children's progress in the EBCE program.

All parents contacted rated the general quality of the EBCE program staff as very good or excellent. They also rated their overall relationship with members of the EBCE staff as very good or excellent. The enthusiasm of the EBCE staff was rated as very good or excellent by all four parents.

The majority of the parents (75%) indicated confidence in the occupational plans of their sons or daughters, where such plans existed; however, one of the parents (25%) stated that their son or daughter had made no firm occupational plans at the time of the survey. Two parents (50% believed that their son or daughter would be attending college one year after graduating from high school; one parent thought their child would be working at this time. The remaining parent thought that one year after graduating, their son or daughter would be going to a business or trade school.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important. Parents rated the ability to work with others as the most important type of learning and further indicated that EBCE was highly effective in fostering this learning. Parents also felt their children gained the following types of learning:

performing specific occupational skills,

being punctual and organizing their time,

assuming responsibility for themselves,

making decisions and following through,
performing basic academic skills,
thinking through and solving problems,
having a positive attitude toward self,
having a positive attitude toward work,
having a positive attitude toward learning,
preparing for further education, and
improving interpersonal and social skills.

Parents were also asked about where they had first learned about EBCE. Sources of initial information about EBCE stated by all parents were from their own children.

When parents were asked which kinds of students they thought would benefit from a career education, two parents (50%) stated it was most useful for students undecided about careers. Another parent said all students would benefit, and another felt it was best for students interested in a trade.

Summary: Site D-5. Hypothesis #5 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

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Data/Procedures: Site D-6. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by Site D staff in May and June of 1976.

An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Nine (9) experience sites were randomly selected to be surveyed from a list of active experience sites for the FY'76 school year. The employer at each experience site received a questionnaire in the mail which was returned after completion to AEL.

Results: Site D-6. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Seventy-eight percent (n=7) of the employers rated the EBCE program as being moderately effective to very effective, and 78% believed that their organization would continue to participate in the EBCE program in coming years. (One of the remaining two employers was unsure of his/her organization's continued participation in the EBCE program.)

Seven of the nine employers (78%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Seven employers (78%) believed that the EBCE program functioned as they had been initially led to believe.

Seventy-eight percent of the employers (n=7) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=7), 2) talking about activities at the job site (n=9), 3) talking about job opportunities (n=4), 4) helping plan students' assignments (n=5), and 5) evaluating individual students' assignments (n=3). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table D-6a.)

Table D-6a

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	7	1	0	1	0
Talking about job site activities	8	1	0		
Talking about opportunities	4	5	0	0	0
Helping plan students' assignments	5	1	0	2	1
Evaluating individual students' assignments	3	3	0	3	0
Talking about students' personal problems	2	1	1	5	0
Tutoring in an academic area	2	1	3	2	1
Assisting students in non-job-related assignments	1	3	1	3	2

Fifty-six percent of the employers (n=5) believed that the greatest strength of the EBCE program was the opportunity it gave students to pu their interest are a. They felt EBCE was an important means of exposing students to the w d of work, enabling them to explore different careers and aiding them in career decision-making. Most of the employers did not suggest specific changes to be made in FY'77 to ameliorate any program weaknesses. However, one employer felt that there should be closer supervision of experience site activities by EBCE staff.

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Fifty-six percent (n=5) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 78% (n=7) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Seventy-eight percent of the respondents (n=7) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 78% of the employers (n=7) believed that EBCE students had also had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 22% (n=2) of employers, and 11% (n=1) thought that there was a similar effect on company hiring practices. Many respondents perceived no impact whatsoever on company policies and practices (for a more detailed breakdown of the answers to this question, see Table D-6b).

Table D-6b

Summary: Site D-6. Hypothesis #11 was not rejected; the majority of

Table D-6b

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	4	2	0	3	2	0	7
Amount of employee work	4	3	0	2	2	1	6
Company hiring practices	5	1	0	3	1	0	8
Company training practices	5	1	0	3	1	0	8
Other	0	0	0	0	0	0	0

experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

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Site D Summary. While parent and employer data at Site D were positive, student outcome data did not reflect a major impact -- positively or negatively. Although the program was relatively small and there was no comparison group, there did appear to be a high degree of congruency to the AEL model. Possible reasons for the lack of significant student outcomes on many subtests may be related to the small sample size, the lack of a comparison group to reflect comparative differences, the insensitivity of the tests; the most probable reason is the short-term (one semester) operation of the program.

Implementation Site E

As can be seen from Table 1 there were 19 EBCE students at Site E for whom data were available. There were 19 juniors, which included 19 white students and 10 males (9 females). There were 22 students in the comparison group. This all junior group included 18 males and four females and 21 white and one black students.

Hypotheses. There were eight hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) EBCE students will maintain ($p < .10$) their mastery in basic academic skills;
2) EBCE students will acquire increased ($p < .10$) mastery in career knowledge;
3) EBCE students will acquire greater ($p < .10$) career maturity;
4) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments;
5) EBCE students will do as well ($p < .10$) in basic academic skills as comparison students enrolled in traditional high school programs;
6) EBCE students will acquire greater ($p < .10$) mastery in career knowledge than comparison students;
7) EBCE students will acquire greater ($p < .10$) career maturity than comparison students;
8) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments than will comparison students;
9) Parents of EBCE students will have positive attitudes toward the EBCE program; and

10) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

Hypotheses 1 through 4 also have parallel statements for the comparison students and consequently will be considered at the same time as the EBCE hypotheses.

* * * * *

Data/Procedures: Site E-1. Data used to evaluate the first hypothesis were EBCE students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills. Parallel analyses were conducted on comparison group data.

Results: Site E-1. Table E-1 presents the statistics on the CTBS outcomes. EBCE students showed no significant gains or losses on any of the three subtests of the CTBS. Table E-1 also presents the comparison group statistics on CTBS outcomes, which indicates no significant gains or losses on the AC or AA subtests of the CTBS, but a significant loss on the RC subtest.

Table E-1

Summary: Site E-1. The first hypothesis was not rejected; EBCE students maintained their mastery in basic academic skills. The comparison students also maintained their mastery in the basic academic skills of Arithmetic Concepts and Applications, but declined in Reading Comprehension mastery.

* * * * *

Table E-1
Site E CTBS Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
CTBS-RC								
n	19	19	0.188	>.25	22	22	7.618	<.05
$\bar{X}$	34.89	34.26			32.18	25.55		
s	5.40	7.06			4.59	10.26		
range	19-42	16-41			23-40	11-44		
CTBS-AC								
n	19	19	2.126	>.10	22	22	0.959	>.25
$\bar{X}$	23.95	22.42			21.41	22.82		
s	4.31	5.55			4.90	4.68		
range	13-29	7-29			10-28	13-29		
CTBS-AA								
n	19	19	1.621	>.10	22	22	1.533	>.10
$\bar{X}$	15.11	13.89			13.68	11.45		
s	3.20	3.83			5.37	6.52		
range	9-20	7-19			3-20	0-20		

Data/Procedures: Site E-2. Data used to evaluate the second hypothesis were EBCE student scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge. Parallel analyses were conducted on comparison group data.

Results: Site E-2. Table E-2 presents the statistics on the EBCE CMI Competence Test outcomes and comparison group outcomes. EBCE students showed no significant gains but did show significant losses on subtests 2, 3, and 4 of the CMI Competence Test. Comparison students showed a significant loss on subtests 2, 3, 4, and 5.

Table E-2

Summary: Site E-2. The second hypothesis was rejected. EBCE students did not acquire increased mastery in career knowledge; similarly, the comparison students did not acquire increased mastery. In fact, both groups showed a significant loss on several subtests.

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Data/Procedures: Site E-3. Data used to evaluate the third hypothesis were EBCE student scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity. Parallel analyses were conducted on comparison group data.

Results: Site E-3. Table E-3 presents the statistics on the EBCE CMI Attitude Scale outcomes and comparison group outcomes. EBCE students did not acquire greater career maturity nor did comparison group students.

Table E-3

Summary: Site E-3. The third hypothesis was rejected. EBCE students did not acquire greater career maturity as originally hypothesized. Comparison group students also did not acquire greater career maturity.

* * * * *

Table E-2
Site E CMI Competence Test Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	t	p	Pre	Post	F	p
CMI-1								
n	19	19	2.2-	>.10	21	21		>.25
$\bar{X}$	14.16	12.48			12.62	12.71		
s	2.89	5.69			4.40	3.20		
range	8-18	1-20			1-17	7-18		
CMI-2								
n	19	19	3.449	<.10	21	21	7.675	<.05
$\bar{X}$	16.42	14.58			15.95	12.71		
s	3.10	5.65			4.43	3.30		
range	7-20	3-20			3-20	6-18		
CMI-3								
n	19	19	6.137	<.05	21	21	13.921	<.01
$\bar{X}$	12.79	10.37			11.86	6.95		
s	3.98	5.08			4.37	4.26		
range	6-19	2-16			1-17	0-13		
CMI-4								
n	19	19	7.679	<.05	21	21	9.142	<.01
$\bar{X}$	13.00	10.37			9.29	4.95		
s	2.31	4.11			6.00	5.84		
range	9-18	2-17			1-16	0-17		
CMI-5								
n	19	19	0.846	>.25	21	21	15.792	<.001
$\bar{X}$	10.63	9.74			8.52	3.62		
s	3.68	4.84			3.50	4.87		
range	3-16	2-17			2-13	0-16		

Table E-3
Site E CMI Attitude Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	
n	19	19	0.553	>.25	21	21	2.760	> .10
$\bar{X}$	38.16	37.37			35.19	31.14		
s	5.10	6.6			6.26	11.39		
range	29-45	24-4[illegible]			25-45	10-45		

Data/Procedures: Site E-4. Data used to evaluate the fourth hypothesis were EBCE student scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environment. Parallel analyses were conducted on comparison group data. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site E-4. Table E-4 presents the statistics on the ASA outcomes. EBCE students showed significant gains in attitude on Parts 1, 3, and 4 of the ASA and on the total test score. Comparison students showed no gains on any subscale of the ASA or on the total score, and in fact, showed a significant decrease on Part 1.

Table E-4
Site E ASA Data
BCE and Comparison Group

	BCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
ASA-1								
n	19	19	8.692	<.01	21	21	3.497	<.10
$\bar{X}$	24.05	26.47			25.48	23.57		
s	4.30	3.96			5.55	6.07		
range	16-30	17-34			11-34	9-34		
ASA-2								
n	19	19	1.670	>.10	21	21	0.178	>.25
$\bar{X}$	18.11	19.05			17.71	18.00		
s	3.33	2.61			3.52	3.13		
range	14-25	15-23			13-24	12-24		
ASA-3								
n	19	19	4.467	<.05	21	21	2.339	>.10
$\bar{X}$	32.21	34.37			33.38	32.24		
s	4.69	4.03			4.81	5.14		
range	23-38	27-39			25.43	22-42		
ASA-4								
n	19	19	4.226	<.10	21	21	0.370	>.25
$\bar{X}$	14.32	15.63			12.19	12.57		
s	3.99	4.09			5.48	5.73		
range	6-21	9-24			5-21	5-22		
ASA Total								
n	19	19	7.250	<.05	21	21	1.221	>.25
$\bar{X}$	89.74	95.53			88.76	86.38		
s	11.74	11.70			15.82	17.14		
range	70-106	76-115			56-112	50-118		

Summary: Site E-4. EBCE students did acquire more positive attitudes toward Education in General, School Resources, School Counseling, and the total learning environment. Comparison students, however, demonstrated a significant decline in attitudes toward Education in General.

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Data/Procedures: Site E-5. Data used to evaluate the fifth hypothesis were students' scores on the Reading Comprehension (RC), Arithmetic Concepts (AC), and the Arithmetic Applications (AA) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: Site E-5. Table E-5 presents the statistics on the CTBS outcomes. Comparison students scored significantly lower on the RC and AC pretests than the EBCE students and were significantly lower on the RC posttest. Analysis of gain scores indicated a significant difference between the two groups on the RC and AC subtests.

Table E-5

Summary: Site E-5. Inspection of the data presented in Table E-5 indicates that while comparison students were lower initially on the RC and AC subtests, a tremendous decrease on posttest comparison group RC scores caused the difference between the two groups to increase. Such was not the case with respect to the AC subtest.

* * * * *

Data/Procedures: Site E-6. Data used to evaluate the sixth hypothesis were students' socres on the Competence Test of the CMI. The five subtests

Table E-5
Site E CTBS Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
CTBS-RC						
n	19	22	19	22	19	22
$\bar{X}$	34.89	32.18	34.26	25.55	-0.63	-6.64
s	5.40	4.59	7.16	10.26	6.34	10.09
F	3.020		.719		5.010	
p	<.10		>.01		<.05	
CTBS-AC						
n	19	22	19	22	19	22
$\bar{X}$	23.95	21.41	22.42	22.82	-1.53	1.41
s	4.31	4.90	5.55	4.68	4.56	4.25
F	3.056		0.062		4.544	
p	<.10		>.25		<.05	
CTBS-AA						
n	19	22	19	22	19	22
$\bar{X}$	15.11	13.68	13.89	11.45	-1.21	-2.23
s	3.20	5.37	3.83	6.52	4.14	7.63
F	1.022		2.046		0.268	
p	>.25		>.10		>.25	

of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: Site E-6. Table E-6 presents the statistics on the CMI Competence Test Outcomes. EBCE and comparison group students were different initially on subtests 4 and 5 and had significantly different posttest scores on subtests 3, 4, and 5. Analysis of gain scores indicated significant differences only on subtest 5.

Table E-6
Site E CMI Competence Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
CMI-1						
n	19	21	19	21	19	21
$\bar{X}$	14.16	12.62	12.58	12.71	-1.58	0.10
s	2.89	4.40	5.69	3.20	4.62	4.27
F	1.670		0.009		1.420	
p	> .10		> .25		> .10	
CMI-2						
n	19	21	19	21	19	21
$\bar{X}$	16.42	15.95	14.58	12.71	-1.84	-3.24
s	3.10	4.43	5.65	3.30	4.32	5.36
F	0.148		1.662		0.811	
p	> .25		> .10		> .25	
CMI-3						
n	19	21	19	21	19	21
$\bar{X}$	12.79	11.86	10.37	6.95	-2.42	-4.90
s	3.98	4.37	5.08	4.26	4.26	6.02
F	0.494		5.346		2.202	
p	> .25		< .05		> .10	
CMI-4						
n	19	21	19	21	19	21
$\bar{X}$	13.00	9.29	10.37	4.95	-2.63	-4.3
s	2.31	4.00	4.11	5.84	4.14	6.57
F	6.406		11.284		0.937	
p	< .05		< .01		> .25	
CMI-5						
n	19	21	19	21	19	21
$\bar{X}$	10.63	8.52	9.74	3.62	-0.89	-4.90
s	3.68	3.50	4.84	4.87	4.24	5.66
F	3.429		15.822		6.325	
p	< .10		< .001		< .05	

Summary: Site E-6. Hypothesis six was rejected. Basically, EBCE students did not acquire greater mastery in career knowledge as compared to comparison group students. Inspection of the data for subtests 3, 4, and 5 (also see Table E-2) indicates that although comparison group students started lower than EBCE students, both groups showed declines; thus the resulting statistical outcomes.

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Data/Procedures: Site E-7. Data used to evaluate the seventh hypothesis were students' scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: Site E-7. Table E-7 presents the statistics on the CMI Attitude Scale outcomes. EBCE students did not acquire greater career maturity than the comparison students. Although they were equivalent initially, EBCE students did have significantly higher posttest scores.

Table E-7
Site E CMI Attitude Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
n	19	21	19	21	19	21
$\bar{X}$	38.16	35.19	37.37	31.14	-0.79	-4.05
s	5.10	6.26	6.69	11.39	4.63	11.16
F	2.667		4.322		1.398	
p	$\geq .10$		$< .05$		$> .10$	

Summary: Site E-7. The seventh hypothesis was rejected; EBCE students did not acquire greater career maturity than the comparison group students as originally hypothesized. Instead, both groups showed a decline in scores -- a decline sufficient on the part of the comparison group to cause the groups to be significantly different at the end of the year.

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Data/Procedures: Site E-8. Data used to evaluate the eighth hypothesis were students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counselling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site E-8. Table E-8 presents the statistics on the ASA outcomes of EBCE vs. the comparison group. EBCE and comparison students were equivalent initially on all subtests including the composite total score but EBCE students had significantly higher posttest scores on subtests 1 and 4 and on the composite total score. Analysis of gain scores indicated a significant difference on subtests 1 and 3 and the composite total score.

Table E-8

Summary: Site E-8. Inspection of the statistics presented in Table E-8 and in Table E-4 shows that EBCE students made significant gains on all components of the ASA except part 2, while comparison students made no

Table E-8
Site E ASA Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
ASA-1						
n	19	21	19	21	19	21
$\bar{X}$	24.05	25.48	26.47	23.57	2.42	-1.90
s	4.30	5.55	3.96	6.07	3.58	4.67
F	0.810		3.130		10.643	
p	>.25		<.10		<.01	
ASA-2						
n	19	21	19	21	19	21
$\bar{X}$	18.11	17.71	19.05	18.00	0.95	0.29
s	3.33	3.52	2.61	3.13	2.53	3.10
F	0.129		1.317		0.540	
p	>.25		>.25		>.25	
ASA-3						
n	19	21	19	21	19	21
$\bar{X}$	32.21	33.38	34.37	32.24	2.16	-1.14
s	4.69	4.81	4.03	5.14	4.45	3.42
F	0.605		2.096		6.987	
p	>.25		>.10		<.05	
ASA-4						
n	19	21	19	21	19	21
$\bar{X}$	14.32	12.19	15.63	12.57	1.32	0.38
s	3.99	5.48	4.09	5.73	2.79	2.87
F	1.930		3.707		1.086	
p	>.10		<.10		>.25	
ASA Total						
n	19	21	19	21	19	21
$\bar{X}$	89.74	88.76	95.53	86.38	5.79	-2.38
s	11.74	15.82	11.70	17.14	9.37	9.88
F	0.048		3.800		7.164	
p	>.25		<.10		<.05	

significant gains but demonstrated a significant loss on Part 1. The tremendous gains made by EBCE students coupled with corresponding gains and losses evidenced by the comparison students are reflected in the set of significant differences found in the gain score analyses.

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Data/Procedures: Site E-9. The data used to test the ninth hypothesis were from the results of a Parent Opinion Survey which was mailed to parents in June, 1976. Responses from five parents were received and tabulated.

Results: Site E-9. Most parents who responded were very positive towards all aspects of the EBCE program. Most parents (60%) were enthusiastic about the amount of opportunity the career education program provided their sons and daughters for learning about occupations. Three parents (60%) felt that EBCE offered their children more opportunity for general learning. All parent respondents thought that their son or daughter liked the career education program much better than past school experiences and indicated that they would allow their child to participate in EBCE if they had this choice to make again.

Parents felt that the greatest strength of the EBCE program was the on-the-job experiences of students (n=4). One parent who responded to the questionnaire did not know of any weaknesses of the EBCE program, and one elected to make no comment on this subject; the remaining three parents mentioned a total of three different weaknesses. The weaknesses mentioned were transportation expenses to sites, too much freedom for students and lack of parent-teacher communication.

Three of the five parents surveyed thought that the EBCE program had had a good effect on helping their children in the formation of career plans.

All of the parents thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools.

Parents also mentioned that they had noticed positive changes in their sons or daughters that might be attributable to participation in the EBCE program. They felt their children had better attitudes toward school and were more eager to learn. Only one parent mentioned that they had noted any negative changes in their children that might have resulted from participation in the EBCE program. In this case, the parent believed that their child had less respect for routine procedures such as scheduling.

Two of the five (40%) believed that their son or daughter talked with them "almost daily" about what was going on in the career education program. One parent (20%) stated that they had had frequent or very frequent contact with EBCE staff members, one of the five respondents had attended two meetings during the school year where other parents of EBCE students were present, and one parent felt that they had received enough information about their children's progress in the EBCE program.

Three parents (60%) rated the general quality of the EBCE program staff as very good or excellent. Three (60%) rated their overall relationship with members of the EBCE staff as very good or excellent. (One of the respondents thought that it was satisfactory.) The enthusiasm of the EBCE staff was rated as very good or excellent by four parents (80%). All parents but one rated the approaches to learning used in the EBCE program as satisfactory to excellent.

One of the parents (20%) indicated confidence in the occupational plans of their sons or daughters, where such plans existed; however, one of the

parents (20%) stated that their son or daughter had made no firm occupational plans at the time of the survey. Two parents (40%) believed that their son or daughter would be attending college one year after graduating from high school. Two of the parents (40%) thought that one year after leaving high school their son or daughter would be going to a business or trade school.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important (see Table E-9a).

Table E-9a

Parents were also asked about where they had first heard about EBCE. Sources of initial information about EBCE mentioned by parents were their own children (four mentions) and counselors (one mention).

When parents were asked which kinds of students they thought would benefit most from a career education, there seemed to be little consensus of opinion among the five parents who responded to the item. Table E-9b categorizes and displays parents' replies to this question.

Table E-9b

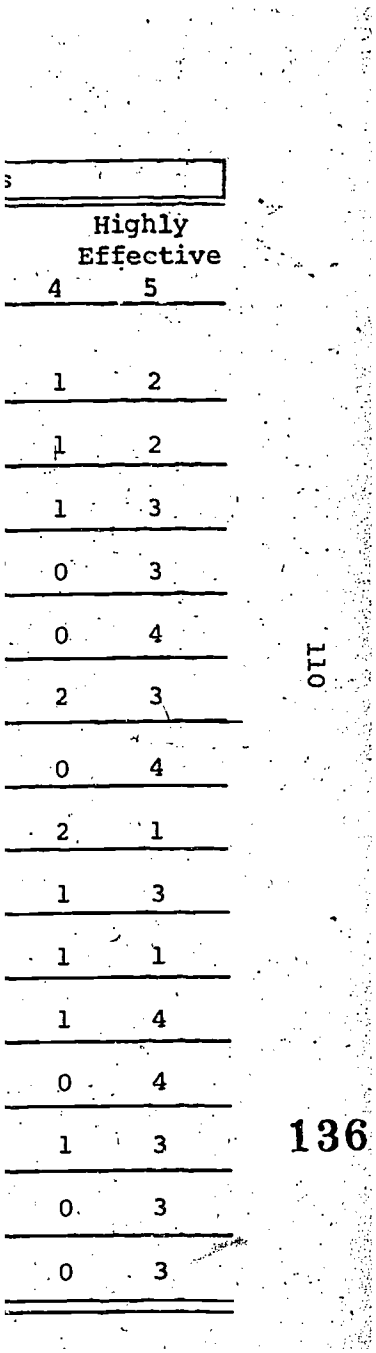
Kinds of Students Who Benefit Most From EBCE

Type	Mentions	Percent
Students who are unsure about future plans	2	40%
Students who aren't going to college	1	20%
Students below average	1	20%
Any/all students	1	20%
Totals	5	100%

TABLE E-9a

Types of Learnings Fostered by EBCE

Type of Learning:	Importance						
	Not Important 1	2	3	4	Highly Important 5	Not Effective 1	2
a. Perform specific occupational skills	0	0	0	3	2	0	1
b. Be punctual and organize their time	0	0	0	1	4	0	1
c. Assume responsibility for themselves	0	0	0	1	4	0	0
d. Make decisions and follow through	0	0	0	1	4	0	0
e. Communicate with others in a mature way	0	0	0	1		0	0
f. Be aware of more career opportunities	0	0	0	1		0	0
g. Work with others	0	0	0	2	3	0	0
h. Evaluate their own work	0	0	0	2	3	0	0
i. Perform basic academic skills	0	0	0	2	3	0	1
j. Think through and solve problems	0	0	0	2	3	0	0
k. Have a positive attitude toward self	0	0	0	0	5	0	0
l. Have a positive attitude toward work	0	0	0	0	5	0	0
m. Have a positive attitude toward learning	0	0	0	2	3	0	1
n. Prepare for further education	0	0	0	0	5	0	1
o. Improve interpersonal and social skills	0	0	0	1	4	0	1


Highly
Effective
4 5
1 2
1 2
1 3
0 3
0 4
2 3
0 4
2 1
1 3
1 1
1 4
0 4
1 3
0 3
0 3

Summary: Site E-9. Hypothesis #9 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

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Data/Procedures: Site E-10. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by Site E staff in May and June of 1976.

An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Fourteen (14) experience sites were randomly selected to be surveyed from a list of active experience sites for the FY'76 school year. The employer at each experience site received a questionnaire in the mail which was returned after completion to AEL.

Results: Site E-10. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Seventy-one percent (n=10) of the employers rated the EBCE program as being moderately effective to very effective, and 71% believed that their organization would continue to participate in the EBCE program in coming years. The four remaining employers were unsure of their organization's continued participation in the EBCE program.

Eleven of the 14 employers (79%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Thirteen employers (93%) believed that the EBCE program functioned as they had been initially led to believe.

Ninety-three percent of the employers (n=13) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent

time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=11), 2) talking about activities at the job site (n=12), 3) talking about job opportunities (n=5), 4) helping plan students' assignments (n=4), and 5) evaluating individual students' assignments (n=5).

Most employers (79%; n=11) believed that the greatest strength of the EBCE program was in giving the student an opportunity to explore his/her interest areas. They felt EBCE was an important means of exposing students to the world of work, enabling them to explore different careers and aiding them in career decision-making. Some employers suggested specific changes that could be made in FY'77 to ameliorate certain program weaknesses. Three employers (21%) felt that there should be more follow-up of the students' experience site activities by EBCE staff and two (14%) wanted more opportunities to meet with the counselor. Two employers (14%) felt that the student should have his objectives identified which would enable the resource person to be more objective.

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Eighty-six percent (n=12) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 79% (n=11) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Fifty percent of the respondents (n=7) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 50% of the employers believed that EBCE students had also had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 57% (n=8) of employers, and 21% (n=3) thought that there was a similar effect on company hiring practices. Where an impact was reported, it was almost always positive; however, many respondents perceived no impact whatsoever on company policies and practices. (For more detailed breakdown of the answers to this question, see Table E-10.)

Table E-10

Summary: Site E-10. Hypothesis #10 was not rejected; the majority of experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

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Site E Summary. Positive parent and employer data obtained at Site E indicate parental acceptance and adequate community infusion and utilization of the EBCE program. Impact of the program appeared to be positively and negatively mixed. There may well be several explanations for these mixed impact effects. The three most likely reasons are: 1) Site E LC staff were only assigned to the program quarter time -- only the site analyst/placement coordinator worked full time on EBCE, 2) the comparison group may not have been an equivalent group -- it was composed of an intact group of students in a business orientation class, 3) many students got their academics through

regular classroom procedures. Generally students spent only a half day on site due to the regular class load. The weariness of test taking at the end of the school year may have contributed to the mixed effects.

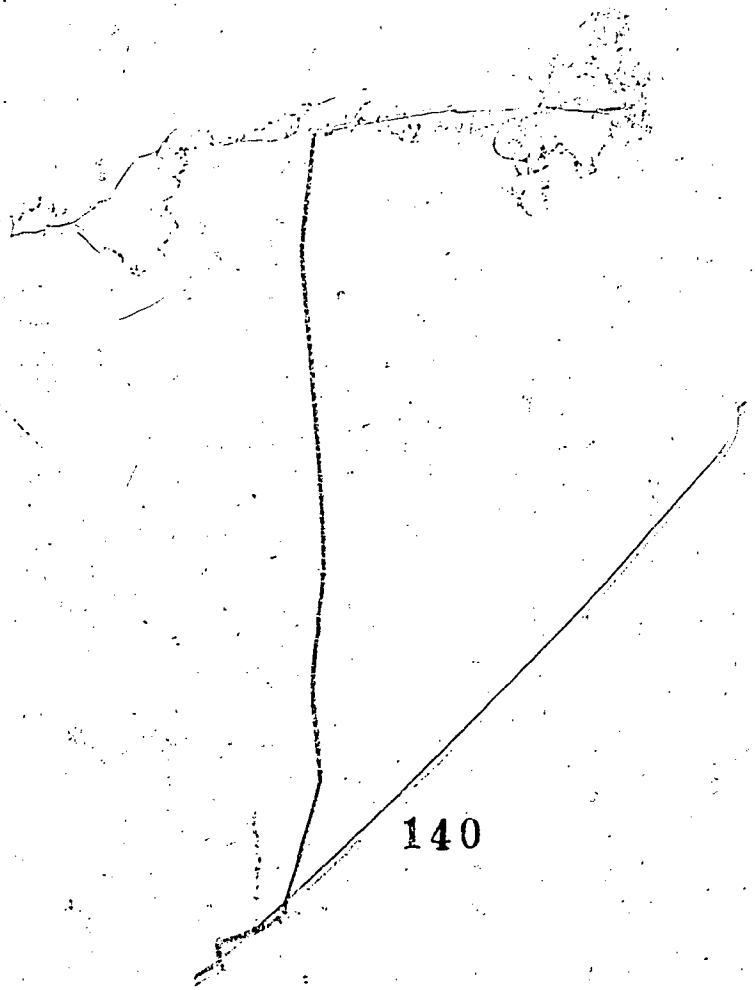

Table E-10

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	6	3	3	2	7	0	7
Amount of employee work	5	6	2	2	7	0	7
Company hiring practices	7	1	1	5	3	0	11
Company training practices	5	6	0	3	8	0	6
Other	0	0	0	0	0	0	0

Implementation Site F

As can be seen from Table 1 there were five EBCE students at Site F for whom data were available. There were two seniors and three juniors, which included five white students and two males (three females). There were six students in the comparison group. This group of three seniors and three juniors included four males and two females and five white and one black students.

Hypotheses. There were eight hypotheses associated with student outcome data as a function of participating in EBCE and two hypotheses associated with parent and employer interaction with EBCE:

1) EBCE students will maintain ($p < .10$) their mastery in basic academic skills;
2) EBCE students will acquire increased ($p < .10$) mastery in career knowledge;
3) EBCE students will acquire greater ($p < .10$) career maturity;
4) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments;
5) EBCE students will do as well ($p < .10$) in basic academic skills as comparison students enrolled in traditional high school programs;
6) EBCE students will acquire greater ($p < .10$) mastery in career knowledge than comparison students;
7) EBCE students will acquire greater ($p < .10$) career maturity than comparison students;
8) EBCE students will develop more positive ($p < .10$) attitudes toward learning environments than will comparison students;

9) Parents of EBCE students will have positive attitudes toward the EBCE program; and

10) Employers at EBCE experience sites will have positive attitudes toward the EBCE program.

Hypotheses 1 through 4 also have parallel statements for the comparison students and consequently will be considered at the same time as the EBCE hypotheses.

* * * * *

Data/Procedures: Site F-1. Data used to evaluate the first hypothesis were EBCE students' scores on the Reading Comprehension (RC) and Arithmetic Concepts (AC) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills. Parallel analyses were conducted on comparison group data.

Results: Site F-1. Table F-1 presents the statistics on the CTBS outcomes. EBCE students showed no significant gain on the RC subtest of the CTBS, but a significant loss was shown on the AC subtest. Table F-1 also presents the comparison group statistics on CTBS outcomes, which indicates no significant gain on the RC subtest of the CTBS but a significant gain on the AC subtest.

Table F-1

Summary: Site F-1. The first hypothesis was partially rejected; EBCE students maintained their mastery in the basic academic skills area of reading comprehension but decreased in the area of arithmetic concepts. Similarly, comparison students also maintained their mastery in the basic academic skills area of reading comprehension, but increased in the area of arithmetic concepts.

Table F-1
Site F CTBS Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
CTBS-RC								
n	5	5	2.560	>.10	6	6	1.689	>.10
$\bar{X}$	37.40	33.60			35.67	37.33		
s	6.43	11.46			5.82	3.88		
range	27-43	15-44			28-41	32-43		
CTBS-AC								
n	5	5	7.848	<.05	6	6	5.249	<.10
$\bar{X}$	22.60	18.80			21.00	23.17		
s	6.88	6.30			2.28	2.14		
range	14-29	13-27			17-23	21-25		
CTBS-AA								
n	(Test not administered pre or post.)							
$\bar{X}$								
s								
range								

* * * * *

Data/Procedures: Site F-2. Data used to evaluate the second hypothesis were EBCE student scores on the Competence Test of the CMI. The five subtests of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge. Parallel analyses were conducted on comparison group data.

Results: Site F-2. Table F-2 presents the statistics on the EBCE CMI Competence Test outcomes and comparison group outcomes. EBCE students showed no significant gains but instead showed a significant loss on subtest 2 of the CMI Competence Test. Comparison students showed no significant gains or losses.

Table F-2

Summary: Site F-2. The second hypothesis was rejected. EBCE students did not acquire increased mastery in career knowledge and in fact, showed a significant loss on one subtest; similarly, the comparison students did not acquire increased mastery.

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Data/Procedures: Site F-3. Data used to evaluate the third hypothesis were EBCE student scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity. Parallel analyses were conducted on comparison group data.

Results: Site F-3. Table F-3 presents the statistics on the EBCE CMI Attitude Scale outcomes and comparison group outcomes. EBCE students did not acquire greater career maturity nor did comparison group students.

Table F-3

Summary: Site F-3. The third hypothesis was rejected. EBCE students did not acquire greater career maturity as originally hypothesized. Comparison group students also did not acquire greater career maturity.

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Table F-2
Site F CMI Competence Data
ERCE and Comparison Group

	ERCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
CMI-1								
n	5	5	0.138	> .25	6	6	0.034	> .25
$\bar{X}$	14.40	14.80			14.83	14.67		
s	2.07	2.39			2.40	1.97		
range	13-18	11-17			12-17	11-16		
CMI-2								
n	5	5	6,001	< .10	6	6	2.753	> .10
$\bar{X}$	16.60	16.00			17.17	18.33		
s	4.28	4.18			2.48	1.03		
range	11-20	11-20			13-20	17-19		
CMI-3								
n	5	5	0.010	> .25	6	6	0.455	> .25
$\bar{X}$	13.00	13.20			13.33	14.00		
s	4.18	5.76			1.51	2.28		
range	8-19	4-19			11-15	12-18		
CMI-4								
n	5	5	0.370	> .25	6	6	0.040	> .25
$\bar{X}$	13.20	14.20			14.83	15.00		
s	4.38	4.44			2.14	2.83		
range	8-17	8-19			12-18	11-18		
CMI-5								
n	5	5	3.612	> .10	6	6	0.828	> .25
$\bar{X}$	11.20	9.00			9.83	11.33		
s	2.28	3.00			4.45	1.21		
range	9-15	4-12			1-13	10-13		

Table F-3
Site F CMI Attitude Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
n	5	5	0.052	>.25	6	6	0.299	>.25
$\bar{X}$	37.40	37.00			35.33	36.83		
s	5.81	4.64			8.26	3.37		
range	31-44	29-40			24-46	32-40		

Data/Procedures: Site F-4. Data used to evaluate the fourth hypothesis were EBCE student scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. Parallel analyses were conducted on comparison group data. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilizes a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site F-4. Table F-4 presents the statistics on the EBCE ASA outcomes. EBCE students showed no significant gains in attitude on any subtests of the ASA or on the total test score. Comparison students showed significant gains on subtests 1 and 3 of the ASA.

Table F-4

Summary: Site F-4. The fourth hypothesis was rejected for all parts

Table F-4
Site F ASA Data
EBCE and Comparison Group

	EBCE Students				Comparison Group			
	Pre	Post	F	p	Pre	Post	F	p
ASA-1								
n	5	5	0.930	> .25	5	5	4.654	< .10
$\bar{X}$	31.00	29.00			27.00	29.20		
s	2.92	3.39			5.34	3.27		
range	27-34	26-34			23-35	26-34		
ASA-2								
n	5	5	0.194	> .25	5	5	0.000	> .25
$\bar{X}$	20.80	20.20			20.20	20.20		
s	3.11	0.84			2.59	2.59		
range	18-25	19-21			17-24	17-23		
ASA-3								
n	5	5	0.184	> .25	5	5	10.766	< .05
$\bar{X}$	33.40	34.00			32.80	37.60		
s	2.07	4.47			4.66	2.61		
range	31-36	27-39			27-38	34-41		
ASA-4								
n	5	5	0.790	> .25	5	5	0.769	> .25
$\bar{X}$	17.20	14.60			19.60	20.60		
s	3.11	4.72			4.22	4.16		
range	13-20	9-20			15-25	14-24		
ASA-Total								
n	5	5	0.466	> .25	5	5	3.903	> .10
$\bar{X}$	102.40	97.80			99.60	107.60		
s	7.13	9.52			13.61	8.20		
range	95-114	85-108			87-121	100-121		

and the totality for EBCE students. EBCE students did not acquire more positive attitudes toward various aspects of education nor toward the total learning environment. Comparison students, however, did acquire more positive attitudes toward Education in General and toward School Resources.

* * * * *

Data/Procedures: Site F-5. Data used to evaluate the fifth hypothesis were students' scores on the Reading Comprehension (RC) and Arithmetic Concepts (AC) subtests of the CTBS. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about basic academic skills.

Results: Site F-5. Table F-5 presents the statistics on the CTBS outcomes. EBCE and comparison group students were comparable on pretest scores and on posttest scores on both subtests. Analysis of gain scores (posttest scores minus pretest scores) showed significant differences across both CTBS subtests. However, EBCE decreases coupled with comparison group increases resulted in significant differences appearing in the gain scores analyses.

Table F-5

Summary: Site F-5. The fifth hypothesis was not rejected; EBCE students did as well as the comparison students in Reading Comprehension and Arithmetic Concepts.

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Data/Procedures: Site F-6. Data used to evaluate the sixth hypothesis were students' scores on the Competence Test of the CMI. The five subtests

Table F-5
Site F CTBS Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
CTBS-RC						
n	5	6	5	6	5	6
$\bar{X}$	37.40	35.67	33.60	37.33	-3.80	1.67
s	6.43	5.82	11.46	3.88	5.31	3.14
F	0.220		0.57		4.524	
p	> .25		> .25		< .10	
CTBS-AC						
n	5	6	5	6	5	6
$\bar{X}$	22.60	21.00	18.80	23.17	-3.80	2.17
s	6.88	2.28	6.30	2.14	3.03	2.32
F	0.292		2.577		13.733	
p	> .25		> .10		< .01	
CTBS-AA						
n						
$\bar{X}$						
s	(Tests not administered.)					
F						
p						

of the CMI Competence Test were 1) Knowing Yourself, 2) Knowing About Jobs, 3) Choosing a Job, 4) Looking Ahead, and 5) What Should They Do. An analysis of variance (ANOVA) procedure was utilized to test the hypothesis about career knowledge.

Results: Site F-6. Table F-6 presents the statistics on the CMI Competence Test Outcomes. EBCE and comparison group students were equivalent on all pretest and posttest scores on all five subtests. Analysis of gain socres indicated significant differences on subtest 2.

Table F-6
Site F CMI Competence Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
CMI-1						
n	5	6	5	6	5	6
$\bar{X}$	14.40	14.83	14.80	14.67	0.40	-0.17
s	2.07	2.40	2.39	1.97	2.41	2.23
F	0.100		0.010		0.164	
p	> .25		> .25		> .25	
CMI-2						
n	5	6	5	6	5	6
$\bar{X}$	16.60	17.17	16.00	18.33	-0.60	1.17
s	4.28	2.48	4.18	1.03	0.55	1.72
F	0.076		1.774		4.778	
p	> .25		> .10		< .10	
CMI-3						
n	5	6	5	6	5	6
$\bar{X}$	13.00	13.33	13.20	14.00	0.20	0.67
s	4.18	1.51	4.76	2.28	4.44	2.42
F	0.034		0.099		0.049	
p	> .25		> .25		> .25	
CMI-4						
n	5	6	5	6	5	6
$\bar{X}$	13.20	14.83	14.20	15.00	1.00	0.17
s	4.38	2.14	4.44	2.83	3.67	2.04
F	0.657		0.132		0.228	
p	> .25		> .25		> .25	
CMI-5						
n	5	6	5	6	5	6
$\bar{X}$	11.20	9.83	9.00	11.33	-2.20	1.50
s	2.28	4.45	3.00	1.21	2.59	4.04
F	0.383		3.084		3.103	
p	> .25		> .10		> .10	

Summary: Site F-6. Hypothesis six was rejected; EBCE students did not acquire greater mastery in career knowledge as compared to comparison group students. Inspection of the data for subtest 2 (also see Table F-2) indicates that although comparison group students started slightly higher than EBCE students, comparison students demonstrated a slight growth and EBCE students exhibited a significant decline in scores. Consequently, the gain score analysis resulted in significance.

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Data/Procedures: Site F-7. Data used to evaluate the seventh hypothesis were students' scores on the CMI Attitude Scale. An ANOVA procedure was used to test the hypothesis about career maturity.

Results: Site F-7. Table F-7 presents the statistics on the CMI Attitude Scale outcomes. EBCE students did not acquire greater career maturity than the comparison students. EBCE and comparison students' scores were equivalent on the pretests and on the posttests. Analysis of gain scores indicated no significant differences.

Table F-7
Site F CMI Attitude Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
n	5	6	5	6	5	6
$\bar{X}$	37.40	35.33	37.00	36.83	-0.40	1.50
s	5.81	8.26	4.64	3.37	3.91	6.72
F	0.220		0.005		0.309	
p	> .25		> .25		> .25	

Summary: Site F-7. The seventh hypothesis was rejected; EBCE students did not acquire greater career maturity than the comparison group students as originally hypothesized.

* * * * *

Data/Procedures: Site F-8. Data used to evaluate the eighth hypothesis were students' scores on the ASA instrument. An ANOVA procedure was used to test the hypothesis about attitudes toward learning environments. The four subscores of the ASA were Attitudes toward 1) Education in General, 2) School Curriculum, 3) School Resources, and 4) School Counseling. The composite score provided a measure of attitude towards the total learning environment. Since the ASA utilized a Likert-type format for item responses with some items possessing reversed polarity, subscale weighted points rather than actual response scores were analyzed.

Results: Site F-8. Table F-8 presents the statistics on the ASA outcomes of EBCE vs. the comparison group. EBCE and comparison students were equivalent on all pretest scores but significantly different on subtest 4 of the posttest (comparison students having higher scores). The analysis of gain scores indicated a significant difference on subtest 3.

Table F-8

Summary: Site F-8. Inspection of the statistics presented in Table F-8 and in Table F-4 shows that EBCE students made no significant gains or losses, while comparison students made no significant losses but did make significant gains on Parts 1 and 3. However, the loss made by EBCE students on Part 4, coupled with gain evidenced by the comparison students, is reflected in the significant difference found in the post score analyses for Part 4.

Table F-8
Site F ASA Data
EBCE vs. Comparison

	Pre		Post		(Post - Pre)	
	EBCE	Comp.	EBCE	Comp.	EBCE	Comp.
ASA-1						
n	5	5	5	5	5	5
$\bar{X}$	31.00	27.00	29.00	29.20	-2.00	2.20
s	2.91	5.34	3.39	3.27	4.64	2.28
F	2.162		0.010		3.303	
p	> .10		> .25		> .10	
ASA-2						
n	5	5	5	5	5	5
$\bar{X}$	20.80	20.20	20.20	20.20	-0.60	0.00
s	3.11	2.59	0.84	2.59	3.05	3.24
F	0.109		0.000		0.091	
p	> .25		> .25		> .25	
ASA-3						
n	5	5	5	5	5	5
$\bar{X}$	33.40	32.80	34.00	37.60	0.60	4.80
s	2.07	4.66	4.47	2.61	3.13	3.27
F	0.069		2.418		4.302	
p	> .25		> .10		< .10	
ASA-4						
n	5	5	5	5	5	5
$\bar{X}$	17.20	19.60	14.60	20.60	-2.60	1.00
s	3.11	4.22	4.72	4.16	6.54	2.55
F	1.047		4.545		1.314	
p	> .25		< .10		> .25	
ASA Total						
n	5	5	5	5	5	5
$\bar{X}$	102.40	99.60	97.80	107.60	-4.60	8.00
s	7.13	13.61	9.52	8.20	15.08	9.06
F	0.166		3.038		2.566	
p	> .25		> .10		> .10	

Similarly, the slight gain by EBCE students on Part 3 and the significant gain by comparison students on Part 3 resulted in the significant outcome found in the gain score analysis on Part 3.

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Data/Procedures: Site F-9. The data used to test the ninth hypothesis were from the results of a Parent Opinion Survey which was mailed out to EBCE parents in June, 1976. Responses from five parents were received and tabulated.

Results: Site F-9. Most parents who responded were very positive towards all aspects of the EBCE program. All parents were enthusiastic about the amount of opportunity the career education program provided their sons and daughters for learning about occupations. Only one parent (20%) felt that EBCE offered their children more opportunity for general learning; parents rated the approaches to learning used in the EBCE program from poor to excellent with one parent (20%) falling in each category. Almost all parent respondents (80%) thought that their son or daughter liked the career education program much better than past school experiences and all except one indicated that they would allow their child to participate in EBCE if they had this choice to make again.

All of the parents felt that the greatest strengths of the EBCE program were on-the-job experiences of students. Three parents who responded to the questionnaire stated that they felt the weaknesses of the EBCE program were as follows: lack of parent-teacher communication; thirteen weeks at one site was too long; and that it replaced classroom learning.

Three of the five parents (60%) surveyed thought that the EBCE program had had a good effect on helping their children in the formation of career

plans. Three parents also thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools.

Parents also mentioned that they had noticed positive changes in their sons and daughters that might be attributed to participation in the EBCE program. These changes included: 1) being more responsible, 2) developing realistic job expectations, 3) being happier working than in school. Two parents mentioned that they had not noted any negative changes in their children that might have resulted from participation in the EBCE program. One parent felt that his child's school work had suffered, and another stated that extra-curricular activities were limited.

Three of the five parents (60%) believed that their son or daughter talked with them "almost daily" about what was going on in the career education program; two (40%) stated that they had had frequent or very frequent contact with EBCE staff members. Three of the five respondents (60%) had attended at least two or more meetings during the school year where other parents of EBCE students were present. Most parents (80%; n=4) were definitely sure that they had received enough information about their children's progress in the EBCE program.

Three of the parents contacted (60%) rated the general quality of the EBCE program staff as very good or excellent. Three (60%) indicated confidence in the occupational plans of their sons or daughters, where such plans existed; however, two of the parents (40%) stated that their son or daughter had made no firm occupational plans at the time of the survey. All parents believed that their son or daughter would be attending college one

year after graduating from high school.

Parents believed that the EBCE program had enabled their children to learn a number of things which they (parents) felt were highly important. Parents rated the ability to think through and solve problems as the most important type of learning and further indicated that EBCE was highly effective in fostering this learning. Also, parents felt the following were important:

being punctual and organizing their time,

assuming responsibility for themselves,

making decisions and following through,

communicating with others in a mature way,

being aware of more career opportunities,

working with others,

evaluating their own work,

performing basic academic skills,

having a positive attitude towards self,

having a positive attitude towards learning, and

improving interpersonal and social skills.

Parents were also asked about where they had first heard about EBCE. Sources of initial information about EBCE most frequently mentioned by parents were the counselors (three mentions) and also the Board of Trust meeting (one mention). When parents were asked which kinds of students they thought would benefit most from a career education, there seemed to be little consensus of opinion among the four parents who responded to the item. Parents thought that a career education could benefit all students, below

average students, those with good grades, and those undecided about careers.

Summary: Site F-9. Hypothesis 9 was not rejected; most parents of EBCE students did have positive attitudes toward the EBCE program.

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Data/Procedures: Site F-10. The data used to test this hypothesis were gathered from the Employer Questionnaire which was sent to employers by Site F staff in May and June of 1976.

An instrument was developed (See Appendix F) in order to collect data for the purposes of this study. Twelve (12) experience sites were randomly selected to be surveyed from a list of active experience sites for the FY'76 school year. The employer at each experience site received a questionnaire in the mail which was returned after completion to AEL.

Results: Site F-10. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Fifty-eight percent (n=7) of the employers rated the EBCE program as being moderately effective to very effective, and 67% (n=8) believed that their organization would continue to participate in the EBCE program in coming years. (Two of the remaining employers were unsure of their organization's continued participation in the EBCE program.)

Eight of the 12 employers (67%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Nine employers (75%) believed that the EBCE program functioned as they had been initially led to believe.

Eighty-three percent of the employers (n=10) believed that the EBCE students who had been placed with them were interested in their organization. Employers indicated that students placed at their sites frequently spent

time in actively performing site activities, talking with experience site personnel, and observing site activities.

Experience site personnel often rendered various supportive services to EBCE students. The following services were frequently rendered to students by employers: 1) supervision of students in the performance of job-related tasks (n=6), 2) talking about activities at the job site (n=11), 3) talking about job opportunities (n=3), 4) helping plan students' assignments (n=6), and 5) evaluating individual students' assignments (n=6). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table F-10a.)

Table F-10a

Forty-two percent of the employers (n=5) believed that the greatest strength of the EBCF program was the opportunity it gave students to pursue their interest areas. They felt EBCE was an important means of exposing students to the world of work, enabling them to explore different careers and aiding them in career decision-making. Most of the employers did not suggest specific changes to be made in FY'77 to ameliorate any program weaknesses. However, one employer felt that the program took students away from classroom learning activities.

Almost all employers reported favorable reactions toward EBCE students from employees and top-level management. Eighty-three percent (n=10) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 50% (n=6) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Table F-10a

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	6	5	0	0	1
Talking about job site activities	11	0	0	0	1
Talking about job opportunities	3	9	0	0	0
Helping plan students' assignments	6	2	2	0	2
Evaluating individual students' assignments	6	5	0	0	1
Talking about students' personal problems	1	5	4	2	0
Tutoring in an academic area	1	5	2	3	1
Assisting students in non-job-related assignments	2	6	2	1	1

Fifty-eight percent of the respondents (n=7) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 58% of the employers believed that EBCE students had also had positive impact on the quality of work performed by regular employees. A positive effect on company training practices was noted by 17% (n=2) of employers, and 8% (n=1) thought that there was a similar effect on company hiring practices. Many respondents perceived no impact whatsoever on company policies and practices. (For a more detailed breakdown of the answers to this question, see Table F-10b.)

Table F-10b

Summary: Site F-10. Hypothesis #10 was not rejected; the majority of experience site resource persons and contact persons at various levels of their organizations had positive attitudes toward the EBCE program.

* * * * *

Site F Summary. Parent and employer data at Site F indicated a successful implementation and community utilization. Student outcome data, however, reflected mixed or neutral impact. These outcome patterns may well be a function of several factors. EBCE staff participated in EBCE only on a part-time basis -- part time over and above their full-time responsibilities in the school! A mixed mode of weekly schedulings allowed students to be in the community and/or school for variable periods. The program was in operation only one term. Some AEL materials were not used or had been adopted to fit the local situation (e.g., Activity Sheets and the Cross Reference Cata-

logs). The numbers of students in the comparison and EBCE groups were small. Finally, the battery of outcome instruments may well have been insensitive to changes occurring within the students.

Table F-10b

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	4	6	0	2	7	0	5
Amount of employee work	4	5	1	2	7	0	5
Company hiring practices	6	0	0	6	1	4	7
Company training practices	5	2	0	5	2	0	10
Other	0	0	0	0	0	0	0

SUMMARY

The Appalachia Educational Laboratory's (AEL) Experience-Based Career Education (EBCE) program has been in existence for over four years. Originally the project was funded by the United States Office of Education (USOE) and later by the National Institute of Education (NIE). Based on a USOE directive, AEL developed a program that would be a community-based experientially-oriented educational alternative for high school students.

The first year of operation of the AEL/EBCE program was devoted to the development and trial of key components of the AEL/EBCE model. The second year of operation was spent in revising system components into an integrated transportable product. The third year of operation was spent in refinement of all sub-systems and materials and a field test of the system at a local high school. The fourth year of operation was devoted to implementation of the AEL/EBCE program at sites around the country.

This evaluation report focused on outcome data pertaining to students, parents, and employers collected at the demonstration and implementation sites. Besides the demonstration site located at AEL, implementation sites were located in Bremen, Georgia; Crowley, Louisiana; Ames, Iowa; Staten Island, Ithaca and North Syracuse, New York. In order that anonymity remain among sites, the six implementation sites were randomly assigned an alphabetical designation for purposes of data analysis.

The primary objective of evaluation activities during FY'76 was to provide valid and reliable evidence of the effectiveness of the EBCE program. Program objectives were identified, and hypotheses were formed around which a research design was developed. Statistical analyses were selected to

test the main effects and other effects associated with each hypothesis. Descriptive statistics were used to describe groups and univariate analysis of variance was used to measure gains within a given group (if appropriate) and to determine whether differences between groups within a site existed for basic academic skills mastery, career knowledge, career maturity, and attitude towards learning environment variables. An alpha value of .10 or less was determined to be satisfactory to warrant assumption of the existence of a significant difference.

In order to assess the effectiveness of EBCE as a viable alternative to traditional secondary education, staff at the implementation sites cooperated in establishing comparison groups of students (when possible) and tested both the EBCE and comparison students on a battery on instruments. Data were gathered from these groups through the administration of the following instruments:

a) Student Information Questionnaire (SIQ) - an instrument used to provide baseline data on student characteristics.

b) Comprehensive Tests of Basic Skills (CTBS) - a standardized test of basic academic performance which contained reading comprehension, arithmetic concepts, and arithmetic applications subtests.

c) Career Maturity Inventory (CMI) - a standardized instrument which contained a career attitude scale and five subtests of several areas of career-related competencies.

d) Assessment of Student Attitudes (ASA) - an instrument which assessed students' attitudes and opinions toward their academic and career education programs.

The SIQ was administered to all groups at the beginning of their EBCE program. The CTBS, CMI, and ASA were administered in a pre-post fashion. One of the implementation sites (A) operated the program during both semesters (as did the AEL demonstration site), while the other five implementation sites (B through F) operated the program only during the second semester. Site B administered the battery of instruments once (about mid-semester) and sites C and D did not have a comparison group. Site F did not administer the CTBS Arithmetic Applications subtest during either the pretest or posttest period to either EBCE or comparison students.

Although students were the main group affected by the EBCE program, other respondent groups were also impacted by its implementation and subsequent operation. Parents and employers were two such groups who were administered instruments to determine their attitudes toward the EBCE program. Staff at the implementation sites cooperated in the management of the data collection system and procedures for both groups.

Analysis of variance procedures on student data and subsequent statistical comparisons revealed results that generally favored the EBCE program but were variable across the demonstration and implementation sites. Table 2 provides a summary of the significant outcomes on the various subtests of the testing battery.

Table 2

Positive changes in attitudes toward various aspects of the learning environment (as measured by the ASA) was evidenced at most of the sites. Similarly,

Table 2

Summary of Significant Student Outcomes[1]

		Sites						
		AEL	A	B	C	D	E	F
CMI Attitude	a	Ψ	Ψ		Ψ	10+	Ψ	Ψ
	b		Ψ				Ψ	Ψ
	c		Ψ				Ψ	Ψ
	d		Ψ	Ψ			05*	Ψ
	e		Ψ				Ψ	Ψ
CMI-1	a	Ψ	01+		Ψ	Ψ	Ψ	Ψ
	b		10-				Ψ	Ψ
	c		01**				Ψ	Ψ
	d		-	Ψ			Ψ	Ψ
	e		01				Ψ	Ψ
CMI-2	a	Ψ	Ψ		Ψ	Ψ	10-	10-
	b		Ψ				05-	Ψ
	c		Ψ				Ψ	Ψ
	d		Ψ	Ψ			Ψ	Ψ
	e		Ψ				Ψ	10
CMI-3	a	Ψ	Ψ		Ψ	Ψ	05-	Ψ
	b		Ψ				01-	Ψ
	c		Ψ				Ψ	Ψ
	d		Ψ	Ψ			05*	Ψ
	e		Ψ				Ψ	Ψ
CMI-4	a	Ψ	05+		Ψ	Ψ	05-	Ψ
	b		Ψ				01-	Ψ
	c		Ψ				05*	Ψ
	d		Ψ	Ψ			01*	Ψ
	e		05				Ψ	Ψ
CMI-5	a	Ψ	Ψ		Ψ	Ψ	Ψ	Ψ
	b		Ψ				001-	Ψ
	c		05**				10*	Ψ
	d		Ψ	Ψ			001*	Ψ
	e		05				05	Ψ
CTBS-RC	a	Ψ	Ψ		05+	Ψ	Ψ	Ψ
	b		Ψ				05-	Ψ
	c		Ψ				10*	Ψ
	d		Ψ	Ψ			01*	Ψ
	e		Ψ				05	10
CTBS-AC	a	Ψ	Ψ		Ψ	Ψ	Ψ	05-
	b		10+				Ψ	10+
	c		Ψ				10*	Ψ
	d		05**	05**			Ψ	Ψ
	e		Ψ				05	01

Table 2 (cont'd)

		Sites						
		AEL	A	B	C	D	E	F
CTBS-AA	a	Ψ	10+		Ψ	Ψ	Ψ	
	b		Ψ				Ψ	
	c		Ψ				Ψ	
	d		Ψ	05**			Ψ	
	e		Ψ				Ψ	
ASA-1	a	01+	0001+			Ψ	01+	Ψ
	b		Ψ				10-	10-
	c		05**				Ψ	Ψ
	d		Ψ	Ψ			10+	Ψ
	e		001				01	Ψ
ASA-2	a	Ψ	0001+		Ψ	Ψ	Ψ	Ψ
	b		Ψ				Ψ	Ψ
	c		05**				Ψ	Ψ
	d		Ψ	05*			Ψ	Ψ
	e		05				Ψ	Ψ
ASA-3	a	Ψ	001+		05+	05-	05+	Ψ
	b		Ψ				Ψ	Ψ
	c		Ψ				Ψ	
	d		10*	Ψ			Ψ	Ψ
	e		10				05	10
ASA-4	a	Ψ	01+		Ψ	Ψ	10+	Ψ
	b		Ψ				Ψ	Ψ
	c		Ψ				Ψ	Ψ
	d		05*	Ψ			10*	10**
	e		05				Ψ	Ψ
ASA Total	a	10+	0001+		05+	Ψ	05+	Ψ
	b		Ψ				Ψ	Ψ
	c		Ψ				Ψ	Ψ
	d		10*	10*			10*	Ψ
	e		01				05	Ψ

[1] a = Experimental pre to post difference (gain +, loss -)
b = Comparison pre to post difference (gain +, loss -)
c = E vs C on pretests (* E > C, ** C > E)
d = E vs C on posttests (* E > C, ** C > E)
e = E vs C on change (absolutes)
Ψ = no significant difference
Blank spaces in Table indicate data not available under research design utilized and therefore, statistical analyses not conducted.

positive gains or significant differences in favor of EBCE were evidenced in the area of attitudes related to career maturity. Mixed results occurred in the basic skills areas and in the career knowledge/competence areas. The test coordinator at Site E indicated that weariness of test taking and completion anxiety had undoubtedly contributed to the negative results relative to EBCE and comparison students performances on the CMI Competence Test. This 100-minute portion of the test battery was the last administered.

As evidenced in previous evaluations of the EBCE program, parents and employers were again positively oriented towards EBCE. While parents at all of the sites were somewhat exuberant about EBCE's contribution to their children's development, employers displayed more reserved opinions. Employers indicated more perceived weaknesses in the programs than did parents; this finding probably being a function of employers more direct involvement with the program.

In conclusion, although the results were not similar across all sites the evidence does favor EBCE. Consequently, the implementation of EBCE as a viable alternative to the traditional secondary programs has been demonstrated.

APPENDIX A

STUDENT INFORMATION QUESTIONNAIRE

STUDENT INFORMATION QUESTIONNAIRE

Appalachia Educational Laboratory, Inc.
Charleston, West Virginia

The Experienced-Based Career Education (EBCE) program is in need of certain information in order that a valid interpretation can be made of evaluative data. This questionnaire was designed to obtain some of the needed information. The information which you provide will not be identified with your name in published reports, but will be coded such that group information can be obtained. Although the information requested is highly important for a valid interpretation, feel free to omit any question which is personally objectionable.

NAME _____ DATE _____

SCHOOL _____ CITY _____ STATE _____

1. Are you:

- ☐ Male
- ☐ Female

2. Are you:

- ☐ White
- ☐ Black
- ☐ Oriental
- ☐ Spanish Descent (Chicano, Puerto Rican, etc.)
- ☐ Native American
- ☐ Other (specify) _____

3. What is your current grade level (as of September, 1975)?

- ☐ 10th. grade
- ☐ 11th. grade
- ☐ 12th. grade

4. What is your birth date?

_____ _____ _____

MONTH DAY YEAR

5. What is your father's highest level of formal education completed?

- ☐ None
- ☐ Elementary School
- ☐ Some High School
- ☐ High School Graduate
- ☐ Some post-secondary (for example, some college, junior college, business school, trade or technical school)
- ☐ College graduate (four-year degree)
- ☐ Some graduate work
- ☐ Advanced degree (specify) _____

6. What is your mother's highest level of formal education completed?

- ☐ None
- ☐ Elementary School
- ☐ Some High School
- ☐ High School Graduate
- ☐ Some post-secondary (for example, some college, junior college, business school, trade or technical school)
- ☐ College graduate (four-year degree)
- ☐ Some graduate work
- ☐ Advanced degree (specify) _____

7. How many of your brothers and sisters dropped out of school?

- ____ None
- ____ One
- ____ Two
- ____ Three
- ____ Four
- ____ Five or More

8. What are your long-range goals? Check only one.

- ☐ 1. CLERICAL such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent
- ☐ 2. CRAFTSMAN such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter
- ☐ 3. FARMER, FARM MANAGER
- ☐ 4. HOMEMAKER OR HOUSEWIFE
- ☐ 5. LABORER such as construction worker, car washer, sanitary worker, farm laborer
- ☐ 6. MANAGER, ADMINISTRATOR such as sales manager, office manager, school administrator, buyer, restaurant manager, government official
- ☐ 7. MILITARY such as career officer, enlisted man or woman in the armed forces
- ☐ 8. OPERATIVE such as meat cutter; assembler; machine operator; welder; taxicab, bus, or truck driver; gas station attendant
- ☐ 9. PROFESSIONAL such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress
- ☐ 10. PROPRIETOR OR OWNER such as owner of a small business, contractor, restaurant owner
- ☐ 11. PROTECTIVE SERVICE such as detective, policeman or guard, sheriff, fireman
- ☐ 12. SALES such as salesman, sales clerk, advertising or insurance agent, real estate broker
- ☐ 13. SERVICE such as barber, beautician, practical nurse, private household worker, janitor, waiter
- ☐ 14. TECHNICAL such as draftsman, medical or dental technician, computer programmer
- ☐ 15. OTHER (specify) _____
- ☐ 16. DON'T KNOW

9. What do you expect to be doing one year after completing high school?

- ☐ Working full-time
- ☐ Entering an apprenticeship or on-the-job training program
- ☐ Going into regular military services or to a service academy
- ☐ Being a full-time homemaker
- ☐ Attending a vocational, technical, trade or business school
- ☐ Taking academic courses at junior or community college
- ☐ Taking technical or vocational subjects at a junior or community college
- ☐ Attending a four-year college or university
- ☐ Working part-time
- ☐ Other (travel, take a break, no plans)

10. What is your major field of study?

- ☐ General Curriculum
- ☐ Vocational Education Curriculum
- ☐ College Preparatory Curriculum
- ☐ Other (specify) _____

11. Under FATHER, circle the one number that best describes the work done by your father (or male guardian). Under MOTHER, circle the one number that best describes the work done by your mother (or female guardian). The exact job may not be listed but circle the one that comes closest. If either of your parents is out of work, disabled, retired, or deceased, mark the kind of work that he or she used to do.

(Circle one number in each column.)

	Father	Mother
CLERICAL such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent	01	01
CRAFTSMAN such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter	02	02
FARMER, FARM MANAGER	03	03
HOMEMAKER OR HOUSEWIFE	04	04
LABORER such as construction worker, car washer, sanitary worker, farm laborer	05	05
MANAGER, ADMINISTRATOR such as sales manager, office manager, school administrator, buyer, restaurant manager, government official	06	06
MILITARY such as career officer, enlisted man or woman in the armed forces	07	07
OPERATIVE such as meat cutter; assembler; machine operator; welder; taxicab, bus, or truck driver; gas station attendant	08	08
PROFESSIONAL such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress	09	09
PROPRIETOR OR OWNER such as owner of a small business, contractor, restaurant owner	10	10
PROTECTIVE SERVICE such as detective, policeman or guard, sheriff, fireman	11	11
SALES such as salesman, sales clerk, advertising or insurance agent, real estate broker	12	12
SERVICE such as barber, beautician, practical nurse, private household worker, janitor, waiter	13	13
TECHNICAL such as draftsman, medical or dental technician, computer programmer	14	14

APPENDIX B

COMPREHENSIVE TEST OF BASIC SKILLS

Name of Instrument: Comprehensive Tests of Basic Skills[1] (CTBS)

Rationale/Objective: The CTBS were designed to provide improved measurement of the extent to which individual student have developed basic academic skills. There are four levels of the tests with alternate forms for each level.

Item Content: The CTBS battery booklet (Level 4) includes tests in four basic skills areas: reading, language, arithmetic, and study skills. The four areas are divided into 10 separately-timed tests, each utilizing a multiple-choice item format. The 10 tests of the CTBS and a brief description are as follows:

Test 1 - Reading Vocabulary. This 40-item test provides a measurement of a student's ability to select the word that has the best meaning.

Test 2 - Reading Comprehension. This 45-item test is composed of blocks of items which test the reading of such selections as articles, stories, poems, and letters.

Test 3 - Language Mechanics. This 25-item test measures a student's ability to punctuate and capitalize.

Test 4 - Language Expression. This 30-item test measures the correctness and effectiveness of expression.

Test 5 - Language Spelling. This 30-item test measures the student's ability to recognize correct and incorrect spelling of words.

Test 6 - Arithmetic Computation. This test consists of 48 items equally distributed among the four arithmetic operations: addition, subtraction, multiplication, and division.

Test 7 - Arithmetic Concepts. This 30-item test measures the student's ability to recognize and/or apply the appropriate concept and technique; the ability to convert concepts from one form to another; the ability to comprehend numerical concepts and understand their interrelationships; and the ability to organize all facts in more complex problems.

Test 8 - Arithmetic Applications. This 20-item test measures a student's problem-solving abilities.

Test 9 - Study Skills Using Reference Materials. This 20-item test measures the ability to use reference materials - to locate various types of information and select the appropriate reference books for specific purposes.

Test 10 - Study Skills Using Graphic Materials. This 30-item test measures a student's ability to use graphic materials.

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[1] Comprehensive Tests of Basic Skills, Examiners Manual. CTB/McGraw-Hill, Del Monte Research Park, Monterey, California, 1968.

Administration Procedures: The CTBS-Level 4 may be completed by any student in grades eight through twelve. The CTBS total battery requires approximately 4½ hours (each test has a working time and time allotted for instructions). The instrument can be administered on an individual as well as a group basis. The complete CTBS battery or any subset of the 10 tests may be administered.

Scoring Procedures: The publisher furnishes a scoring key for hand-scoring or the answer sheets may be sent to the publisher for machine scoring. Percentile conversion tables are a[illegible] in the manual.

APPENDIX C

CAREER MATURITY INVENTORY

Name of Instrument: Career Maturity Inventory[1] (CMI)

Rationale/Objective: The CMI was designed to provide an inventory on career choice attitudes and on career choice competencies.

History of Development: The CMI formerly was entitled the Vocational Development Inventory (VDI). The Attitude Scale of the VDI was first administered in 1961-62. The CMI was published in 1963 and is a result of research and evaluation findings of the VDI and of additional career maturity research and definition.

Item Content: The CMI provides two types of measures: the Attitude Scale and the Competence Test. The Competence Test contains five parts. The six parts to the CMI and their descriptions are as follows:

Attitude Scale. This is a measure of the feelings, the subjective reactions, the dispositions that the individual has toward making a career choice and entering the world of work. Five attitudinal clusters are surveyed: involvement in the career choice process; orientation towards work; independence in decision-making; preference for career choice factors; and conceptions of the career choice process.

Competency Test.

Part 1: Knowing Yourself (self-appraisal)
This provides an inventory of a student's ability to assess facility in self-appraisal.

Part 2: Knowing About Jobs (occupational information)
This provides an inventory of the student's knowledge of the world of work.

Part 3: Choosing A Job (goal selection)
This provides an inventory of the student's orientation to the world of work and how to progress in it.

Part 4: Looking Ahead (planning)
This provides an inventory of the student's ability to plan for his/her future in the world of work.

Part 5: What Should They Do (problem-solving)
This provides an inventory of the student's ability to solve problems which may confront him in pursuit of his career goals.

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[1] Crites, John O., Career Maturity Inventory Administration and Use Manual, CTB/McGraw-Hill, Del Monte Research Park, Monterey, California. 1973

Administration Procedures: The CMI may be completed by any student in grades six through twelve (senior year of college for the attitude scale). The CMI can be administered in approximately 2½ hours (each part takes approximately 20 minutes). The instrument can be administered on an individual as well as group basis. The complete CMI battery or any subset of the six parts of the CMI may be administered.

Scoring Procedures: The publisher furnishes a scoring key for hand scoring or the answer sheets can be sent to the publisher for scoring. Percentile conversion tables are available in the manual.

APPENDIX D

ASSESSMENT OF STUDENT ATTITUDES

Name of Instrument: Assessment of Student Attitudes[1] (ASA)

Rationale/Objective: The ASA was designed to provide an instrument for the assessment of student attitudes toward traditional and non-traditional learning environments.

Item Content: The ASA includes 26 items which yield four subscale scores and a total composite score.

Subscale 1. This subscale consists of 7 items which measure student attitudes toward education in general.

Subscale 2. This subscale consists of 5 items which measure student attitudes toward school curriculum.

Subscale 3. This subscale consists of 9 items which measure student attitudes toward school resources.

Subscale 4. This subscale consists of 5 items which measure student attitudes toward school counseling.

Composite Score. The totality of 26 items measure overall student attitudes toward the learning environment.

Administration Procedures: The ASA may be completed by any secondary school student. The ASA takes approximately 15 minutes to administer. Since the item order is randomized, the subscales cannot be administered separately.

Scoring Procedures. A scoring sheet has been designed to facilitate the hand-scoring of each item and the generation of subscale and composite scores.

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[1]Kershner, K. M. and M. W. Blair. Assessment of Student Attitudes Toward Learning Environments. Research for Better Schools, Inc., Philadelphia, Pennsylvania, April, 1975.

APPENDIX E

PARENT QUESTIONNAIRE

APPALACHIA EDUCATIONAL LABORATORY, INC.
P. O. BOX 1348
CHARLESTON, WEST VIRGINIA 25325
304/344-8371

June 22, 1976

Dear Parents:

Your child has now participated in the AEL Experience-Based Career Education (EBCE) program for one year. It is extremely important that we receive some information from you concerning your thoughts and attitudes toward the EBCE program. A similar questionnaire will be used by other projects throughout the country. Your responses are therefore an important part of a national attempt to evaluate the EBCE project.

I will be responsible for analysis of the information obtained on the questionnaire. Your responses will be carefully coded so that confidentiality will be preserved. None of the teachers or administrators of the EBCE program will see your questionnaire. They will see a summary report of all the questionnaires.

If you have any questions or concerns about any of the items, please feel free to contact me at 344-8371. Please return the questionnaire in the enclosed envelope by July 2.

Thank you again for taking your valuable time to assist us in evaluating and improving the EBCE program.

Sincerely,

Joe E. Shively, Ph.D.
Director of Evaluation
Experience-Based Career Education

JES:cd

Enclosure

Parent Opinion Survey

This survey is meant to give you an opportunity to express your opinions about the Experience-Based Career Education Program your son or daughter has been participating in. Most of the questions are to be answered on a scale of numbers from (1) to (5). The phrases at the top and bottom of each set of questions indicate what the scale means. A (1) may mean something like "Definitely No"; if you feel strongly that the answer to the question is No, then you should circle the (1). A (5) may mean "Definitely Yes"; if you feel strongly that the answer is Yes, then you should circle the (5). The numbers in between (2, 3, 4) indicate an opinion somewhere in between "Definitely No" and "Definitely Yes". Some scales have different phrases, but they all work the same way.

Read the phrase above the numbers so you know what the scale means, then read each question, and circle the number which is closest to your opinion. There are no right or wrong answers; your thoughts and feelings are the important things in this survey. The answers parents give will help determine how well the program is doing now and improve it in the future. Remember to circle a number for each item. Thank you for taking the time to fill out this survey.

AEL:JES:5-76

PARENT OPINION SURVEY

1. How well does the EBCE Program compare overall with the past school experiences of your daughter or son?

Much Worse				Much Better
1	2	3	4	5

2. If you had it to do over again, would you want your son or daughter to participate in the EBCE Program?

Definitely NO				Definitely YES
1	2	3	4	5

3. How well do you think your son or daughter likes the EBCE Program compared with past school experiences?

Much Worse				Much Better
1	2	3	4	5

4. What do you think are the greatest weaknesses of the EBCE Program?

5. What do you think are the greatest strengths of the EBCE Program?

6. Have you received enough information about your son's or daughter's progress in the EBCE Program?

Definitely NO				Definitely YES
1	2	3	4	5

7. In comparison with regular schools, how much opportunity did the EBCE Program provide your daughter or son for learning about occupations?

Much Less				Much More
1	2	3	4	5

8. What effect, if any, has the EBCE Program had on helping your son or daughter form career plans?

Definitely Bad				Definitely Good
1	2	3	4	5

9. In comparison with regular schools, how much opportunity did the EBCE Program provide your daughter or son for general learning?

Much Less		About the Same		Much More
1	2	3	4	5

10. In comparison with past experiences in regular schools, how motivated is your daughter or son to learn in the EBCE Program?

Much Less		About the Same		Much More
1	2	3	4	5

11. How would you rate the approaches to learning used in the EBCE Program?

Poor				Excellent
1	2	3	4	5

12. What positive changes have you noticed in your son or daughter that might be a result of participation in the EBCE Program?

_____

_____

_____

13. What negative changes have you noticed in your son or daughter that might be a result of participation in the EBCE Program?

_____

_____

_____

14. How often does your son or daughter talk to you about what's going on in the EBCE Program?

Almost Never				Almost Daily
1	2	3	4	5

15. About how often have you had any contact with any EBCE Program staff members?

Almost Never				Very Frequently
1	2	3	4	5

16. How many meetings have you attended during this school year where other parents of EBCE students were present?

None	1	2	3	4 or More

17. How would you rate the general quality of the EBCE Program staff?

Poor				Excellent
1	2	3	4	5

18. How would you rate the business or community resources available in the EBCE Program?

Poor				Excellent
1	2	3	4	5

19. How would you rate your overall relationship with the staff of the EBCE Program?

Poor				Excellent
1	2	3	4	5

20. How would you rate the enthusiasm of the EBCE Program staff?

Poor				Excellent
1	2	3	4	5

21. What do you think of the occupational plans of your daughter or son?

a. ___ There aren't any firm plans yet.

b. ___ The plans should be changed.

c. ___ The plans seem to be good.

d. ___ We haven't really had a chance to discuss the plans.

22. What do you think your son or daughter will be doing a year after high school?

a. ___ Working

b. ___ Attending some kind of college

c. ___ Going to a business or trade school

d. ___ Military

e. ___ Other (please specify) _____

23. How did you first hear about the EBCE Program?

_____

24. What kinds of students do you think benefit most from the EBCE Program?

_____

_____

25. Below are listed areas of possible importance for a student to learn. Please rate each in terms of how important you feel it is for a student to learn, and how well you feel the program is accomplishing each.

Students learn to:	How Important Do You Feel This Learning Is? (Not Important 1 2 3 4 5 Highly Important)	How Effective Do You Feel the EBCE Program Has Been In Accomplishing This Learning? (Not Effective 1 2 3 4 5 Highly Effective)
a. Perform specific occupational skills	1 2 3 4 5	1 2 3 4 5
b. Be punctual and organize their time	1 2 3 4 5	1 2 3 4 5
c. Assume responsibility for themselves	1 2 3 4 5	1 2 3 4 5
d. Make decisions and follow through	1 2 3 4 5	1 2 3 4 5
e. Communicate with others in a mature way	1 2 3 4 5	1 2 3 4 5
f. Be aware of more career opportunities	1 2 3 4 5	1 2 3 4 5
g. Work with others	1 2 3 4 5	1 2 3 4 5
h. Evaluate their own work	1 2 3 4 5	1 2 3 4 5
i. Perform basic academic skills	1 2 3 4 5	1 2 3 4 5
j. Think through and solve problems	1 2 3 4 5	1 2 3 4 5
k. Have a positive attitude toward self	1 2 3 4 5	1 2 3 4 5
l. Have a positive attitude toward work	1 2 3 4 5	1 2 3 4 5
m. Have a positive attitude toward learning	1 2 3 4 5	1 2 3 4 5
n. Prepare for further education	1 2 3 4 5	1 2 3 4 5
o. Improve interpersonal and social skills	1 2 3 4 5	1 2 3 4 5
p. Other (please specify) _____	1 2 3 4 5	1 2 3 4 5

APPENDIX F

EMPLOYER QUESTIONNAIRE

APPALACHIA EDUCATIONAL LABORATORY, INC.
P. O. BOX 1348
CHARLESTON, WEST VIRGINIA 25325
304/344-8371

June 22, 1976

Dear Resource Person:

Your organization has been most helpful to the AEL Experience-Based Career Education (EBCE) Program by contributing time and resources, thus providing our students with an opportunity to learn. It is extremely important that we find out what you who work with our students think about the EBCE program. A questionnaire was developed to help us to obtain some of this needed information.

I will be responsible for analysis of the data obtained on the questionnaire. I would like to assure you that the carefully coded information obtained from this questionnaire will remain confidential and will not be seen by anyone in the EBCE project. Printed reports of the data will contain only summary information and will not contain specific names of individuals or organizations.

If there are any questions about the procedures or any of the items on the questionnaire, please feel free to call me at 344-8371. I would appreciate it if the completed questionnaires were returned in the enclosed envelope by July 2.

Thank you for taking your valuable time to provide us with this most helpful information.

Sincerely,

Joe Shively

Joe E. Shively, Ph.D.
Director of Evaluation
Experience-Based Career Education

JES:cd

Enclosure

EMPLOYER QUESTIONNAIRE

Name of Resource Person _____

Name of Company _____

Questions

1. Did the EBCE staff provide you with the necessary information to help you direct students' activities at your site?

   Yes _____ No _____ Sometimes _____

2. Did the EBCE staff usually:

   _____ Show you the Student Activity Sheet(s)

   _____ Show you the Student Program Profile

   _____ Show you the type of products expected from student

   _____ Explain reason for the particular placement

   _____ Provide you with feedback on student's progress

3. Which of the following supportive services do you (or others at your site) provide for the Experience-Based Career Education (EBCE) program students? (Check each appropriate category.)

	Frequently	Occasionally	Seldom	Never
Do you talk about job opportunities?	_____	_____	_____	_____
Do you talk about the students' personal problems?	_____	_____	_____	_____
Do you talk about activities at your site?	_____	_____	_____	_____
Do you tutor in an academic area?	_____	_____	_____	_____
Do you evaluate individual students' assignments?	_____	_____	_____	_____

	Frequently	Occasionally	Seldom	Never
Do you assist students in non-job related assignments?	_____	_____	_____	_____
Do you supervise students to perform a specific job-related task at your site?	_____	_____	_____	_____
Do you help plan student assignments?	_____	_____	_____	_____
Other (specify) _____				
_____	_____	_____	_____	_____

4: How do students spend their time at your site? (Check each appropriate category.)

	Frequently	Occasionally	Seldom	Never
Observing site activities	_____	_____	_____	_____
Researching from site materials	_____	_____	_____	_____
Actively performing site activities	_____	_____	_____	_____
Talking with me	_____	_____	_____	_____
Talking with other site personnel	_____	_____	_____	_____
Individual study	_____	_____	_____	_____
Other (specify) _____				
_____	_____	_____	_____	_____

5. Do you think the EBCE students have been interested in your site?

Yes _____ No _____ Don't know _____

Explain: _____

_____

6. Based on the EBCE students placed at your site, do you feel these students were interested in the concept of EBCE?

   Yes _____ No _____ Don't know _____

7. How have employees at your site reacted to the EBCE students placed at your site? _____

   _____

8. How has top level management reacted to the EBCE students placed here? _____

   _____

9. Have you been satisfied with the feedback that you received relating to what happens to the student after he leaves your site?

   Yes _____ No _____ Comment: _____

   _____

10. Do you think your company will continue working with the EBCE project during the next couple of years?

    Yes _____ No _____ Don't know _____

11. Based on the students and staff you've met, how effective do you feel the program was? _____

    _____

12. Do you feel the program functioned as you were led to believe when you were recruited as an employer site?

    Yes _____ No _____ Don't know _____

13. What do you feel the strengths of the EBCE Program are?

    _____

    _____

14. What do you feel the weaknesses of the EBCE Program are?

_____

_____

15. To what extent has the EBCE Program had an impact on . . . . . ?

(Check each appropriate category.)

	How Much Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know	Good Impact	Bad Impact	Don't Know
a. Quality of work performed by regular employees	___	___	___	___	___	___	___
b. Amount of work performed by regular employees	___	___	___	___	___	___	___
c. Company hiring practices	___	___	___	___	___	___	___
d. Company training practices	___	___	___	___	___	___	___
e. Other possible impacts (list)							
_____	___	___	___	___	___	___	___
_____	___	___	___	___	___	___	___
_____	___	___	___	___	___	___	___

APPENDIX G

EMPLOYER LETTER

CHARLESTON
CITY OF CHARLESTON
P.O. BOX 2749
CHARLESTON, W. VA. 25330
J. G. HUTCHINSON - MAYOR

June 24, 1976

Dr. Joe E. Shively, Ph. D.
Director of Evaluation
Experience-Based Career Education
Appalachia Educational Laboratory, Inc.
P.O. Box 1348
Charleston, West Virginia 25325

Dear Dr. Shively:

This letter will acknowledge yours of June 22nd and accompanying questionnaire. I shall attempt to give you my opinion of the EBCE Project in this letter, rather than filling out the enclosed questionnaire, as I feel that the intent of the EBCE Project defies a yes or no, black or white rating system.

The Charleston Consumer Protection Department has been a job site for this Project since it began. The purpose, as described to me, is to give students the opportunity to work on different job sites to assist them in the selection of a career. A student might think he would like to work in a bank, government office, or for a firm, only to find out that it is or is not what he thought it would be at the time he signed for that job site. The ability to work at several different job sites helps him in the selection of a career. As to the students, themselves, they were/are young persons who don't enjoy a high school program as it is currently designed. This does not mean that they are doing poor work academically or that they are inclined to a Vocational Education. EBCE helps them to find themselves, at the same time, keeping up in their academic work.

We have been very pleased with the EBCE concept, as well as with the students who have worked in this department.

I hope that this letter addresses itself to the questions asked in your questionnaire.

Sincerely yours,

Mrs. Jane H. Theiling, Director
Charleston Consumer Protection Department