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ABSTRACT

The Appalachia Educational Laboratory's (AEL) Experience-Based Career Education (EBCE) Program was a 3-year project designed to develop a community-based alternative career education program for high school seniors. Internal summative evaluation activities consisted of collecting and analyzing preliminary data, establishing necessary evaluation controls, finalizing a data analysis plan, developing or securing and administering instruments, and analyzing the data and reporting the findings. External summative evaluation activities were conducted by AEL and Educational Testing Service personnel to collect summative data on students, parents, employers, and former students. Questionnaires and standardized tests were administered to all students (juniors and seniors in three experimental groups and two control groups in 11 county high schools) to establish the effect of the AEL/EBCE Program on academic, attitudinal, and maturational variables, using the Student Information Questionnaire, the Comprehensive Tests of Basic Skills, the Career Maturity Inventory, and the Assessment of Student Attitudes. As a result of the formative and summative evaluation activities during fiscal year 1975 conclusions can be reached: (1) The program did successfully serve as an alternative career education program, (2) the program was demonstrated to be an integrated, transportable product since it was successfully implemented in a local high school, and (3) the program was demonstrated to be an enjoyable experience since it was positively received by students, employers, parents, and former students. Appendixes contain instruments used in the evaluation study. (TA)

FY'75

INTERNAL EVALUATION REPORT

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August 31, 1975

Abbreviations

E1	Volunteer students who were randomly-assigned to the AEL Experience-Based Career Education Program.
E2	Volunteer students who joined the AEL/EBCE Program under non-random conditions.
K1	Volunteer students who joined the KCSS/EBCE Program at Charleston High School under non-random conditions.
C1	Volunteer students who were randomly assigned to the control group and remained in their home high schools.
C2	Volunteer students who were initially randomly-assigned to the AEL Experience-Based Career Education Program but subsequently elected to remain in their home high schools and volunteered to serve as non-randomly selected controls.
CMI	Career Maturity Inventory
CTBS	Comprehensive Tests of Basic Skills
ASA	Assessment of Student Attitudes
SIQ	Student Information Questionnaire
USOE	United States Office of Education
NIE	National Institute of Education
AEL	Appalachia Educational Laboratory
EBCE	Experience-Based Career Education
LC	Learning Coordinator
KCSS	Kanawha County School System
CHS	Charleston High School
ETS	Educational Testing Service

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This report fulfills a requirement of the Appalachia Educational Laboratory/Experience-Based Career Education (AEL/EBCE) contract with the National Institute of Education (NIE) that an FY'75 Internal Evaluation Report be prepared and submitted to the Career Education Program*(CEP) staff of NIE. The report has been prepared by the evaluation staff of the Experience-Based Career Education (EBCE) Program of the Appalachia Educational Laboratory, Inc. (AEL).

The report is principally intended for the NIE Career Education Program staff. It is most meaningfully read in conjunction with other program materials which describe the program, its staff, the community, and its experience sites. These can be found in the Operational Plan, FY'75 and the Quarterly Progress Reports. If the reader does not have these program descriptions or first-hand knowledge of Model II programs of NIE/CEP, he is urged to obtain them from the EBCE Program Director, Appalachia Educational Laboratory, P. O. Box 1348, Charleston, West Virginia 25325.

The following material is organized into six sections: Section 1 is an overview of the EBCE program and the EBCE evaluation activities; Section 2 describes the student population in terms of baseline data for the experimental and control groups; Section 3 presents an overview of the internal formative and summative evaluation design; Section 4 presents the activities and findings of summative evaluation; Section 5 overviews the AEL/EBCE findings as identified by formative evaluation; and Section 6 summarizes findings and conclusions.

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*Now called Education and Work.

Section 1

Introduction

The Appalachia Educational Laboratory's (AEL) Experience-Based Career Education (EBCE) Program has been in existence for over three years. Originally the project was funded by the United States Office of Education (USOE), later by the National Institute of Education (NIE). Based on a USOE directive, AEL developed a project 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, in preparation for the forthcoming training and implementation cycle of the EBCE program.

Formative Evaluation

Activities associated with formative evaluation can be divided into four phases: establishment of timelines, finalization of the formative evaluation plan, development of necessary instrumentation, and finally, implementation of the evaluation plan. All phases occurred between September 1, 1974 and June 30, 1975.

Timelines established for actual formative evaluation of AEL's Experience-Based Career Education system cover the period between October 1, 1974 and June 30, 1975. Since the original plan was revised (September) and instruments had to be developed (October through December), implementing evaluation sooner than this would have been impossible. The revised formative evaluation plan was implemented from October 1, 1974

to June 30, 1975.

Instrument development occurred between October 1 and January 1. Each instrument was developed from questions outlined in the formative evaluation plan, according to the priority assigned and the type of instrument projected for it. Instrument development proceeded with an effort on the part of the AEL/EBCE formative evaluation personnel to analyze the question and select a strategy for answering it. Existing formative evaluation instruments previously used in the AEL and other EBCE programs were reviewed and then these instruments were either revised, adopted, or deleted. The instruments were then administered to appropriate respondent group samples, resulting data analyzed, and a report written. Finally, instrument revision was initiated when necessary.

Finalizing the formative evaluation plan was conducted in September. Since the strategies were well explicated in the FY'75 Operating Plan, only minor revisions were required. Findings associated with this evaluation are presented in Section 5 of this report.

Summative Evaluation

Internal summative evaluation activities consisted of 1) collecting and analyzing preliminary data, 2) establishing necessary evaluation controls, 3) finalizing a data analysis plan, 4) developing or securing additional instruments, 5) administering those instruments, and 6) analyzing the data and reporting the findings. These activities occurred from September 1, 1974 to August 31, 1975 and proceeded as described below. External summative evaluation activities involved a cooperative effort between AEL and Educational Testing Service (ETS)

personnel to collect summative data on students, parents, employers, and former students.

During student orientation for fall, 1974, each student participated in a data collection program using standardized instruments. Students completed about two hours of inventories and tests. The Comprehensive T[illegible] f Basic Skills (CTBS) assessed student academic achievement in [illegible]nd ma[illegible]ematics. Demographic data were also collected using the Student Information Questionnaire (SIQ).

According to the summative evaluation plan, two groups of students (experimental group and control group) were to be selected randomly from the pool of all students that volunteered for the EBCE program. This was completed before student orientation occurred in the fall, 1974.

At NIE's request, a data analysis plan (in addition to the summative evaluation plan) was designed and submitted. Instrumentation was developed or secured in time for pretesting and/or posttesting of the students and other respondent groups. Posttesting of all EBCE students and control/comparison group students, and obtaining data from parents, employers, and former students took place in May and June. Most recent activities have involved the completion of planned test scoring, data analysis, and report writing.

Section 2

Description of Student Populations

Five distinct groups of students contributed to evaluation of the EBCE program during FY'75. The following sub-sections describe the circumstances and individual programs of each group of students and present data illustrating their comparative characteristics.

Experience-Based Career Education Students

There were three different groups of students who actively participated in the EBCE program during the 1974-75 school year. All three groups participated in similar programs, and two of them (E1 and E2) used identical procedures, resources, and facilities. Distinguishing characteristics of these three groups were either method of selection (random vs. non-random) or EBCE program (AEL vs. Kanawha County School System-KCSS). The three groups of experimental students are:

E1. These 51 students were randomly-selected from volunteers at 11 Kanawha County high schools (including Charleston Catholic High School) who participated in AEL's EBCE Program and completed pretests and posttests. Thirty-five of these students were seniors and 16 were juniors.

E2. These students were 22 others who participated in AEL's EBCE Program but were not subjected to the random selection process. All E2 students for whom data are available were seniors.

K1. These students were 11 seniors and five juniors who completed Kanawha County School System's EBCE Program at Charleston High School and took all pretests and posttests.

Control Students

Two groups of students were selected from among the juniors and

seniors in Kanawha County high schools for purposes of comparison with EBCE students. These two groups are described below.

C1. These students were a randomly-selected group of controls from Kanawha County high schools. They had volunteered to participate in the EBCE program but remained in their home high schools because they were not selected to participate in the EBCE program.

C2. These students were non-randomly selected controls from Kanawha County high schools. Although these students had had the opportunity to join EBCE, they declined for various reasons. However, they did volunteer to be members of the control group.

All members of the control group for whom data were available completed their 1974-75 school year in one of 11 county high schools. These high schools offer considerable variance in the types of families they serve - from inner-city to rural to upper middle-class suburban. Their educational programs are basically traditional; however, variations of modular scheduling are used in some. Extensive use of continuous progress curriculum has also had an impact on several of the educational programs. Many seniors who require only one or two courses for graduation may attend school for as little as one-half day.

Descriptive Comparisons

Questionnaires and tests were administered in the fall of 1974 to all experimental and control groups (E1, E2, K1, C1, and C2) to establish the degree of comparability. Comparisons among groups were made only when the data collected were amenable to legitimate comparisons.

Student demographic data for all students were obtained utilizing the Student Information Questionnaire (SIQ; see Appendix A). Data from

this SIQ were coded and tabulated. A summary of these tabulations may be found in Table 1.

Table 1

Background Characteristics of EBCE and Control Students

Variable	E1 (n=51) f	%	E2 (n=22) f	%	K1 (n=20) f	%	C1 (n=32) f	%	C2 (n=14) f	%	Total E1 + E2 f	%	Total C1 + C2 f	%
Sex														
Male	23	45	11	50	8	40	19	59	6	43	34	47	25	54
Female	28	55	11	50	12	60	13	41	8	57	39	53	21	46
Grade														
11th Grade	16	31	0	0	5	25	13	41	6	43	16	22	19	41
12th Grade	35	69	22	100	15	75	19	59	8	57	57	78	27	59
Race														
White	46	90	18	82	14	70	29	91	13	93	64	88	42	91
Black	4	8	4	18	6	30	3	9	1	7	8	11	4	9
Spanish Descent	1	2	0	0	0	0	0	0	0	0	1	1	0	0
Major Field of Study														
General	28	55	8	36	6	30	8	25	3	21	36	49	11	24
Vocational Education	10	20	4	18	4	20	5	16	2	14	14	19	7	15
College Preparatory	11	22	8	36	9	45	10	31	6	43	19	26	16	35
Other	2	4	2	9	1	5	3	9	2	14	4	6	5	11
No Response	0	0	0	0	0	0	6	19	1	7	0	0	7	15
Reason for Joining														
Dissatisfied with last year's school program	18	35	4	18	6	30					22	30		
Wanted more information on careers	23	45	11	50	10	50					34	47		
Wanted a more personalized program	7	14	4	18	2	10					11	15		
Heard its an easy program	0	0	0	0	0	0					0	0		
Other	3	6	3	14	1	5					6	8		
No Response	0	0	0	0	1	5					0	0		

Table 1 (Cont.)

Variable	E1 (n=51) f	%	E2 (n=22) f	%	K1 (n=20) f	%	C1 (n=32) f	%	C2 (n=14) f	%	Total E1 + E2 f	%	Total C1 + C2 f	%
Mother's Education														
Less than High School	16	32	5	23	6	30	5	16	5	36	21	29	10	22
High School	15	29	6	27	10	50	15	47	5	36	21	29	20	43
More than High School	20	39	11	50	4	20	12	38	4	29	31	42	16	35
Father's Education														
Less than High School	20	39	4	18	5	25	8	25	5	36	24	33	13	28
High School	16	31	8	36	5	25	12	38	4	29	24	33	16	35
More than High School	15	29	10	45	10	50	12	38	5	36	25	34	17	37
Father's Occupation														
Professional	8	16	2	9	4	20	7	22	0	0	10	14	7	15
Manager or Administrator	14	27	4	18	3	15	4	13	1	7	18	25	5	11
Craftsman	9	18	2	9	3	15	7	22	0	0	11	15	7	15
Proprietor	2	4	2	9	2	10	1	3	1	7	4	5	2	4
Sales	2	4	0	0	0	0	2	6	2	14	2	3	4	9
Clerical	0	0	2	9	0	0	1	3	0	0	2	3	1	2
Protective Service	2	4	0	0	0	0	2	6	0	0	2	3	2	4
Technical	1	2	1	5	3	15	1	3	0	0	2	3	1	2
Operative	3	6	4	18	3	15	2	6	0	0	7	10	2	4
Laborer	7	14	1	5	1	5	3	9	5	36	8	11	8	17
Other*	3	6	1	5	0	0	1	3	4	29	4	5	5	11
No Response	0	0	3	14	1	5	1	3	1	7	3	4	2	5
No. of Siblings Who Dropped Out of School														
None	41	80	20	91	18	90	30	94	12	86	61	84	42	91
One	7	14	0	0	1	5	1	3	1	7	7	10	2	4
Two	2	4	0	0	0	0	0	0	0	0	2	3	0	0
Three	1	2	1	5	0	0	0	0	0	0	2	3	0	0
No Response	0	0	1	5	1	5	1	3	1	7	1	1	2	4

*Includes responses referring to Occupational Categories mentioned only once (e.g., homemaker, military service, service) and non-classifiable responses.

Comparisons of Demographic Data. Intergroup comparisons revealed that groups E1, E2, K1, and C2 were highly similar with regard to sex distribution; there were between five to ten percent more females than males in each of these groups. In group C1, however, this pattern was reversed; 59% of this group was male and 41% was female.

As in previous years of program operation, most EBCE students this year (E1 and E2) were seniors. Group E1 was composed largely of seniors (69%), while the members of group E2 were all seniors. The control groups (C1 and C2) each contained about 60% seniors and 40% juniors. The K1 group was made up of 75% seniors and 25% juniors.

Comparisons of major field of study showed that 55% of students in the E1 group and 36% of students in the E2 group were enrolled in a general course of studies, whereas smaller proportions of K1, C1, and C2 groups (30%, 25%, and 21% respectively) were enrolled in this type of program. In the K1, C1, and C2 groups, more students were enrolled in college preparatory programs than in any other major field of study.

In all groups, the majority of students were white; group K1, which consisted totally of Charleston High School students, included the highest proportion of non-white students (30%). These proportions seem to reflect the distribution of racial groups among the various Kanawha County schools represented rather than any selection bias.

Data on students' family background demonstrate that E1, C1, and C2 students were fairly similar with regard to father's education. In each of these groups, about one-third of the students' fathers had less than a high school education, approximately another third had fathers who were high school graduates, and almost the same proportion had fathers

with post-secondary education. Groups E1 and C2 had the highest proportion of fathers with less than a secondary school education. Students from group K1 tended to come from families where the father had some post-secondary school education; students from the E2 group tended to come from families where both parents had pursued post-secondary education.

In groups E1 and C1 students' mothers were better educated than the fathers. In groups E2 and C2, the educational levels attained by the fathers and mothers appeared to be similar. Fathers appeared to be better educated than mothers in the K1 group.

Fathers of students in the E1 group tended to be employed in high-status positions. Forty-three percent of the fathers of students in this group were employed in professional or managerial positions. Only seven percent of C2 students' parents held such jobs. The other three groups (E2, K1, and C1) fell between these two extremes, with 27%, 35%, and 35% respectively.

Most students did not have any siblings who dropped out of school; of those who did, the largest proportion was found in the E1 group, where 14% (n=7) of the students had one sibling who dropped out of school, 4% (n=2) had two siblings who dropped out of school, and 2% (n=1) had three siblings who dropped out. In group E2, one student (5%) had three siblings who dropped out of school. In each of the other groups (K1, C1, and C2), one student reported having one sibling who dropped out of school.

Comparisons of Academic Achievement. All five groups of students were administered three subtests of the Comprehensive Tests of Basic Skills (CTBS) in September, 1974. Statistical analysis of the test scores

(See Table 2) indicated that there were no significant differences in academic achievement between the true experimental group (E1) and the true control group (C1). No other comparisons were made, since the E2, C2, and K1 groups were not randomly-selected and therefore were assumed to be non-equivalent to the other two randomly-selected groups.

Summary

Data collected on the five groups of students involved with the evaluation of the EBCE program indicated that no real differences initially existed between the groups. They were similar with respect to sex distribution, race, father's education level, number of siblings who dropped out of school, and level of academic achievement.

Table 2

Summary of CTBS Pretest Data

Subtest	E1 (n=51) $\bar{X}$	s.d.	C1 (n=33) $\bar{X}$	s.d.	F*	p
Reading Comprehension	31.64	7.58	30.06	9.00	0.78	0.62
Arithmetic Concepts	18.88	5.87	17.45	6.42	1.09	0.30
Arithmetic Applications	12.59	4.57	11.79	5.26	0.56	0.54

*$F_{.90}(1,79) = 2.78$

Section 3

Evaluation Design

During the development of an educational program, there were many decisions that had to be made by the development or program staff. Some decisions were based upon past research and experience, but other decisions were reached only as a function of the collection and analysis of data as the program was in operation.

There were also decisions to be made by persons other than the program staff. The Laboratory administration could, upon advice of the Board of Directors or other influential advisors, change the direction of the program. Was the course of the EBCE program in line with the needs and priorities established for the region, state, or country? If a decision to change the direction or style of the program was to be made, then decisions regarding the appropriateness of associated personnel to carry out the newly-directed program must also be made.

Similarly, the funding agency must make decisions about the program which are crucial to the existence of the program. In terms of short-range type decisions the funding agency must decide whether EBCE was still needed and then whether AEL had a need to produce an EBCE version of its own. The funding agency had to decide whether AEL had maintained its capacity to produce a quality EBCE program. They also had to decide whether the EBCE program was unique in its approach to alternative education and whether the integration of the systems had occurred. In terms of long-range decisions the funding agency had to decide if the EBCE program would produce the outcomes stated in the FY'75 Operational Plan, and in the process of updating the evidence for such an initial decision, the funding agency

had to decide if an appropriate groundwork had been laid to insure that stated outcomes were produced. The funding agency also had to decide whether or not the goals of the EBCE program was congruent with the needs and priorities of the country, as mandated by the federal government.

Finally, the potential consumer must decide whether the measured outcomes of using the EBCE program warrant the expenditure of resources required for implementation. The receptivity of the product user also filters back into the decision-making process of the funding agency.

Evaluation Areas

The evaluation of the AEL/EBCE program involved two major thrusts -- Formative Evaluation and Summative Evaluation. Both forms of evaluation had a similar function -- that is to delineate, obtain, and provide information to decision-makers for judging decision alternatives. The differences between the evaluation efforts was a function of the intent of each.

Formative Evaluation attempted to assess the value of individual program components to insure that every component worked as well as possible, both in isolation and as it meshed with other components. It is a process which sought information to answer those questions critical to the rational decision-making necessary to accomplish the scope of work.

The primary concern of Summative Evaluation was to assess the effectiveness of both the AEL/EBCE project in terms of student attainment of project objectives and in terms of the viability of the project as an alternative to traditional secondary education.

The information provided by the summative evaluation will be used by decision-makers for major program modifications and funding decisions.

The evaluation design was delineated in three different areas: External Summative, Internal Summative, and Internal Formative.

External Summative Evaluation

The NIE selected the Educational Testing Service (ETS) to do an external summative evaluation of the AEL/EBCE program (and EBCE programs at three other Laboratories). Since development of the external design was the responsibility of the external contractor, no attempt will be made here to delineate those designs and/or analytical procedures developed by ETS which are pertinent to providing the funding agency with evidence regarding product effectiveness. However, AEL/EBCE did engage in the following activities with respect to ETS and its external, summative evaluation contract: The internal evaluation staff:

a. Provided on-going liaison between ETS and project staff and between ETS and all respondent groups specified in the work statement and contract of ETS;

b. Assisted ETS in the clarification of relationships between project processes, activities, and outcome objectives;

c. Assisted ETS in the search for appropriate instruments; and

d. Reviewed ETS-developed instruments prior to use.

However, data preparation was the responsibility of ETS which submitted to the internal evaluation staff duplicate sets of data after data were collected.

Internal Summative Evaluation

The primary objective of the internal summative evaluation was to assess the effectiveness of the EBCE project not only in terms of student attainment of project objectives but also in terms of the viability of the project as an alternative to traditional secondary education. The tasks briefly outlined below include the activities related to internal summative evaluation activities.

The internal evaluation staff of the AEL/EBCE project had the responsibilities of:

a. selecting appropriate control group students;

b. taking appropriate steps to ensure that sufficient numbers of control students were maintained so that appropriate statistical analyses could be performed;

c. developing or securing instruments for objectives unique to our individual project;

d. reviewing instruments designed to measure common objectives;

e. administering standardized tests;

f. providing as needed available longitudinal data on all respondent groups;

g. maintaining a set of data files necessary for the internal summative evaluation;

h. submitting to NIE by February 28, 1975, the required FY'75 data analysis plan;

i. analyzing all data related to their own project and submitting a data analysis report as part of the end-of-year evaluation report; and

j. writing and submitting quarterly progress reports and final reports which adhered to NIE/CEP guidelines for reporting format, schedule and content.

The evaluation director also visited other EBCE projects during FY'75 as part of the joint evaluation meetings and presented papers on the EBCE evaluation at the AERA convention in Washington, D.C.

Design. Although the AEL/EBCE FY'75 Data Analysis Plan (See Appendix B) explicates the design of the internal summative evaluation in greater detail, a brief description is provided to enhance the continuity of the report. Basically, five groups of experimental and control students were established during pre-treatment recruitment selection. Groups E1 and C1 were established in order that direct comparisons under experimental design conditions could be made. (Groups E2 and C2 were comprised of various combinations of non-randomly selected students and were to be used for investigations under quasi-experimental conditions.) Group K1 consisted of those students enrolled at Charleston High School in a nearly autonomously-operated EBCE situation.

Data were gathered from these groups through the administration of the following instruments:

a. Student Information Questionnaire (SIQ) - This instrument was constructed to provide baseline data on student characteristics.

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

tions subtests.

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

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.

The SIQ was administered to all groups at the beginning of the school year to gather information on non-criterion variables. The CTBS was used with all five groups in a pre-post fashion to assess program effects. The ASA was administered as post-treatment instrument to all five groups. The CMI was administered in a post-treatment fashion to groups E1, E2, C1, and C2 and in a pre-post fashion to group K1. Table 3 contains a list of the instruments and the administration schedule.

Table 3

Instrument Administration Schedule

by Student Groups

Instrument	Pretest Sept. 1974	Posttest May 1974
SIQ	E1, E2, C1, C2, K1	
CTBS	E1, E2, C1, C2, K1	E1, E2, C1, C2, K1
ASA		E1, E2, C1, C2, K1
CMI		E1, E2, C1, C2, K1

Once the groups of students were identified, appropriate instruments were selected to test nine hypotheses which were generated to evaluate student growth or student effects as a function of participation or non-participation in the EBCE program. These hypotheses dealt with basic academic skills, career knowledge, career maturity, and attitudinal development.

Although students are the main group affected by the EBCE program, other repondent 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. Similarly, students who had graduated from the EBCE program in 1973 and 1974 were also assessed as to their attitudes toward learning environments or job satisfaction.

Appropriate statistical analyses were performed on the data after collection and aggregation. The results of those analyses are reported in this final evaluation summary.

Internal Formative Evaluation

The internal formative evaluation staff focused its attention on three major areas: The AEL/EBCE project, the EBCE project being run by the Kanawha County School System (KCSS), and a comparison of the two projects. The information produced and documented by the KCSS field test provided new information relating to the replication of the EBCE program and the impact of external operations on the integrity of the EBCE concept. This information should prove invaluable in FY'76 when replication and dissemination of the EBCE model begins.

A set of formative evaluation questions common to both projects were indentified using past knowledge and projected items of concern for the KCSS operation. All the questions identified were relevant to one of four categories: 1) the EBCE delivery system, 2) the impact of program on students, 3) the knowledge of implementation variables, and 4) the relationship to experience sites. The following information was generated for each formative evaluation question : (a) Site specific information (AEL, KCSS, or both), (b) focus of the question, (c) instrumentation, (d) time schedule for collecting data, and (e) results of assessment.

Section 4

Summative Evaluation

As in FY'74, the primary objective of summative evaluations during FY'75 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 (see Appendix B). In this section, outcome data pertaining to students, parents, employers, and graduates are presented, analyzed, and evaluated.

Statistical analyses were selected to test the main effects and other effects associated with each hypothesis stated in the AEL/EBCE FY'75 Data Analysis Plan. Descriptive statistics and correlated t-tests were used to describe groups and measure gains within a given group (if appropriate). A univariate analysis of variance was used to determine whether differences between groups existed within the 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 existance of a significant difference.

Program Impact and Program Effects

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 each hypothesis, give the sources of the data collected to test each hypothesis, the procedures used for hypothesis testing, a description of the findings, and a summary.

A. Hypothesis #1

The first hypothesis to be tested was that AEL/EBCE students in the E1 group will acquire increased ($p<.10$) mastery in basic academic skills.

1. Data Source

The data used to evaluate this hypothesis were E1 students' scores on each of three subtests of the Comprehensive Tests of Basic Skills (CTBS; See Appendix C). The CTBS was administered to E1 students in September and May.

2. Procedure

The pretest and posttest mean scores of E1 students on three CTBS subtests (Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications) were examined. Then, correlated t-tests were performed to determine whether E1 students had made significant gains ($p<.10$) in basic academic skills during the 1974-75 school year.

3. Findings

Table 4 shows the results of correlated t-tests (one-tailed) on pretest and postest CTBS subtest scores. E1 students showed no significant ($p<.10$) gains in basic academic skills, as measured by the three CTBS subtests, over the 1974-75 school year.

4. Summary

Hypothesis #1 was rejected; AEL/EBCE students in the E1 group did not show increased mastery in basic academic skills. However, one goal of the program was that AEL/EBCE students would do as well in basic academic skills as students enrolled in traditional high school programs. This goal is tested in hypothesis #2.

Table 4

Correlated t-tests on Pre/Post CTBS Scores of 51 El Students

		Reading Comprehension (45 items)	Arithmetic Concepts (30 items)	Arithmetic Applications (20 items)
Pretest	mean	31.64	18.88	12.59
	s.d.	7.58	5.87	4.56
Posttest	mean	32.00	19.24	12.94
	s.d.	8.92	5.47	4.67
	t-test*	+0.40	+0.72	+0.92
	r	0.72	0.81	0.82

*$t_{.90}(50)=1.30$

B. Hypothesis #2

The second hypothesis was that experimental students (E1) would do as well in basic academic skills as control students (C1) enrolled in traditional high school programs.

1. Data Source

The data used to evaluate this hypothesis were E1 and C1 students' scores on each of the three subtests of the Comprehensive Tests of Basic Skills (CTBS). E1 and C1 students were administered the CTBS in September, 1974, and again in May, 1975.

2. Procedure

The pretest and posttest mean scores of E1 and C1 students on the three CTBS subtests (Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications) were examined and compared to determine whether E1 students or students in the randomly-selected control group (C1) had acquired significantly greater ($p < .10$) mastery in basic academic skills. Comparisons were made utilitzing an analysis of variance procedure to test the equivalence of E1 and C1 groups on the CTBS subtests scores at the beginning and at the end of the 1974-75 school year. (The ANOVA of pretest scores was conducted to determine if covariance techniques were applicable.)

3. Findings

Means and standard deviations on pre-post CTBS scores are presented in Table 5. The E1 and C1 groups were equivalent with respect to their performance on the CTBS at the beginning of the year, thus negating the need for covariance techniques (See Table 6). The ANOVA of posttest scores indicated no significant differences

between the two groups of students on the three CTBS subtests (See Table 7).

4. Summary

Hypothesis #2 was not rejected; experimental students (E1) did as well as control students (C1) in traditional high schools in basic academic skills. It appears that there was little difference in the performance of these two groups (E1 and C1) on the three CTBS subtests.

Table 5

Means and Standard Deviations
on Pre-Post CTBS Scores
E1 and C1 Students

		Reading Comprehension (45 items)		Arithmetic Concepts (30 items)		Arithmetic Application (20 items)	
		E1	C1	E1	C1	E1	C1
Pretest	range	11-42	9-43	9-30	7-30	4-20	4-20
	mean	31.64	30.06	18.88	17.45	12.59	11.79
	s.d.	7.58	9.00	5.87	6.42	4.56	5.26
	n	51	33	51	33	51	33
Posttest	range	10-44	6-45	10-28	6-30	2-20	3-19
	mean	32.00	30.33	19.24	18.37	12.94	11.70
	s.d.	8.92	9.78	5.47	6.70	4.67	5.03
	n	51	30	51	30	51	30

Table 6

ANOVA on CTBS Pretest Scores*
El vs Cl

Variable	Source	df	MS	F**	p
Reading Comprehension	Group	1	50.43	0.78	0.62
	Residual	79	64.64		
Arithmetic Concepts	Group	1	40.85	1.09	0.30
	Residual	79	37.52		
Arithmetic Applications	Group	1	12.83	0.56	0.54
	Residual	79	22.91		

*Sample size: $n_{(El)} = 51$, $n_{(Cl)} = 33$

**$F_{.90}(1, 79) = 2.78$

Table 7

ANOVA on CTBS Posttest Scores*
El vs Cl

Variable	Source	df	MS	F**	p
Reading Comprehension	Group	1	52.47	0.69	0.59
	Residual	76	75.94		
Arithmetic Concepts	Group	1	14.25	0.39	0.54
	Residual	76	36.17		
Arithmetic Applications	Group	1	29.10	1.27	0.26
	Residual	76	23.03		

*Sample Size: $n_{(El)} = 51$, $n_{(Cl)} = 30$

**$F_{.90}(1, 76) = 2.78$

C. Hypothesis #3

The third hypothesis was that experimental students (E1) will acquire significantly greater ($p < .10$) mastery in career knowledge than control students (C1) in traditional high schools.

1. Data Source

The data used to evaluate this hypothesis were the E1 and C1 students' scores on the Competence Test of the Career Maturity Inventory (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 (See Appendix D). E1 and C1 students were administered the CMI in May, 1975.

2. Procedure

The posttest mean scores of E1 and C1 students on the five CMI Competence Test subtests were compared utilizing analysis of variance techniques to determine whether E1 students had acquired significantly greater ($p < .10$) mastery in career knowledge than C1 students.

3. Findings

Means and standard deviations on posttest CMI Competence Test subscores are presented in Table 8. The ANOVA of posttest scores indicated no significant differences between the two groups of students on the five CMI knowledge subtests (See Table 9).

4. Summary

Hypothesis #3 was rejected; E1 students did not acquire significantly greater ($p < .10$) mastery in career knowledge than C1 students in traditional high schools.

Table 8

Means and Standard Deviations on CMI Posttest Scores

El and Cl Students

	Attitude Scale (50 items)		Knowing Yourself (20 items)		Knowing About Jobs (20 items)		Choosing A Job (20 items)		Looking Ahead (20 items)		What Should They Do (20 items)	
	El	Cl	El	Cl	El	Cl	El	Cl	El	Cl	El	Cl
range	19-46	22-44	2-19	2-18	7-20	6-20	3-19	4-18	4-19	2-18	8-18	2-18
mean	36.47	33.50	13.14	13.10	15.67	14.97	12.55	12.23	12.62	12.67	10.41	10.63
s.d.	6.31	6.02	3.72	3.79	3.40	3.86	3.73	4.03	4.19	4.05	3.21	3.51
n	51	30	51	30	51	30	51	30	51	30	51	30

Table 9

ANOVA on CMI Posttest Scores*

EI vs. CI

Variable	Source	df	MS	F**	p
Knowing Yourself	Group	1	1.47	0.11	0.74
	Residual	76	12.87		
Knowing About Jobs	Group	1	14.30	1.28	0.26
	Residual	76	11.14		
Choosing A Job	Group	1	3.74	0.28	0.60
	Residual	76	13.38		
Looking Ahead	Group	1	0.10	0.01	0.94
	Residual	76	17.25		
What Should They Do	Group	1	0.85	0.08	0.78
	Residual	76	11.28		

*Sample size: $n_{(EI)} = 50$, $n_{(CI)} = 30$

**$F_{.90}(1,76) = 2.78$

D. Hypothesis #4

The fourth hypothesis was that experimental students (E1) will acquire significantly greater ($p < .10$) career maturity than control students (C1) in traditional high schools.

1. Data Source

The data used to evaluate this hypothesis were the E1 and C1 students' scores on the Attitude Scale of the Career Maturity Inventory (CMI). E1 and C1 students were administered the CMI in May, 1975.

2. Procedure

The posttest mean scores of E1 and C1 students on the CMI Attitude Scale were compared utilizing ANOVA techniques to determine whether E1 students had acquired significantly greater ($p < .10$) career maturity than C1 students.

3. Findings

Means and standard deviations on the posttest CMI Attitude Scale scores are presented in Table 8. The ANOVA of posttest scores indicated that the E1 students had significantly greater ($p < .02$) career maturity scores than the C1 students (See Table 10).

4. Summary

Hypothesis #4 was not rejected; the EBCE students did acquire significantly greater career maturity than comparable students enrolled in traditional high schools.

Table 10

ANOVA on Posttest CMI Attitude Scores*

El vs. Cl

Variable	Source	df	MS	F**	p
Attitude	Group	1	199.27	5.70	0.02
	Residual	76	34.98		

*Sample size: $n_{(El)} = 50$, $n_{(Cl)} = 30$

**$F_{.90}(1,76) = 2.78$

E. Hypothesis #5

The fifth hypothesis was that experimental students (E1) will develop significantly more positive ($p<.10$) attitudes toward learning environments than control students (C1) in traditional high schools.

1. Data Source

The data used to evaluate this hypothesis were the posttest scores of E1 and C1 students on the Assessment of Student Attitudes (ASA) instrument (See Appendix E). The ASA has four subtest scores (Attitude towards Education in General, towards School Curriculum, towards School Resources, and towards School Counseling) and a composite score (Attitude towards the Total Learning Environment). The ASA was administered to E1 and C1 students in May, 1975.

2. Procedure

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. ANOVA techniques were used to determine whether E1 students developed significantly more positive ($p<.10$) attitudes toward learning environments than C1 students.

3. Findings

Means and standard deviations on the posttest ASA scores are presented in Table 11. The ANOVA of posttest scores indicated that the E1 students had significantly more positive attitudes toward learning environments than the C1 students (See Table 12). Significant differences were found for each subtest of the ASA and for the total ASA score.

Table 11

Means and Standard Deviations on Posttest ASA Scores: El and Cl Students

	Education in General (35 points)		School Curriculum (25 points)		School Resources (45 points)		School Counseling (25 points)		Total Learning Environment (130 points)	
	El	Cl	El	Cl	El	Cl	El	Cl	El	Cl
range	9-35	12-34	9-25	9-25	16-45	18-44	8-25	5-23	42-126	53-116
mean	28.96	22.80	20.43	17.47	38.14	29.83	19.45	15.27	106.98	85.37
s.d.	4.82	5.40	3.13	4.11	4.99	6.89	3.47	4.43	13.81	17.25
n	51	30	51	30	51	30	51	30	51	30

Table 12

ANOVA on Posttest ASA Scores*
E1 vs C1

Variable	Source	df	MS	F**	p
Education In General	Group	1	716.93	27.42	0.0001
	Residual	76	26.14		
School Curriculum	Group	1	166.02	13.57	0.0007
	Residual	76	12.23		
School Resources	Group	1	1302.49	38.56	0.0001
	Residual	76	33.77		
School Counseling	Group	1	330.72	21.73	0.0001
	Residual	76	15.22		
Total Learning Environment	Group	1	8824.00	37.68	0.0001
	Residual	76	234.18		

*Sample size: $n_{(E1)} = 51$, $n_{(C1)} = 30$

**$F_{.90}(1, 76) = 2.78$

4. Summary

Hypothesis #5 was not rejected; the EBCE students did possess at the end of the school year significantly more positive attitudes toward the learning environment than did the control students in traditional high schools.

F. Hypothesis #6

The sixth hypothesis was that experimental students (K1) will acquire increased ($p < .10$) mastery in basic academic skills.

1. Data Source

The data used to evaluate this hypothesis were K1 students' pretest and posttest scores on each of the three subtests of the Comprehensive Tests of Basic Skills (CTBS). The CTBS was administered to K1 students in September, 1974 and May, 1975.

2. Procedure

The pretest and posttest mean scores of K1 students on three CTBS subtests (Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications) were examined. Correlated t-tests were performed to determine whether K1 students had made significant gains ($p < .10$) in basic academic skills during the 1974-75 school year.

3. Findings

Table 13 presents the results of the correlated t-tests (directional) on pretest/posttest CTBS subtest scores. K1 students showed no significant ($p < .10$) gains in basic academic skills, as measured by the three CTBS subtests, over the school year.

4. Summary

Hypothesis #6 was rejected; Charleston High School students in their own program did not show increased mastery in basic academic skills.

Table 13

Correlated t-tests on Pre/Post CTBS Scores of 16 K1 Students

		Reading Comprehension (45 items)	Arithmetic Concepts (30 items)	Arithmetic Applications (20 items)
Pretest	range	19-44	5-28	4-20
	mean	32.00	18.63	11.69
	s.d.	7.01	5.25	3.68
Posttest	range	10-44	10-26	6-19
	mean	29.44	18.13	12.31
	s.d.	9.27	5.35	3.83
	t-test *	-1.42	-0.45	+0.77
	r	.64	.65	.63

*$t_{.90}(15) = +1.34$

G. Hypothesis #7

The seventh hypothesis was that experimental students (K1) will acquire increased ($p < .10$) mastery in career knowledge.

1. Data Source

The data used to evaluate this hypothesis were the K1 students' pretest and posttest mean scores on the Competence Test of the Career Maturity Inventory (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. K1 students were administered the CMI in September, 1974 and May, 1975.

2. Procedure

The pretest and posttest mean scores of K1 students on the five subtests of the CMI Competence Test were examined. Correlated t-tests (directional) were performed to determine whether K1 students had acquired increased ($p < .10$) mastery in career knowledge during the 1974-75 school year.

3. Findings

Table 14 (columns 2 through 6) presents the means and standard deviations for each of the five competency subtests and the results of the correlated t-tests (directional) on pretest/posttest CMI Competence Test scores. K1 students showed no significant ($p < .10$) gains in career knowledge, as measured by the five CMI Competence subtests, over the school year.

Table 14

Correlated t-tests on Pre/Post CMI Scores of 18 K1 Students

		Attitude Scale (50 items)	Knowing Yourself (20 items)	Knowing About Jobs (20 items)	Choosing A Job (20 items)	Looking Ahead (20 items)	What Should They Do (20 items)
Pretest	range	30-42	4-18	4-20	5-19	10-20	6-15
	mean	35.39	13.39	15.39	13.44	14.39	11.83
	s.d.	3.20	3.81	3.84	3.88	2.69	2.18
Posttest	range	29-46	4-18	10-20	6-19	8-18	6-17
	mean	37.83	14.00	16.06	13.61	13.61	11.11
	s.d.	4.59	4.12	2.97	3.39	3.01	2.93
	t-test*	2.26 *	0.95	0.99	0.27	-1.11	-0.99
	r	.35	.77	.67	.70	.46	.30

*$t_{.90}(17) = 1.33$

4. Summary

Hypothesis #7 was rejected; Charleston High School students enrolled in their own EBCE program did not show increased mastery in career knowledge.

H. Hypothesis #8

The eighth hypothesis was that experimental students (K1) will acquire increased ($p < .10$) career maturity.

1. Data Source

The data used to test this hypothesis were the K1 students' pretest and posttest mean scores on the Attitude Scale of the Career Maturity Inventory (CMI). K1 students were administered the CMI in September, 1974 and May, 1975.

2. Procedure

The pretest and posttest mean scores of K1 students on the CMI Attitude Scale were examined. Correlated t-tests (directional) were performed to determine whether K1 students had acquired increased ($p < .10$) career maturity during the 1974-75 school year.

3. Findings

Table 14 (column 1) presents the means and standard deviations for the pretest/posttest CMI Attitude Scale scores and the results of the correlated t-test (directional). K1 students showed significant growth ($p < .10$) in career maturity over the school year.

4. Summary

Hypothesis #8 was not rejected; Charleston High School students enrolled in their own EBCE program did acquire increased career maturity.

I. Hypothesis #9

The ninth hypothesis was that experimental students (K1) will acquire positive attitudes toward their learning environments.

1. Data Source

The data used to evaluate this hypothesis were the posttest scores of K1 students on the Assessment of Student Attitudes (ASA) instrument. The ASA has four subtest scores (Attitude towards Education in General, towards School Curriculum, towards School Resources, and towards School Counseling) and a composite score (Attitude towards the Total Learning Environment). The ASA was administered to K1 students in May, 1975.

2. Procedure

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. Descriptive statistics were used to determine whether K1 students acquired positive attitudes toward their learning environment.

3. Findings

Table 15 presents the means and standard deviations for the posttest ASA subtest scores and the composite score. The data indicate that the K1 students did possess positive attitudes towards the educational aspects addressed in the four subtests of the ASA and toward the total learning environment.

4. Summary

Hypothesis #9 was not rejected; Charleston High School students enrolled in their own program did acquire positive

attitudes toward various aspects of the educational system and toward the total learning environment.

Table 15

Means and Standard Deviations on Posttest ASA Scores

K1 Students

	Education in General (35 points)	School Curriculum (25 points)	School Resources (45 points)	School Counseling (25 points)	Learning Environment (130 points)
range	19-34	10-25	16-44	11-25	71-122
mean	27.08	19.88	32.83	18.17	97.96
s.d.	4.16	3.30	6.96	5.99	15.20
n	24	24	24	24	24

J. Hypothesis #10

The tenth hypothesis was that parents of EBCE students will have positive attitudes toward the EBCE program.

1. Data Source

The data used to test this hypothesis were from the results of a Parent Opinion Survey (See Appendix F) which was mailed out to 21 parents in May, 1975. Responses from 19 parents were received and tabulated.

2. Findings

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. Fourteen parents (74%) 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 (95%) 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 the on-the-job experiences of students (n=8), the help students were given in making career choices (n=5), and the individual attention students received from resource persons and EBCE staff members (n=5). Five 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 13 parents mentioned

a total of 18 different weaknesses. Most weaknesses were mentioned only once or twice. Program weaknesses most frequently mentioned were insufficient communication between EBCE and the students' home high schools, lack of sufficient suitable job sites, and an atmosphere that was too permissive.

Sixteen of the 19 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. Fifteen parents (79%) also thought that their sons and daughters were much more motivated to learn in the EBCE program than they were in traditional schools. All parents rated the approaches to learning utilized in the EBCE program as good or 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. (See Table 16)

Only two parents mentioned that they had noted any negative changes in their children that might have resulted from participation in the EBCE program. In both of these cases, the parents believed that their children had become "too independent." However, this change might not be negative, since some parents find moves to independence on the part of their children threatening, even when the child's needs are being served in this way.

Twelve of the 19 parents (63%) believed that their son or daughter talked with them "almost daily" about "what's going on in the career education program;" six (32%) stated that they had had frequent or very frequent contact with EBCE staff members. Eleven of the 19 respondents (58%) had attended at least one meeting during the school

Table 16

Positive Attitude Changes Attributable to EBCE

Characteristic	Mentions	Percent
Student became more mature	5	17
Student enjoyed school more	4	14
Student saw need for additional education	4	14
Student made a career decision	3	10
Student's grades have improved	2	7
Student made friends more easily	2	7
Student became more independent	2	7
Student's attitude has improved	2	7
Student has developed more interests	1	3
Student makes decisions more easily	1	3
Student became happier	1	3
Student became more responsible	1	3
Student became more punctual	1	3
Totals	29	98%*

*Due to rounding error, total is less than 100%

year where other parents of EBCE students were present. Most parents (58%; n=11) 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 Experience-Based Career Education program staff as very good or excellent. Fourteen (74%) 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 17 parents (89%). All parents but one rated the approaches to learning used in the EBCE program as good to excellent.

The majority of the parents (63%) indicated confidence in the occupational plans of their sons or daughters, where such plans existed; however, five of the parents (26%) stated that their son or daughter had made no firm occupational plans at the time of the survey. Six parents (32%) believed that their son or daughter would be attending college one year after graduating from high school; the same number thought their child would be working at this time. The remainder of the parents (37%) thought that one year after leaving high school their son or daughter would be going to a business or trade school (21%), would be in the military (5%), or seemed unsure of what their child would be doing one year hence (11%).

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 17, 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.

Table 17

Frequencies of Parents' Ratings of Types of Learnings Fostered By EBCE

Type of Learning:	Importance: Not Important 1	2	3	4	Highly Important 5	Effectiveness: Not Effective 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills	0	0	4	4	11	0	0	3	6	10
b. Be punctual and organize their time	0	0	0	3	16	0	0	2	12	5
c. Assume responsibility for themselves	0	0	0	3	16	1	0	2	3	13
d. Make decisions and follow through	0	0	1	3	15	0	0	3	7	9
e. Communicate with others in a mature way	0	0	0	5	14	0	0	0	6	13
f. Be aware of more career opportunities	0	0	0	4	15	0	0	2	3	14
g. Work with others	0	0	0	2	17	0	0	1	4	14
h. Evaluate their own work	1	0	0	7	11	0	0	2	8	9
i. Perform basic academic skills	0	0	4	5	10	0	0	2	7	10
j. Think through and solve problems	0	0	0	4	15	0	0	1	9	9
k. Have a positive attitude toward self	0	0	0	4	15	0	0	1	6	12
l. Have a positive attitude toward work	0	0	1	3	15	0	0	3	7	9
m. Have a positive attitude toward learning	0	0	3	1	15	0	0	3	6	10
n. Prepare for further education	0	2	1	3	13	0	0	4	5	10
o. Improve interpersonal and social skills	0	0	1	8	10	0	0	3	8	8

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 home high school (eight mentions), their own children (four mentions), friends of their children (four mentions), and letters (two mentions).

When parents were asked which kinds of students did they think would benefit most from a career education, there seemed to be little consensus of opinion among the 17 parents who responded to the item. Table 18 categorizes and displays parents' replies to this question.

Table 18

Kinds of Students Who Benefit Most From EBCE

Type	Mentions	Percent
"Turned off"/unmotivated students	5	20
Students who are unsure about future plans	4	16
Students who aren't going to college	3	12
Mature students	3	12
Disadvantaged students	2	8
Students with special needs	2	8
Any/all students	2	8
Adventurous students	1	4
Students who need individualization	1	4
Don't know	2	8
Totals	25	100%

3. Summary

Hypothesis #10 was not rejected; parents of EBCE students did have positive attitudes toward the EBCE program.

K. Hypothesis #11

The eleventh hypothesis was that experience site resource persons and contact persons (hereafter designated as "employer") at various levels of their organization will have positive attitudes toward the EBCE program.

1. Data Source

The data used to test this hypothesis were gathered from the Employer Interview Instrument which was administered to employers by AEL/EBCE staff in May and June of 1975.

2. Procedures

An instrument was developed (See Appendix G) in order to collect data for the purposes of this study. Thirty-six (36) experience sites were randomly selected to be surveyed from a list of 80 active experience sites for the FY'75 school year. The employer at each experience site was contacted by telephone, and at this time an appointment was made for a face-to-face interview at a later date. Thirty-one experience site personnel were reached and interviewed.

A standardized data collection procedure was followed during each interview to insure similar exposure of each interviewer to the interview instrument. At the beginning of each interview, the interviewer reviewed the reasons for the study. All information which related to the standard questions was recorded, along with any additional comments or suggestions made by employers which the interviewer felt to be of importance.

3. Findings

Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Eighty-four

percent (n=26) of the employers rated the EBCE program as being moderately effective to very effective, and 84% (n=26) believed that their organization would continue to participate in the Experience-Based Career Education program in coming years. (Four of the remaining five employers were unsure of their organization's continued participation in the EBCE program.)

Twenty-two of the 31 employers (71%) felt that the EBCE staff had provided them with the necessary information to direct students' activities. Twenty-five employers (81%) believed the EBCE program functioned as they had been initially led to believe.

Eighty-seven percent of the employers (n=27) 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=25); (2) talking about activities at the job site (n=22); (3) talking about job opportunities (n=18); (4) helping plan students' assignments (n=18); and (5) evaluating individual student's assignments (n=12). (For a more detailed breakdown of services rendered by employers to EBCE students, see Table 19.) The employers mentioned an average of 5.4 services that they rendered to students.

Most employers (87%; n=27) believed that the greatest strengths of the EBCE program were in the area of career planning and decision-

Table 19

Supportive Services Provided by Employers to EBCE Students

Service Provided	Frequently	Occasionally	Seldom	Never	No Answer
Supervision of students in job-related tasks	25	1	1	1	3
Talking about job site activities	22	4	0	2	3
Talking about job opportunities	18	9	0	1	3
Helping plan students' assignments	18	4	0	6	3
Evaluating individual students' assignments	12	5	3	8	3
Talking about students' personal problems	2	10	7	9	3
Tutoring in an academic area	2	7	4	15	3
Assisting students in non-job-related assignments	1	6	7	13	4
Other	3	4	0	0	24

making. 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-four percent (n=31) of employers' comments mentioned favorable reactions toward EBCE students from employees, and 90% (n=28) of employers' comments mentioned favorable reactions toward EBCE students from top-level management.

Fifty-five percent of the respondents (n=17) believed that EBCE students' presence at their experience site had positive impact on the amount of work performed by regular employees; 32% of the employers (n=10) 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 26% (n=8) of employers, and 19% (n=6) 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 a more detailed breakdown of the answers to this question, see Table 20).

Several employers suggested that specific changes be made in FY'76 to ameliorate certain program weaknesses . Six employers (19%) felt that there should be closer supervision of experience site activities by EBCE staff; five (16%) wanted the opportunity to decide about the timing and/or length of site placements. Six employers (19%) felt that there should be better matching of students and

Table 20

Impact Reported by Employers on Company Policies and Practices

Impact Area	Amount of Impact: No Impact	Some Impact	Much Impact	Don't Know/ No Answer	Value of Impact: Good Impact	Bad Impact	Don't Know/ No Answer
Quality of employee work	20	8	1	2	10	0	21
Amount of employee work	9	19	1	2	17	3	11
Company hiring practices	21	6	0	4	6	0	25
Company training practices	21	8	0	2	8	0	23
Other	0	16	3	16	15	3	17

experience sites in order to insure successful site placements. Another frequently-mentioned weakness, cited five times, was poor communication between EBCE staff and experience site personnel.

4. Summary

Hypothesis #11 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.

L. Hypothesis #12

The twelfth hypothesis to be tested was that graduates of the EBCE program will demonstrate positive attitudes toward learning environments (if students) or demonstrate job satisfaction (if employed).

1. Data Source and Procedures

During May and June of 1975, a follow-up study of the students who had graduated from EBCE in 1973 and 1974 was initiated by AEL and the Educational Testing Service (ETS). The study was conducted jointly by AEL and ETS staff, and ETS staff was responsible for collecting all data. The two groups jointly prepared a nine-page 37-item interview schedule (See Appendix H) and 111 of the 128 students (86.7%) were located. The final sample was made up of 34 students who graduated from the EBCE program in 1972-73 and 77 who graduated in 1973-74 (See Table 21). Those data amenable to such treatment were coded and tabulated. The responses to the short-answer, open-ended questions were grouped as seemed most appropriate for each question. The responses to both types of questions are summarized in the following paragraphs.

2. Findings

The student groups were about equally represented by sex, and 40.5% of the group either had been or were presently enrolled in some form of post-secondary training as of June, 1975. About two-thirds of the graduates live with their parents, and 86.5% have remained single. Almost half of the EBCE graduates are now working full-time, and slightly more than one-third are now full-

Table 21

Number and Percent of EBCE Graduates

Interviewed by Semester and by Sex*

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Male	13	81.2	8	44.5	12	37.5	22	48.9	55	49.5
Female	3	18.8	10	55.5	20	62.5	23	51.1	56	50.5
Total	16	100.0	18	100.0	32	100.0	45	100.0	111	100.0

*Students enrolled in EBCE during 1972-73 and 1973-74 were either enrolled for a full year (both fall and spring semesters) or for only one semester (spring). Tables 21 through 32 reflect this enrollment pattern.

time students (See Table 22).

Of the total sample, 61.3% reported no difficulty with obtaining employment (See Table 23). Those who did have some difficulty (38.7%) either reported that they didn't know the reason for their lack of success or that they didn't follow up on specific job applications. The most frequent reason for being unable to obtain employment related to the poor job market and some former students mentioned that they did not have particular qualifications for jobs in which they were interested.

Of the students who had worked, the most frequent occupational class was general labor or community or public service (See Table 24). Some reported holding secretarial, clerical, or office worker positions. Most of the graduates gave "money" as their primary reason for obtaining employment, and more than one-fifth of the students indicated that they were working to obtain money to further their education. About 15% indicated that they liked to work or that there was no other acceptable alternative. The students appeared to be pretty well satisfied with their present status and with the course of their careers (See Table 25). They felt that their careers were likely to turn out somewhat better than the careers of other people their age. (About two-thirds of the students indicated that they were much more satisfied with how their careers were likely to turn out than with how the careers of people their own ages were likely to develop.) They were more impressed with future career probabilities than they were with their present status, which indicated a desire to improve their career standing. About three-fourths of the graduates indicated a desire to work at a job

Table 22

Present Activity of EBCE Graduates*

Activity	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Unemployed-Not Looking For Work	0	0	0	0	2	6.2	1	2.2	3	2.7
Unemployed-Looking For Work	2	12.5	2	11.1	5	15.6	5	11.1	14	12.6
Housewife	0	0	3	16.6	3	9.4	1	2.2	7	6.3
Full-Time Student	5	22.7	6	33.3	6	18.7	22	48.8	39	35.1
Part-Time Student	2	12.5	2	11.1	1	3.1	1	2.2	6	5.4
Working Part-Time	2	12.5	2	11.1	9	28.1	9	20.0	22	19.8
Working Full-Time	11	68.7	10	55.5	11	34.4	19	42.2	51	45.9
No. Resp.	0	0	0	0	0	0	1	2.2	1	.9
Tot. Sample	16		18		32		45		111	

*The sum of numbers in columns may be greater than total sample size and sum of percent in columns may be greater than 100 because students were asked to respond to all categories that applied.

Table 23

Number and Percent of Graduates Who Tried for and Didn't Get Jobs and Their Difficulty in Getting Work

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Tried For										
Yes	2	12.5	8	44.4	12	37.5	8	17.8	30	27.0
No	5	31.2	9	50.0	9	28.1	17	37.8	40	36.1
No Response	9		1		11		20		41	
Total	16		18		32		45		111	
Reported Difficulty										
None	13	81.2	13	72.2	16	50.0	26	57.8	68	61.3
Some	2	12.5	3	16.7	8	25.0	12	26.7	25	22.5
Much	1	6.3	2	11.1	7	21.9	5	11.1	15	13.5
No Response	0		0		1		2		3	
Total	16		18		32		45		111	

Table 24

Kind of Work in Which EBCE Graduates Are or Have Been Engaged

Area	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Engineering, Physical Science, Mathematics, and Agriculture	0	0	0	0	0	0	0		0	0
Medical and Biological Sciences, Agriculture, Forestry	0	0	0	0	0	0	1	2.6	1	1.0
Business Administration, Accounting	0	0	0	0	0	0	0	0	0	0
General Teaching and Social Service	0	0	0	0	1	3.4	1	2.6	2	2.0
Humanities, Law, Social and Behavioral Sciences	0	0	1	6.2	0	0	0	0	1	1.0
Fine Arts, Performing Arts	1	6.2	0	0	1	3.4	0	0	2	2.0
Technical Jobs, Computer Applications, Communications	2	12.6	1	6.2	4	13.9	0	0	7	7.0
Proprietors, Sales	1	6.2	2	12.5	0	0	4	10.2	7	7.0
Mechanics, Industrial Trades	0	0	1	6.2	3	10.4	1	2.6	5	5.0
Construction Trades	0	0	0	0	1	3.4	1	2.6	2	2.0
Secretarial-Clerical, Office Workers	3	18.8	5	31.3	1	3.4	12	30.7	21	21.0
General Labor, Community & Public Services	8	50.0	6	37.6	17	58.7	19	48.7	50	50.0
Military	1	6.2	0	0	1	3.4	0	0	2	2.0
Nothing	0	0	0	0	0	0	0	0	0	0
TOTAL	16	100	16	100	29	100	39	100	100	100

Table 25

Number of Students Who Were Satisfied/Dissatisfied

With Aspects of Present Job

1972-73 and 1973-74 Seniors

	Very Dissatisfied - Very Satisfied						Mean
	1	2	3	4	5	NA	(1-5)
Earnings	13	9	32	25	15	1	3.2
Duties	6	13	25	22	29	0	3.6
Job Security	13	11	24	12	34	1	3.5
Responsibility	5	6	24	27	33	0	3.8
Promotion	31	14	24	11	9	6	2.5
Benefits	26	12	13	6	26	12	2.9
Opportunities	15	12	19	25	23	1	3.3
Getting Along	3	2	10	25	52	3	4.3
Supervisor	10	5	12	22	43	2	3.9
Work Conditions	5	8	21	23	38	0	3.8
Number Responding							95

other than the one at which they are currently employed, but this response may have been influenced by college and university students working at part-time jobs. Students most satisfied with their current jobs were those who enrolled during the spring semester of 19/4, and this was the group with the highest percent of students participating in some educational or training program.

More students aspired to the medical and biolcgical sciences (23.4%) than any other major category of occupations, and the second most popular occupational category was general teaching and social service (15.9%). There was wide dispersion of preferences across all categories of occupations. In self-comparisons with persons their own age, the graduates were pretty well satisfied with their progress to date and were especially well satisfied with their chances for success in the future. More than half of the graduates reporting rated the career condition, "getting along with fellow workers", as "very satisfied" in their present job, and they were least satisfied with the attribute designated "opportunity for promotion or advancement". Social considerations and opportunities for promotion were considered more important to EBCE graduates than were present earnings, specific job assignments, job security, or present opportunities to use their knowledge and ability.

Thirty-seven of the students (75%) participating in educational or training programs were enrolled in four-year colleges or universities. Other training programs, with two students each included employer training programs, junior colleges, and Armed Services training programs.

More graduates continuing their education were studying in the areas of medical and biological sciences, including agriculture and forestry, than any other category. That area was followed closely by the general teaching and social service category. Almost three-fourths of the graduates (72.3%) reported that they were satisfied with their educational program (See Table 26). Most of them (69.8%) indicated that their reason for pursuing their educational program was "to pursue a chosen career". No students indicated that "parent pressure" was a main reason for choosing an educational program, and only one reported that "pressure from friends" was a reason. In an open-ended question, ten students indicated that pursuit of career opportunities was a major reason for participating in educational programs, and another ten gave a statement classified as an attempt to obtain knowledge. One 1974 spring semester student said, "I wanted an education that would serve me and let me go on and learn." Another indicated, "Experience, independence, getting away from home, and fun" in that order.

When asked about what kinds of subjects or skills they would like to learn in the next five years, the most frequent response was again classified as medical and biological sciences, and the second most frequent pertained to general teaching and social service (See Table 27). However, the most impressive aspect of the responses was the wide variation and precise specification of career areas. For example, the listing of subjects or skills included management finance, physical therapy, law, business math, dental hygiene, and forestry.

More than one-fourth of the graduates expected to complete a four-year college degree, 17 aspired to a M.A., and six hoped to

Table 26

Satisfaction With Educational Programs

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Satisfied	5	71.4	4	44.5	7	70.0	18	85.7	34	72.3
Not Satisfied	2	28.6	3	33.3	1	10.0	1	4.8	7	14.9
Not Sure	0	0	2	22.2	2	20.0	2	9.5	6	12.8
Total	7	100.0	9	100.0	10	100.0	21	100.0	47	100.0

Table 27

Subjects or Skills Which EBCE Graduates Wish to Learn About in Next Five Years

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Engineering, Physical Science, Mathematics, & Agriculture	2	12.5	0	0	0	0	0	0	2	1.9
Medical & Biological Sciences, Agriculture, Forestry	2	12.5	3	16.8	7	23.4	16	38.1	28	26.4
Business Administration, Accounting	4	25.0	2	11.1	0	0	4	9.5	10	9.4
General Teaching and Social Service	1	6.3	6	33.3	6	20.0	11	26.2	24	22.7
Humanities, Law, Social & Behavioral Sciences	1	6.3	1	5.5	3	10.0	3	7.1	8	7.5
Fine Arts, Performing Arts	2	12.5	0	0	1	3.3	2	4.8	5	4.8
Technical Jobs, Computer Applications, Communications	2	12.5	3	16.8	5	16.7	0	0	10	9.4
Proprietors, Sales	0	0	0	0	0	0	1	2.4	1	.9
Mechanics, Industrial Trades	0	0	1	5.5	4	13.3	3	7.1	8	7.5
Construction Trades	0	0	0	0	0	0	0	0	0	0
Secretarial-Clerical, Office Workers	1	6.3	1	5.5	1	3.3	2	4.8	5	4.8
General Labor, Community & Public Services	0	0	0	0	1	3.3	0	0	1	.9
Military	0	0	0	0	0	0	0	0	0	0
Nothing	1	6.3	1	5.5	2	6.7	0	0	4	3.8
Total	16		18		30		42		106	

obtain a doctorate (See Table 28). Students who attended only spring semesters during each of the two years tended to have somewhat higher educational aspirations than students who attended the full year. This was probably due to a selection bias, since students who had completed all formal college requirements tended to have postponed entrance into EBCE until the second semester of their senior year. When asked how much money they expected to make five years from now, the category most frequently responded to was $10,000 to $14,999 per year (See Table 29).

The final section of the interview dealt with the graduates' attitude toward their EBCE experience. The aspect they liked most was classified as relating to work experience at sites (See Table 30). Comments included, "Got a chance to judge other working environments," and "I liked the way you could work at a job two weeks or more or less; you had a choice of such a wide variety of careers you could look into." Several students expressed a liking for the freedom to pursue career interests and others stated some preference for the learning coordinators or the administration of the EBCE Program. When asked for dislikes concerning the EBCE Program, more students responded positively than cirtically. A few of the students had criticisms concerning the administration; e.g., "red tape", and a few (4.5%) indicated socialization difficulties.

When asked to rate certain skills, the former students felt they had gained most in "ability to communicate with adults", and that skill area was followed by "learning specific job skills". The area in which they felt they had learned least was math skills. When the

Table 28

Planned Level of Formal Education

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Don't Know	4	25.0	1	5.6	4	12.5	4	8.9	13	11.7
High School	1	6.3	3	16.6	3	9.4	5	11.1	12	10.8
1-Yr. College	0	0	0	0	3	9.4	1	2.2	4	3.6
Business Center	0	0	0	0	0	0	0	0	0	0
Vocational or Technical	0	0	1	5.6	4	12.5	3	6.7	8	7.2
2-Yr. College	4	25.0	1	5.6	2	6.1	4	8.9	11	9.9
4-Yr. College	3	18.7	8	44.4	6	18.8	16	35.6	33	29.7
MA	2	12.5	4	22.2	7	21.9	4	8.9	17	15.3
Doctor	2	12.5	0	0	0	0	4	8.9	6	5.4
Other	0	0	0	0	0	0	2	4.4	2	1.8
No Response	0	0	0	0	3	9.4	2	4.4	5	4.6
Total	16		18		32		45		111	

Table 29

Expected Annual Income in Five Years

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Less Than $5,000	0	0	0	0	2	6.3	1	2.2	3	2.7
$5,000-$7,499	2	12.6	2	11.1	6	18.8	6	13.3	16	14.4
$7,500-$9,999	1	6.2	2	11.1	5	15.6	6	13.3	14	12.6
$10,000-$14,999	6	37.5	4	22.2	9	28.1	11	24.5	30	27.0
$15,000-$19,999	1	6.2	7	38.9	2	6.2	8	17.8	18	16.2
More Than $20,000	6	37.5	3	16.7	3	9.4	7	15.6	19	17.1
No Response	0	0	0	0	5	15.6	6	13.3	11	10.0
Total	16		18		32		45		111	

Table 30

Aspects of EBCE Program Liked Best

Aspect	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Freedom to pursue career interests	4	25.0	6	33.3	5	15.6	11	24.4	26	23.4
Work experience at job sites	7	43.8	5	27.8	16	50.0	11	24.4	39	35.1
Learning Coordinators or administration of program	4	25.0	3	16.7	5	15.6	13	28.9	25	22.4
Individualization and self-direction	1	6.2	3	16.7	4	12.5	7	15.6	15	13.5
Social aspects (e.g., meeting kids from other schools)	0	0	1	5.5	2	6.3	0	0	3	2.8
No Response	0	0	0	0	0	0	3	6.7	3	2.8
Total	16	100.0	18	100.0	32	100.0	45	100.0	111	100.0

graduates were asked what things they learned in EBCE are most useful to them now, the most frequent responses related to the social skills area. For example, one student answered, "how to deal with people." Another answered "getting along with people--how to communicate with people at job sites, and communicating with fellow workers." Almost all the former students (98%) gave graduation as their reason for leaving EBCE, and none of the 111 former students interviewed reported that they "dropped out" or were "asked to leave".

When asked if their time spent in EBCE had had a positive, negative, or no effect on their preparation for further education or jobs, a wide majority (more than 80%) of the graduates indicated a positive response for both categories (See Table 31). However, their first jobs after graduating from EBCE did not closely relate to their EBCE experience. Almost two-thirds of the students indicated that they were employed in a completely different occupation (See Table 32).

When asked if there were anything more that they would have liked to have received from the EBCE Program to assist them in further education or training, the most frequent response related to additional career experience. For example, one interviewer recorded "would have liked to have had another job site worked out, but she was short of time--should have been in the program sooner."

3. Summary

Hypothesis #12 was not rejected; former students do have positive attitudes toward learning environments or demonstrated job satisfaction. The EBCE graduates from the past two years have selected a wide range of careers and training programs. They feel that they are progressing

Table 31

Type of Effect EBCE Had on Preparation for Further Education and Preparation for Jobs

Preparation for Further Education

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Positive	15	93.8	14	77.7	24	75.0	36	83.7	89	81.7
No Effect	1	6.2	4	22.3	5	15.6	7	16.3	17	15.6
Negative	0	0	0	0	3	9.4	0	0	3	2.7
No Response	0		0		0		2		2	
Total	16		18		32		43		109	

Preparation for Jobs

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Positive	14	87.6	15	83.3	27	84.4	37	86.1	93	85.3
No Effect	1	6.2	3	16.7	3	9.4	5	11.6	12	11.1
Negative	1	6.2	0	0	2	6.2	1	2.3	4	3.6
No Response	0		0		0		2		2	
Total	16		18		32		43		109	

Table 32

How Closely First Job After Graduating Related to EBCE Experience

	Seniors in 1972-73				Seniors in 1973-74				Total	
	Full Year		Spring Sem.		Full Year		Spring Sem.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Employed in Occupation	4	25.0	1	6.2	2	6.4	8	20.5	15	14.7
Related Occupation	5	31.2	8	50.0	5	16.1	7	17.9	26	25.5
Different	7	43.8	7	43.8	24	77.4	24	61.5	62	60.7
No Response	0		2		1		6		9	
Total	16		16		31		39		102	

at a rate somewhat better than persons their own age, and are quite positive concerning their EBCE experience. Although they have not held jobs identical to those visited during their EBCE experience, former EBCE students did indicate that the EBCE program had a positive effect on their preparation for jobs. They feel that their ability to communicate and to get along with people are the most valuable skills they gained from participation in the EBCE Program. They suggest expanding the number and variety of experience sites, as they regard that as the most valuable aspect of EBCE.

Section 5

Formative Evaluation

A major component of EBCE evaluation (called formative evaluation) involved the assessment of program components to insure that every component worked as well as possible, both in isolation and as it meshed with other components. It was a process which sought information to answer the questions: Is it necessary? How good is it? How can it be improved?

Results of formative evaluation of the AEL/EBCE Program were designed to have an impact on the audiences served (project director, program developers, and operational managers), timelines of information, and program decision-making. Formative evaluation focused its attention on three major areas: the AEL/EBCE project, the Kanawha County School System (KCSS) EBCE project, and a comparison of the two projects.

A set of formative evaluation questions relating to the uniqueness of each project and the commonalities of both projects were delineated. Procedures were established to provide data relating to each question. This section of the report presents each question and the major results related to the evaluative investigation of each particular question.

Formative Questions

The first seven questions are related to the EBCE delivery system, and the next two questions are related to the impact of the program on students. The next four questions are related to implementation and student recruitment/orientation, and the last four questions are related to experience sites in the community.

Question 1. Do learning coordinators (LC) have all the information needed to complete a student's folder?

Answer 1. Almost every item specified on a Student Folder Checklist

was included in students' folders at AEL and KCSS. It appeared that learning coordinators' student folders were for the most part, quite complete. Even where items were missing, e.g., transcripts, there appeared to be a good reason for their absence - lack of need for these data except on a periodic basis.

Items which were most frequently missing from student folders were Career Guides, Student Evaluation Forms, and Site Visit Reports. It is possible that these missing data were of limited value to the LCs, because they often obtain oral feedback from students and employers; however, the items may be of substantial value to evaluators and EBCE replicators.

It should also be noted that there was no consensus as to what "must" be in a Student Folder. The checklist generated by the Evaluation Unit was an attempt to standardize the investigation procedure. In one check of a sample of folders, there were four items which were found in all folders, but the items were not listed on the checklist. Hence, the investigator documented what was contained in the student folders, rather than attempting to judge whether or not the folders were complete.

Question 2. How many students leave the EBCE program during the school year (either to return to high schools or to drop out of school) and why do these students leave?

Answer 2. A check of student records at AEL indicated that 10 of 84 students left EBCE during the school year. Five of these 10 students were enrolled in EBCE for about one week (basically during student orientation) and five were enrolled one complete semester. Of the five students enrolled about one week, two had transportation problems, one had money problems, one left to get married, and the other felt that there

was not enough structure or in-depth courses. Of the five students enrolled one complete semester, two wanted to be with their original peer group, one had transportation problems, one wanted advanced courses, and one got married.

A check of student records at KCSS indicated that 13 students left EBCE during the school year. Five students left EBCE after five weeks or less, one left after two months, one left after three months, three left after one semester, and three left after about six months. Of the five students who departed very quickly, two wanted to return to their classes, one had a money problem, one didn't like going to job sites, and one just quit coming to school. The two-month enrollee had a health problem, and the three-month enrollee wouldn't go to experience sites. Of the three students enrolled one semester, one left EBCE for health reasons, one wanted a college preparatory curriculum, and one had a money problem. Of the three students enrolled about six months, two had a health problem, and one simply quit school.

Question 3. Are students satisfied that their needs and interests are accurately reflected in their experience site placements?

Answer 3. Utilizing the Student Perceptions of Experience Site formative evaluation questionnaire, it was found that at AEL the great majority (83%) of students returning questionnaires indicated that the experience sites where they had just completed placements were ones that they had previously selected on Experience Site Selection forms. While placed at experience sites, many responding students (49%) stated that they "participated (in activities) a great deal," and 28% thought that they had "observed and participated about equally." (Thirteen percent indicated that they had "observed mostly" but very few (2%) indicated that they had "loafed mostly."

Most students (62%) estimated that their resource persons spent 51-100% of their time with them. (Forty-four percent of student respondents estimated that their resource persons spent at least 76% of their time with them.) The most common overall impression student respondents had concerning their resource persons was "liked very much" (69%) and "liked some" (20%). Only four percent of all student respondents indicated any dislike for their resource person. Student respondents most frequently described their experience site resource persons as "very helpful" (66%), "always available" (48%), or "frequently available" (27%), "very warm" (37%) or "warm" (38%), "very interested in me" (32%) or "much interested in me" (25%), and "very excited about his / her work" (32%) or "somewhat excited about his / her work" (42%).

Comments made about experience sites tended to be of a general nature and positive in content. Of a total of 144 comments made by students, 121 were positive, 21 were negative, and two were mixed or neutral in content. The two comments most frequently mentioned related to a positive feeling about their site placements (42 mentions) or resource persons (40 mentions).

Question 4. What is the comparability in processes between AEL/EBCE learning coordinators and KCSS learning coordinators in terms of duty performance?

Answer 4. At both AEL and KCSS, learning coordinators appeared to be developing and evaluating student Activity Sheets when not engaged in site visiting. They seem to have a good relationship with their students which is rather informal, and they are fairly tolerant of the high number of interruptions of their activities which occur. Many interactions occur between students and their learning coordinators, as they are in

close proximity. Students seem to feel free to interrupt their learning coordinator when necessary.

When a student goes to another part of the building at KCSS/EBCE, he/she must check out with his/her learning coordinator who must fill out the appropriate form each time this occurs. Several school activities (i.e., signing up of teachers for faculty baseball team, picture-taking for Board of Education film, selling candy and announcements) often interrupt the flow of activities. This is not the situation at AEL.

At KCSS/EBCE no scheduled appointments were noted, while at AEL/EBCE students were scheduled for appointments with their LCs. At AEL's EBCE students tend to meet with their LCs for 15-45 minutes at the beginning of the school day, while at KCSS/EBCE students usually meet with their LCs more frequently but for briefer periods on an "as-needed" basis.

The data gathered on the comparability of processes indicate that the students at KCSS/EBCE and AEL/EBCE projects exhibit similar behavior patterns during school. However, the following differences in the two EBCE programs may be noted;

a) Students tend to arrive earlier and stay later at KCSS/EBCE than at AEL/EBCE.

b) AEL/EBCE students frequently engage in group activities, whereas in the KCSS/EBCE program, there are fewer interactions among students.

c) Some KCSS/EBCE students attend formal, structured classes; while most AEL/EBCE students do not.

d) The "in-house" days at KCSS/EBCE are more academically oriented, while "in-house" days at AEL/EBCE tend to be more socially oriented.

Question 5. What are the criteria for assigning actual credit value to student products?

Answer 5. Creidt and grading procedures used by the learning coordinators appeared to incorporate the guidelines presented in the Basic Procedures Manual, but seem to be much more detailed. However, three of the four criteria most often cited by LCs in determining the value of an activity (i.e., quality of a product, time and effort involved in completion, work handed in 'on time' vs. 'late', and student's ability level) are somewhat subjective in nature. Nevertheless, it seems that they should all be taken into consideration in the grading process.

Question 6. What AEL/EBCE Program components, if any, did Kanawha County School System find necessary to add/delete/revise?

Answer 6. In preparing a Student Activity Sheet, KCSS learning coordinators found Program Area Descriptors to be of most help to them. However, neither of the learning coordinators found any of the sources very helpful. The guide to in-house materials found in the Cross Reference Catalog (CRC) was felt to be least helpful; both learning coordinators found them not helpful at all. Learning Guides, Core (standard) Activity Sheets, and the CRC were also believed to be of little or no help.

Both learning coordinators indicated that occasionally it was difficult to locate information needed to plan student activities. They

indicated the following as reasons for this condition existing:

a) Often the CRC was inaccurate or incomplete;

b) Not enough copies of some source materials were available; and

c) Persons ordering core material were not familiar enough with the subject matter to order.

One learning coordinator felt that various procedures and duties were adequately documented in the Need, Rationale, Procedures (NRPs) Manual; the other one indicated that the NRPs has much too much on some things and not enough on others. The LC also indicated that more accuracy, better organization, correct grammar, and more sophistication in writing were needed modifications.

One learning coordinator indicated that all information sources should be updated and checked for accuracy, spelling, grammar, organization, etc. The other learning coordinator felt that the CRC should be revised to correct errors and include appropriate materials. She felt some core materials needed to be expanded to include more variety of ability levels and new and updated materials. She also felt that "no text" items should be eliminated from the CRC.

In summary, KCSS/EBCE has not changed or deleted program components. They have added resource materials above and beyond core materials in an effort to personalize resources and meet the students' abilities.

Question 7. What personnel, different from AEL/EBCE, does a school system require for program operation?

Answer 7. The Director of the KCSS/EBCE Program and the learning coordinators were queried throughout the year about personnel needs required for successful program operation. Their comments indicated

that a school system ideally needed a county coordinator (assuming more than one school was involved), back-up learning coordinators as substitutes during occurrences of illness, accidents, etc., and a full-time community liaison person to interact with site personnel and help in the development and analysis of experience sites.

Question 8. What are student perceptions of experience sites?

Answer 8. Most of the KCSS/EBCE students surveyed seemed satisfied with the EBCE Program and with their experience site placements, although the majority of them also perceived that there was need for improvements. Most students had positive or neutral responses toward all the site placements they had had. However, positive responses to a site may be a function of: 1) the personality of the resource person; 2) the variety of activities available; 3) the opportunity for hands-on experience; and/or 4) the congruence of a student's interests and aptitudes with opportunities for career exploration available at the site.

The majority of responding AEL/EBCE students (55%) felt that while they were at experience sites they were treated most like employees. (Thirty-four percent indicated that they were treated most like students, and 11 percent felt that they were treated most like guests.) Most student respondents rated their experience sites as "excellent" (39%) or "above average" (31%), while a total of only 4% rated their experience sites as "poor" and 2% as "very poor".

The data appeared to be quite positive in terms of students' perceptions of experience sites. While there are instances of negative student reaction, it must be mentioned that students are enrolled in a program which does not function totally in the confines of a

traditional school setting. Instead, they associate with people having various personality characteristics and employment responsibilities. Perceptions are a function of interpretations, which are related to the environment in which the interactions occurred. Nonetheless, students' perceptions of experience sites and of resource persons were still very positive.

Question 9. How does the typical day of a KCSS/EBCE student differ from an AEL/EBCE student?

Answer 9. The data gathered indicate that the students at KCSS/EBCE and AEL/EBCE projects exhibit similar behavior patterns during the school day. However, the following differences in the two EBCE programs may be noted:

a) Students tend to arrive earlier and stay later at KCSS/EBCE than at AEL/EBCE.

b) AEL/EBCE students frequently engage in group activities, whereas in the KCSS/EBCE program, there are fewer interactions among students.

c) Some KCSS/EBCE students attend formal structured classes, while most AEL/EBCE students do not.

d) "In-house" days at KCSS/EBCE are more academically oriented, while "in-house" days at AEL/EBCE tend to be more socially oriented.

e) At KCSS/EBCE no scheduled appointments with students were noted, while at AEL/EBCE students were scheduled for appointments with their learning coordinators.

f) At AEL/EBCE students tend to meet with their LCs for 15-45

minutes at the beginning of the school day, while at KCSS/EBCE students usually meet with their LCs more frequently but for briefer periods on an "as-needed" basis.

Question 10. What are the relative effects of the different methods used to acquaint students with EBCE?

Answer 10. Analysis of recruitment questionnaires strongly indicated that the objectives of recruitment and orientation were met at AEL/EBCE. However, some recruitment methods (e.g., ads in media, assemblies, newspaper articles, booths at schools) seemed to have been relatively ineffective as perceived by students.

The exposure tour taken by AEL/EBCE students was of some interest and seemed to have been of value; students indicated that they would have been interested in seeing sites in different occupational fields rather than just one site. Students did not seem to have enough information regarding the purpose of the Program Outline and the Program Area Descriptor, but this knowledge may not have been necessary for them to have had during orientation.

Almost all AEL/EBCE students (52 of 63) believed all of the objectives which the staff thought were important for orientation had been accomplished. Forty-five thought that there was nothing about orientation that they would change; of the 17 who wanted changes, there was little agreement regarding what should be changed.

Students found out about EBCE in a variety of ways, although most (40 out of 63) believed that they had found out about the Program from only one or two sources. The four most successful means of publicizing the program were through former EBCE students, through pamphlets dis-

tributed at the schools, through letters, and through high school counselors. Based on the memory of students recruited for this school year, there was little difference in effectiveness between former students and pamphlets or between letters and counselors, although there was some difference in effectiveness between the leading two recruitment methods (friends who were former students and pamphlets) and the next most successful (letters and counselors). Most AEL/EBCE students believed that the program staff did a good job of describing the EBCE program to the public.

Analysis of data collected on KCSS/EBCE orientation indicated that recruitment objectives were met. A number of students and an LC suggested alternative recruitment methods which might be utilized in future recruitment efforts. Several students also made suggestions regarding changes in orientation, but no particular trend emerged here.

As at AEL/EBCE, KCSS/EBCE students did not seem to have enough information regarding the Program Outline and the Program Area Descriptor, but, again, this knowledge may not have been necessary for them to have had during orientation.

Question 11. Why do students choose to participate in EBCE?

Answer 11. At AEL/EBCE over 40% of the students surveyed stated that they chose to participate in the EBCE program because they wanted to learn about jobs, careers, and the world of work in general. About 25% of the students also mentioned that they chose to participate to "get out of" the traditional school system. Other frequently cited reasons were "help with career decision-making" (15%) and "work experiences that will help in the future" (6%).

Students choosing to participate in the program seemed to be individualistic, independent persons who were "turned off" by the traditional school system but were also interested in learning about the world of work in a setting which makes allowances for individual differences and provides them with more opportunities to demonstrate responsibilities and independence.

These results appeared to be duplicated at KCSS/EBCE. Almost 50% of the KCSS/EBCE students surveyed joined the EBCE program to learn about the world of work and/or to obtain help in career decision-making. About one-third of the KCSS/EBCE students joined the program because they were "turned off" by traditional classroom activities.

Question 12. What is the comparability of attendance between KCSS, AEL, and traditional schools?

Answer 12. Total attendance rates in the KCSS/EBCE and AEL/EBCE programs during October through December, 1974 were found to be very similar: 89.8% at AEL/EBCE and 88.6% at KCSS/EBCE. These rates were highly similar to the 89.9% total attendance rate for all Kanawha County high schools in 1973-74. In both EBCE programs, attendance rates were at their lowest during December, but the reason for this is not known.

The breakdown of AEL/EBCE attendance data by students' home high school indicated that attendance rates of students from different high schools vary greatly between schools and within schools. Students from Charleston Catholic High School and South Charleston High School had the highest attendance rates for the entire period (95.9% and 94.3% respectively). Differences in attendance rates may be partially due to the transportation problems experienced by students who live

farthest from the EBCE site, since most of these students formerly attended schools which were 15-20 miles away. The local text book controversy may also have contributed to the differential attendance rates.

Question 13. What technical assistance does KCSS require from AEL in implementing EBCE?

Answer 13. Technical assistance was provided by AEL to KCSS throughout the 1974-75 school year. The major portion was at the beginning of the year and then for specific tasks throughout the year. Technical assistance was provided to KCSS in the following areas: 1) development of recruitment strategies and recruiting students; 2) development and/or formation of a goal and evaluation structure; 3) administration of evaluation instruments and test interpretation; 4) participation occasionally at weekly staff meetings to discuss program related items; 5) the obtaining of site placements for students; and 6) consultations on program management and operations.

However, it was felt by KCSS and AEL personnel that there were certain areas in which technical assistance could have been provided or provided in greater depth. Technical assistance would have been useful in development and analysis of sites and in writing Learning Guides. More technical assistance in integrating the two curriculum systems (KCSS/CHS and AEL/EBCE) would have been helpful. Finally, additional technical assistance in test interpretation would have been useful.

Question 14. What are the major perceptions of EBCE students?

Answer 14. When these persons were questioned, they

perceived the KCSS/EBCE and AEL/EBCE students in a very positive manner. It appears that the students were performing adequately and resource persons were satisfied with the students' behaviors. About 95% of the employers' ratings of students' personal qualities were of a positive nature. Students were usually rated highest on friendliness and courtesy and lowest on exercising good judgment, reporting to the site on time, or working neatly and accurately.

Question 15. How does KCSS handle experience site maintenance?

Answer 15. Many of the experience sites utilized by KCSS/EBCE were originally developed and analyzed by AEL/EBCE during the preceding years. Consequently, when KCSS/EBCE began operation, they initiated site placements through AEL/EBCE. AEL/EBCE maintained these experience sites through resource person workshops, through telephone contacts, and through the Community Advisory Council.

However, KCSS/EBCE did develop several experience sites which were in close proximity to Charleston High School where the KCSS/EBCE program operated. The Director of the KCSS/EBCE program did all site development and analysis, and liaison and site maintenance activities.

Question 16. Are there attitudinal differences between those experience site personnel involved with AEL versus KCSS?

Answer 16. The data indicated that most resource persons sampled perceived the AEL/EBCE and KCSS/EBCE students in a very positive manner. It appears that the students were performing adequately and resource persons were satisfied with the students' behaviors.

Most of the students surveyed seem to be satisfied with the EBCE program and their [illegible]e site placements, although the majority of

them also perceive that there is room for improvements. Most students had positive or neutral responses toward all the site placements they had had.

Thus, it appeared that there were no attitudinal differences between those sites involved with AEL versus KCSS students. It should also be pointed out that KCSS/EBCE and AEL/EBCE students utilized the same experience sites in many cases. Consequently, many employers were not overly concerned about the students' origins (in terms of whether they were AEL or KCSS students), but only about their interest, conduct, and performance while at the experience site.

Question 17. What differences occur in experience site utilization between students involved in AEL versus KCSS?

Answer 17. During the period from September, 1974 through February 1975, KCSS/EBCE students utilized 38 joint experience sites and all KCSS/EBCE exclusive sites. On the average, experience sites where KCSS/EBCE students were placed (exclusives and non-exclusives) were used 2.14 times, and each site placement averaged 14.90 days in length.

During the same time period, AEL/EBCE students used 79 experience sites. Experience sites where AEL/EBCE students were placed (all non-exclusive) were used an average of 1.08 times, and each placement averaged 17.77 days in length. The difference in the extent of site utilization between the two programs is probably due to the greater number of sites developed by AEL/EBCE; it is also interesting to note that in length of placement both programs proved to be quite similar.

Section 6

Summary, Conclusions, and Recommendations

Summary

The Appalachia Educational Laboratory's (AEL) Experience-Based Career Education (EBCE) Program has been in existence for three years. Originally, the project was funded by the United States Office of Education (USOE), later by the National Institute of Education (NIE). The directive from USOE was to develop a community-based alternative career education program for high school seniors.

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 project began operation with 22 students in the fall and recruited 23 more students in January. There were 35 experience sites originally participating and another 45 sites were developed and analyzed.

The second year of operation was devoted to the refinement of all system components so that by June, 1974 the program would be stabilized into an integrated, transportable product. The project started the second year with 44 students in the fall and recruited 44 more students in January. At that time 80 experience sites were participating. During the second year approximately 40 more sites agreed to participate giving a total of about 120 experience sites.

The third year of operation of the AEL/EBCE Program was spent in refinement of all sub-systems and materials, in preparation for the forthcoming training and implementation cycle of the EBCE program. There were 74 students enrolled at the end of the year and 59 of these were graduating seniors. The number of experience sites was expanded to about 145. Randomly-selected experimental and control groups were utilized to evaluate the effects of program participation. A high school in the

local Kanawha County School System (KCSS) also field-tested the EBCE program during the 1974-75 school year.

Description of Student Populations

There were five distinct groups of students which contributed to the evaluation of the EBCE program in FY'75. Three of the five groups participated in EBCE and two groups were identified as controls. The five groups of students were:

E1: Volunteer students who were randomly assigned to the AEL/EBCE Program.

E2: Volunteer students who joined the AEL/EBCE Program under non-random conditions.

E3: Volunteer students who joined the KCSS/EBCE Program at Charleston High School under non-random conditions.

C1: Volunteer students who were randomly assigned to the control group and remained in their home high schools.

C2: Volunteer students who were initially randomly assigned to the AEL/EBCE Program but subsequently elected to remain in their home high schools and volunteered to serve as non-randomly selected controls.

Evaluation Design

Questionnaires and standardized tests were administered to all students to establish the effect of the AEL/EBCE Program on academic, attitudinal, and maturational variables. The Student Information Questionnaire (SIQ), an instrument constructed to provide baseline demographic data, was administered to all groups at the beginning of the school year. The Comprehensive Tests of Basic Skills (CTBS),

a standardized test containing reading comprehension, arithmetic concepts, and arithmetic applications subtests, was used with all five groups in a pre-post fashion to assess basic academic performance. The Career Maturity Inventory (CMI) a standardized test containing a career attitude scale and subtests of several areas of career-related competencies was administered as a posttest to groups E1, E2, C1, and C2 and as a pretest and posttest to group K1. The Assessment of Student Attitudes (ASA), an instrument to assess students' attitudes and opinions about their learning environments, was administered as a posttest to all five groups. Parents, employers at experience sites, and former students (graduates) were also questioned to assess other impacts and effects of AEL/EBCE Program involvement. A univariate analysis of variance and correlated t-tests were used to analyze the summative evaluation data, and formative evaluation data was analyzed utilizing tabulations and descriptive statistics.

Summative Findings

The impact and effect of the EBCE program on various respondent groups was determined by testing a number of hypotheses. Appropriate statistical analyses were conducted to test the main effects associated with each hypothesis.

Students. A correlated t-test on pretest and posttest CTBS scores indicated that E1 students did not show increased mastery in basic academic skills. Analysis of variance performed on CTBS pretest scores of groups E1 and C1 indicated equivalency (negating the need for analysis of covariance techniques) between the two groups. Analysis of variance performed on CTBS posttest scores of groups E1 and C1 also indicated

no significant differences. Hence it was concluded that in basic academic skills the E1 students had performed as well as the C1 students in traditional high schools.

Analysis of variance of posttest CMI Competency subtest scores indicated that E1 students did not acquire significantly greater mastery than C1 students in the career knowledge areas as measured by the five competency subtests. However, analysis of variance of posttest CMI Attitude Scale scores indicated that the E1 students did acquire significantly greater ($p < .02$) career maturity than comparable C1 students enrolled in traditional high schools.

The posttest scores on the ASA were also treated by analysis of variance to determine if differences of attitudes toward learning environments existed between the E1 and C1 students. Significant differences (ranging from $p < .0001$ to $p < .0067$) were found for each of the four scales of the ASA and for the composite score. These results indicated that the E1 students had significantly more positive attitudes toward learning environments than C1 students.

A correlated t-test was performed on the pretest and posttest CTBS scores of K1 students to determine if they had acquired increased mastery in the basic academic skills. The results indicated that K1 students did not show increased mastery in the basic academic skills.

Correlated t-tests were also performed on the pretest-posttest CMI Attitude Scale and Competency Test scores of K1 students to determine if they had acquired increased mastery in career knowledge areas and if they had acquired increased career maturity. The results indicated that they showed no significant gains in career knowledge, as measured by the five CMI Competency subtests, over the school year. However, the

Charleston High School students enrolled in their own EBCE program did acquire increased ($p < .10$) career maturity.

Descriptive statistics were utilized to determine if K1 students had positive attitudes toward their learning environment. Analyses of posttest ASA subscale scores and the composite score indicated that the K1 students did possess positive attitudes toward various aspects of the educational system and toward the total learning environment.

Parents. A questionnaire was mailed out to a sample of parents of EBCE students to assess their attitudes toward the EBCE program. Most parents were very positive towards all aspects of the EBCE program. All parents were enthusiastic about the amount of opportunity the career education program provided for learning about occupations. Almost all (95%) parents thought that their child liked EBCE 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. Almost 85% of the parents thought that EBCE had had a good effect on helping their children in the formation of career plans. Parents also mentioned that they had noticed positive changes in their children that might be attributable to participation in the EBCE program (e.g., the students became more mature, and the students enjoyed school more).

Employers. A sample of experience site resource persons and contact persons were interviewed to determine their attitudes toward the EBCE program. Most employers were very receptive. They complimented EBCE strengths and offered suggestions for program improvement. Almost 84% of the employers rated the EBCE program as being moderately effective to very effective, and almost 84% believed that their company would continue to participate in the EBCE program in the coming years.

However, employers felt that there should be closer supervision of experience site activities by the EBCE staff, that there should be a better matching of students and experience sites, and that communication between experience site personnel and EBCE staff should be improved.

Graduates of EBCE. A follow-up study of the students who graduated from EBCE in 1973 and 1974 was initiated by AEL and the Educational Testing Service (ETS) to assess their attitudes toward learning environments (if students) or toward job satisfaction (if employed). Of the 111 students contacted from the total of 128 graduates, 34 graduated in 1973 and 77 graduated in 1974. Analysis of the data indicated that almost half of the EBCE graduates are now working full-time, and slightly more than one-third are now full-time students. Of the total sample, over 60% reported no difficulty with obtaining employment. The most frequent reason for being unable to obtain employment related to the poor job market or to the lack of qualifications for jobs in which they were interested. Of those participating in educational or training programs, 75% were enrolled in four-year colleges or universities. More graduates continuing their education were studying in the areas of medical and biological sciences, including agriculture and forestry, than any other category. Over 72% of the graduates reported that they were satisfied with their educational program.

When asked about their attitude towards their EBCE experiences, the aspect they liked most related to work experiences at sites. When asked if their time spent in EBCE had had a positive, negative, or no effect on their preparation for further education or jobs, more than 80% indicated a positive response for both categories. However, their first jobs after graduating from EBCE did not closely relate to their

EBCE experience. The graduates felt that their ability to communicate and to get along with people were the most valuable skills they gained from participation in the EBCE program.

Formative Findings

The results of formative evaluation of the EBCE program were designed to have an impact on various audiences and program decision-making. Formative evaluation focused on the AEL/EBCE Program, the KCSS/EBCE Program, and a comparison of the two programs. Results to a set of formative evaluation questions were obtained throughout the school year. The questions related to the EBCE delivery system, the impact of the program on students, implementation and student recruitment/orientation, and experience sites within the community.

EBCE Delivery System. A check of students' folders indicated that learning coordinators did have sufficient information to complete a student's folder. However, items missing from folders usually were of limited value to learning coordinators. A check of student records also indicated that nearly 50% of the EBCE dropouts occurred during the first week or two of school. The principle causes appeared to be related to transportation problems, money problems, or a desire to return to their original peer groups. An investigation was conducted of students' degree of satisfaction that their needs and interests were reflected in their experience site placements. It was found that over 80% of the students had just completed placements which were previously selected on Experience Site Selection forms.

When comparing the processes of the AEL/EBCE and KCSS/EBCE learning coordinators in terms of duty performance, it was found that the processes were very similar. The most notable difference was that AEL/EBCE

students were scheduled for appointments with their learning coordinators while the KCSS/EBCE students met with their learning coordinators on an "as needed" basis. Credit and grading procedures within the two EBCE programs appeared to incorporate the guidelines presented in the EBCE Basic Procedures Manual. Although AEL and KCSS operated the program in two different environments, KCSS did not change or delete any program components. They did add additional resource materials in an effort to personalize resources and meet the students' abilities. While KCSS did operate their EBCE program with just a Director of Operations and two learning coordinators, their comments indicated that a school system ideally needed a county coordinator (assuming more than one school was involved), back-up learning coordinators, and a full-time community liaison person to interact with site personnel.

Program Impact on Students. Both AEL/EBCE and KCSS/EBCE students perceived their experience site placements in a positive manner. Although KCSS/EBCE students had no negative responses toward their experience site placements, the majority of them indicated that there was need for improvements. Most AEL/EBCE students (70%) rated their experience sites as "excellent" or "above average."

Data collected at the AEL/EBCE and KCSS/EBCE sites indicated that the students exhibit similar behavior patterns during the school day. However, "in-house" days at KCSS/EBCE are more academically oriented, while "in-house" days at AEL/EBCE tend to be more socially oriented. AEL/EBCE students frequently engage in group activities, whereas there are fewer interactions among KCSS/EBCE students. Some KCSS/EBCE students attend formal structured classes, while most AEL/EBCE students do not.

Implementation and Student Recruitment/Orientation. Data obtained from recruitment questionnaires indicated that some recruitment methods (e.g., ads in media, assemblies, booths at school) seemed to be relatively ineffective. The four most successful means of publicizing the program were through former EBCE students, through pamphlets distributed at the schools, through letters, and through high school counselors. At AEL/EBCE over 40% of the students surveyed chose to participate in the EBCE program because they wanted to learn about jobs, careers, and the world of work in general. Almost 50% of the KCSS/EBCE students surveyed joined the EBCE program to learn about the world of work and/or obtain help in career decision-making. Attendance rates in the KCSS/EBCE and AEL/EBCE Programs during a three-month interval were found to be very similar: 89.8% at AEL/EBCE and 88.6% at KCSS/EBCE. These rates were highly similar to the 89.9% total attendance rate for all Kanawha County high schools in 1973-74. The major portion of technical assistance provided by AEL/EBCE to KCSS/EBCE was at the beginning of the school year and then for specific tasks throughout the year. This technical assistance was primarily in terms of recruitment and evaluation. More technical assistance in integrating the Charleston High curriculum and the AEL/EBCE curriculum would have facilitated implementation.

Community Experience Sites. Many of the experience sites utilized by KCSS/EBCE were originally developed and analyzed by AEL/EBCE, but KCSS/EBCE did secure several experience sites which were in close proximity to Charleston High School where the KCSS/EBCE program operated. AEL/EBCE maintained the jointly used experience sites and the Director of the KCSS/EBCE program maintained those experience sites used only by KCSS/EBCE students. During a six-month period KCSS/EBCE utilized 38 joint

experience sites and all KCSS/EBCE exclusive sites - an average of 2.14 placements per site with an average placement of 14.90 days in length. During the same period AEL/EBCE students used 79 experience sites - an average of 1.08 placements per site with an average placement of 17.77 days in length.

Employers at experience sites perceived the KCSS/EBCE and AEL/EBCE students in a very positive manner. About 95% of the employers' ratings of students' personal qualities were of a positive nature. Students were usually rated highest on friendliness and courtesy and lowest on exercising good judgment, reporting to the site on time, or working neatly and accurately. It appeared that there were no attitudinal differences between those experience sites involved with KCSS/EBCE and AEL/EBCE students. Although many AEL/EBCE and KCSS/EBCE students utilized the same experience sites, many employers were not concerned about the students' originating high schools, but only about the interest, conduct, and performance exhibited by students while at the experience site.

Conclusions and Recommendations

Several conclusions can be reached as a result of the formative and summative evaluation activities during FY'75. The conclusions are as follows:

a) The AEL/EBCE Program was very successful since it did successfully serve as an alternative career education program.

b) The AEL/EBCE Program was demonstrated to be an integrated, transportable product since it was successfully implemented in a local high school.

c) The AEL/EBCE Program was demonstrated to be an enjoyable experience since it was positively received by students, employers, parents, and former students.

It is recommended that:

a) A follow-up of graduates and control group students be done during FY'76. It is extremely important to follow these groups in order to obtain longitudinal data on the impact of participation in EBCE.

b) A study be conducted of the characteristics possessed by and skills required of a learning coordinator in order to perform successfully in an EBCE program.

c) A study be conducted which investigates the impact of the training of experience site resource persons, as it relates to interactions with students and resource persons' ability to implement the EBCE process.

APPENDIX A

Student Information Questionnaire

STUDENT INFORMATION QUESTIONNAIRE

Appalachia Educational Laboratory, Inc.
Charleston, West Virginia

The Experience-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_____

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, 1974)?

☐ 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. 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

8. 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 service 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)

9. What is your major field of study?

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

10. Under FATHER, circle the one number that best describes the work done by your father (or male guardian). Under MOTHER, cirlce 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
OTHER	15	15

11. What is your main reason for joining this program?

- ☐ Dissatisfied with last year's school program
- ☐ Want more information on careers
- ☐ Want a more personalized program
- ☐ I heard it's an easy program
- ☐ Other (Specify) _____

12. What activities did you participate in at school last year?

1. School Newspaper ____
2. Drama Club ____
3. Chorus ____
4. Band or Orchestra ____
5. Cheerleader ____
6. Team Sports ____
7. Individual Sports ____

Other (Specify) _____

13. How many school friends did you have last year with whom you interacted socially (outside of school hours) at least once a week?

None ____
1 to 5 ____
6 to 10 ____
11 to 15 ____
15 or more ____

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

____None
____One
____Two
____Three
____Four
____Five or More

APPENDIX B

FY'75 Data Analysis Plan For

Internal Summative Evaluation

APPALACHIA EDUCATIONAL LABORATORY

EXPERIENCE-BASED CAREER EDUCATION

FY'75 DATA ANALYSIS PLAN

FOR

INTERNAL SUMMATIVE EVALUATION

Joe E. Shively, Ph.D.
Director of Evaluation

Evaluation Unit
Experience-Based Career Education
Appalachia Educational Laboratory, Inc.
Charleston, West Virginia

February 28, 1975

TABLE OF CONTENTS

FY'75 Data Analysis Plan
For
Internal Summative Evaluation

Introduction

The Data Analysis Plan presented in this document summarizes the specific techniques and analytical procedures to be used by AEL in treating the data collected during the execution of the Internal Summative Evaluation Plan. Since the external design has not yet been made available by the external summative evaluation contractor, this document makes no attempts to coordinate such activities at this time but merely delineates those analytical procedures pertinent to providing AEL with evidence regarding product effectiveness.

Groups

The analyses will be performed on data gathered from the experimental and control groups which were established during the institution of the pre-treatment recruitment selection procedures.

These groups are designated as follows:

E1 Randomly selected new experimentals

E2 Non-randomly selected experimentals

C1 Randomly selected controls

C2 Non-randomly selected controls

K1 KCSS/EBCE students

Groups E1 and C1 were established in order that direct comparisons under experimental design conditions could be made. Groups E2 and C2 are comprised of various combinations of students (e.g., students from last year, volunteered as controls) and can be used for investigations under quasi-experimental conditions. Group K1 consists of

those students enrolled at Charleston High School in a nearly autonomously-operated EBCE situation.

Instruments

Data will be gathered from these groups through the administration of the following instruments:

1. Student Demographic Data Questionnaire (SDQ) - This instrument was constructed by the evaluation staffs of all four EBCE projects to provide common data on basic characteristics.

2. Comprehensive Tests of Basic Skills (CTBS) - This is a standardized test of basic academic performance. The reading comprehension, arithmetic concepts, and arithmetic applications subtests were used.

3. Career Maturity Inventory (CMI) - This is a standardized test of career attitude and several areas of career-related competencies.

4. Assessment of Student Attitudes - This instrument assesses students' attitudes and opinions about their academic and career education programs.

The SDQ was administered to all groups at the beginning of the school year to gather information on non-criterion variables. The CTBS will be used in a pre-post fashion to assess program effects. The CMI and the ASA will be administered as post-treatment instruments to groups E1, C1, E2, and C2 and in a pre-post fashion to the K1 group.

Primary Hypotheses

The following major hypotheses will be tested under experimental design conditions. All deal with one year effects of the AEL/EBCE Program:

1. Experimental students (E1) will acquire increased ($p<.10$) mastery in basic academic skills.

2. Experimental students (E1) will acquire significantly greater ($p<.10$) mastery in basic academic skills than control students (C1) in a traditional high school.

3. Experimental students (E1) will acquire significantly greater ($p<.10$) mastery in career knowledge than control students (C1) in a traditional high school.

4. Experimental students (E1) will acquire significantly greater ($p<.10$) career maturity than control students (C1) in a traditional high school.

5. Experimental students (E1) will develop significantly more positive ($p<.10$) attitudes toward learning environments than control students (C1) in a traditional high school.

Analyses

Statistical analyses have been selected to test the main effects associated with each hypothesis. These analyses are listed below and are numerically keyed to hypotheses.

1. Descriptive statist nd correlated t-tests on pretest and posttest scores of E1 group on CTBS.

2.a. Descriptive statistics of E1 and C1 pretest and posttest CTBS scores.

2.b. Analysis of variance on pretest CTBS scores of E1 and C1 groups.

2.c. Analysis of variance or covariance (depending on 2.b.) on posttest CTBS scores of E1 and C1 groups.

3.a. Descriptive statistics of E1 and C1 posttest scores on CMI Competency Subtests.

3.b. Analysis of variance on posttest CMI Competency Subtest scores of E1 and C1 groups.

4.a. Descriptive statistics of E1 and C1 posttest scores on CMI Attitude Scale.

4.b. Analysis of variance on posttest CMI Attitude Scale scores of E1 and C1 groups.

5.a. Descriptive statistics of E1 and C1 ASA posttest ratings.

5.b. Analysis of variance on posttest ASA ratings of E1 and C1 groups.

In addition to the testing of main effects, it is possible to study other effects associated with each hypothesis. Such investigation could consider variables such as sex, grade level, attendance, presenting levels, and demographic data. These analyses will be factorial in nature, utilizing grade level, experimental condition, and achievement level as classification factors.

Analysis 1 tests the hypothesis that E1 students gain significantly in basic skills mastery. The 2 series of analyses are designed to test the significance of differential growth in basic academic skills by the E1 and C1 group. Analysis 2a describes the growth of the E1 and C1 groups in basic skills. Analysis 2b tests the equivalence of the E1 and C1 groups at the beginning of the year and indicates the type of analysis needed in 2c. Analysis 2c tests the significance of the difference of increases in mastery of basic academic skills by the E1 and C1 groups.

The 3 series of analyses test the significance of differences in El and Cl mastery of career knowledge. Analysis 3a describes the El and Cl posttest mastery of career knowledge. Analysis 3b tests the significance of differences in mastery of career knowledge by the El and Cl groups.

The 4 series of analyses are designed to test the significance of differences of El and Cl career maturation. Analysis 4a describes the El and Cl groups on this measure. Analysis 4b tests the significance of differences in the career maturation of the El and Cl groups.

The 5 series of analyses tests the effect of the Career Education Program on student attitudes toward learning environments. Analysis 5a describes El and Cl attitude toward learning environments. Analysis 5b tests the significance of differences in El and Cl attitude toward learning environments.

Secondary Hypotheses

The following hypotheses will also be investigated as part of the data analyses associated with the implementation of the Internal Summative Evaluation Plan:

6. Experimental students (Kl) will acquire increased ($p<.10$) mastery in basic academic skills.

7. Experimental students (Kl) will acquire increased ($p<.10$) mastery in career knowledge.

8. Experimental students (Kl) will acquire increased ($p<.10$) career maturity.

9. Experimental students (Kl) will acquire positive attitudes toward their learning environments.

Analyses

Statistical analyses have been selected to test these secondary hypotheses. These analyses are listed below and are numerically keyed to hypotheses.

6. Descriptive statistics and correlated t-test on pretest and posttest scores of K1 group on CTBS.

7. Descriptive statistics and correlated t-test on pretest and posttest scores of K1 group on CMI Competency Subtests.

8. Descriptive statistics and correlated t-test on pretest and posttest scores of K1 group on CMI Attitude Scale.

9. Descriptive statistics of K1 group on ASA posttest ratings.

Tertiary Hypotheses

Parents, employers, and EBCE graduates will also be administered appropriate assessment instruments to determine their attitudes toward the EBCE Program (parents and employers) or toward learning environments or job satisfaction (graduates). The following hypotheses associated with these topic areas will be investigated:

10. Parents of EBCE students will have positive attitudes toward the EBCE Program.

11. Various levels of employers (i.e., resource persons, contact persons, or managers) will have positive attitudes toward the EBCE Program.

12. Graduates of the EBCE Program will demonstrate positive attitudes toward learning environments (if students) or demonstrate job satisfaction (if employed).

Analyses

Statistical analyses have also been selected to test these tertiary hypotheses. These analyses are listed below and again are numerically keyed to hypotheses.

10. Descriptive statistics of parental questionnaire.

11. Descriptive statistics of employer questionnaire.

12. Descriptive statistics of graduate questionnaire.

Additional Procedures

Other information not related to hypothesis testing will also be analyzed to provide descriptive information on the respondent groups. Additional hypotheses may result from analysis of the descriptive information. Nevertheless, descriptive statistics on demographic data will be obtained.

APPENDIX C

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 students 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 available in the manual.

APPENDIX D

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 [illegible] choice factors [illegible] conceptions of the career choice [illegible].

Competency Test.

Part 1: Knowing Yourself (self-appraisal)
This provides an inventory of a student's ability to [illegible] 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.

---

[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 E

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 F

Parent Opinion Survey

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

Your child has now participated in the 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.

Your response 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 May 23.

Thank you for again 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:fjc

Enclosures

Parent Opinion Survey

This survey is meant to give you an opportunity to express your opinions about the 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.

Career Education Program

Parent Opinion Survey

1. How well does the Career Education 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 Career Education Program?

Definitely NO				Definitely YES
1	2	3	4	5

3. How well do you think your son or daughter likes the Career Education 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 Career Education Program?

_____

_____

_____

_____

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

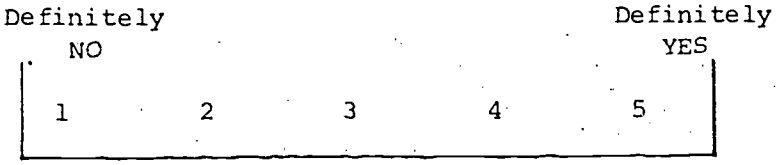
_____

_____

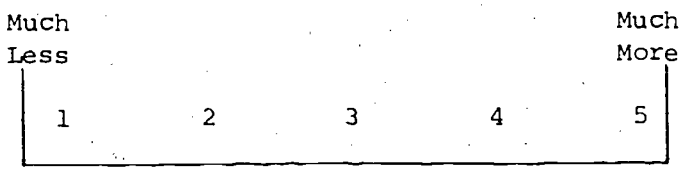
_____

_____

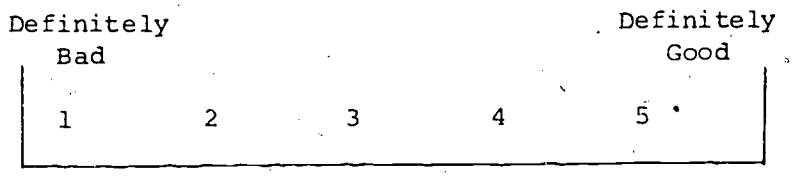
6. Have you received enough information about your son's or daughter's progress in the Career Education Program?



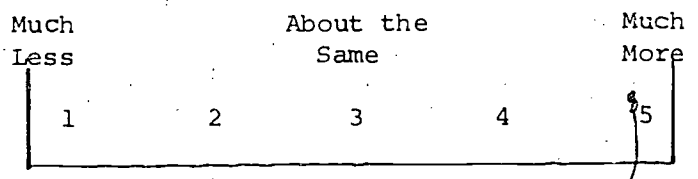
7. In comparison with regular schools how much opportunity did the Career Education Program provide your daughter or son for learning about occupations?



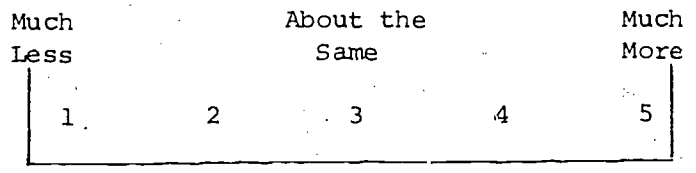
8. What effect, if any, has the Career Education Program had on helping your son or daughter form career plans?



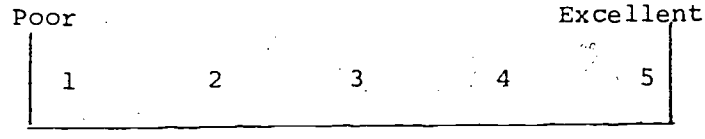
9. In comparison with regular schools, how much opportunity did the Career Education Program provide your daughter or son for general learning?



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



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



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

_____

_____

_____

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

_____

_____

_____

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

Almost Never				Almost Daily
1	2	3	4	5

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

Almost Never				Very Frequently
1	2	3	4	5

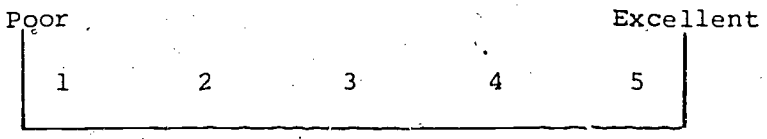
16. How many meetings have you attended during this school year where other parents of Career Education students were present?

None	1	2	3	4 or More

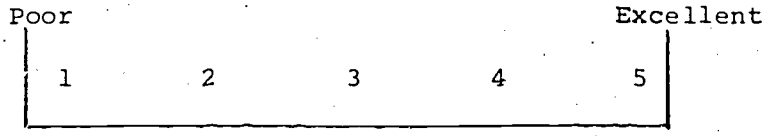
17. How would you rate the general quality of the Career Education Program staff?

Poor				Excellent
1	2	3	4	5

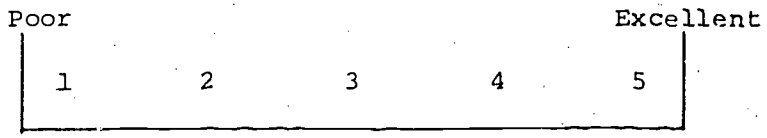
18. How would you rate the business or community resources available in the Career Education Program?



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



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



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. 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				Highly Important	How Effective Do You Feel the Project Has Been In Accomplishing This Learning? Not Effective				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

24. How did you first hear about the Career Education Program?

25. What kinds of students do you think benefit most from Career Education Program?

APPENDIX G

Employer Interview Instrument

EMPLOYER INTERVIEW INSTRUMENT

Setting Up Appointment

1. Determine who should be called (contact person)
2. Phone and introduce self
3. Identify purpose of study
   a. End-of-year evaluation
   b. Program revisions FY'75
   c. Provide project staff with information
4. Set up appointment

Interview Procedures

1. Introduce self
2. Review reason for study

   Note: (Maintain a very relaxed informal atmosphere throughout the interview. The contact person should be free to ramble if necessary.)

3. Record information that answers specific questions plus any additional comments you feel are important.

Information

Name of Contact Person_____

Name of Resource Person (if any)_____

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_____

4. Probe:

Did the EBCE staff usually show you the:

_____Student Activity Sheet(s)

_____Student Program Profile (Explain, if necessary)

_____Type of products expected from student

_____Explain reason for the particular placement

_____Provide you with feedback on student's progress

2. 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?	_____	_____	_____	_____
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)_____				
_____	_____	_____	_____	_____

3. 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)_____	____	____	____	____

_____

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

Yes_____ No_____ Don't know_____

(Probe, if you think the contact person would like to continue talking about this area.) _____

_____

5. 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_____

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

_____

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

_____

8. Have you been satisfied with the feedback that you received relating to what happens to the student after he leaves your site? Yes_____ No_____ (Probe, if you can.)

_____

_____

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

Yes_____ No_____ Don't know_____

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

_____

11. 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_____

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

_____

_____

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

_____

_____

14. 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	___	___	___	___	___	~	~

	How Much Impact				Value of Impact		
	No Impact	Some Impact	Much Impact	Don't Know	Good Impact	Bad Impact	Don't Know
c. Company hiring practices	___	___	___	___	___	___	___
d. Company training practices	___	___	___	___	___	___	___
e. Other possible impacts (List.)							
_____	___	___	___	___	___	___	___
_____	___	___	___	___	___	___	___
_____	___	___	___	___	___	___	___

APPENDIX H

EBCE Graduate and Dropout Questionnaire

In the EBCE Program (AEL)

From _____ To _____
(month) (year) (month) (year)

EBCE GRADUATE AND DROPOUT QUESTIONNAIRE

Date: _____

NAME _____ SEX: M____ F____

PRESENT ADDRESS _____
Street

_____
City State Zip Code

PERMANENT ADDRESS _____
Street

_____
City State Zip Code

PRESENT PHONE____ _____

First Contact: _____
(month) (day) (time)

Second Contact, if any: _____
(month) (day) (time)

Other Contacts, if any: _____
(month) (day) (time)

_____
(month) (day) (time)

_____
(month) (day) (time)

Time of Interview: _____
(month) (day) (time)

Name of Interviewer: _____

Interview Comments: _____

_____

_____

_____

_____

1. First, I'd like to know your marital status.

_____Single

_____Married

_____Separated

_____Divorced

_____Other:_____

2. With whom do you live?

_____Parents

_____Relatives

_____Friend(s)

_____Alone

_____Other

3. What is your main present activity? (CHECK ALL THAT APPLY.)

_____Unemployed--not looking for work

_____Unemployed--looking for work

_____Housewife

_____Full-time student (taking at least 12 semester hours)

_____Part-time student (taking less than 12 semester hours)

_____Working part-time

_____Working full-time

(IF RESPONDENT IS UNEMPLOYED AT THIS TIME, ASK #4.)

4. Have you ever worked since you graduated from EBCE? _____Yes _____No
(IF "YES," ASK RESPONDENT QUESTION. -18; IF "NO," ASK QUESTIONS 5-7 & 19.)

5. Were there any jobs you tried for but didn't get? _____Yes _____No
(IF "YES" ASK RESPONDENT QUESTION 6; IF "NO," SKIP TO QUESTION 7.)

6. Why do you think you didn't get the job/jobs?_____

_____

THE FOLLOWING QUESTION SHOULD BE ASKED OF ALL STUDENTS WH. HAVE LOOKED FOR WORK.

7. How much difficulty would you say you have had in getting work since you left the EBCE program?

_____No difficulty

_____Some difficulty

_____Much difficulty

What kind of difficulty? (PROBE)_____

_____

(IF RESPONDENT SAYS HE/SHE HAS EVER WORKED SINCE LEAVING EBCE, ASK QUESTIONS 8 THROUGH 18. IF HE/SHE IS GOING TO SCHOOL, SKIP TC QUESTION 1?.)

8. What kind of work are (or were) you doing?

RECORD ANSWER, THEN CODE ACCORDING TO OCCUPATIONAL LIST.

_____ _____ _____
Brief Description of Job Occ. Code

9. How long have you had (or did you have) this particular job? _____ months

10. Describe the other full-time jobs you have had since you left EBCE?

RECORD ANSWERS, THEN CODE ACCORDING TO OCCUPATIONAL LIST.

_____ _____
Brief Description of Job Occ. Code

_____ _____
Brief Description of Job Occ. Code

_____ _____
Brief Description of Job Occ. Code

11. What is (was) your main reason for working? _____

_____

(LET RESPONDENT VOLUNTEER MAIN REASON. THEN SAY:)

Can you think of any other sons? What were they? _____

_____

12. How many hours do you work a week on the average?

_____1-4 hours

_____5-10 hours

_____11-20 hours

_____21-30 hours

_____31-40 hours

_____Over 40 hours

13. When you look back and compare the course of your career so far with that of people about your age, are you: (INTERVIEWER CHECK ONE.)

_____Much less satisfied with your career than they are?

_____Somewhat less satisfied with your career than they are?

_____About as satisfied with your career as they are?

_____Somewhat more satisfied with your career than they are?

_____Much more satisfied with your career than they are?

14. When you compare how the rest of your career is likely to turn out with how the careers of people your age are likely to turn out, are you:

_____Much less satisfied than they are?

_____Somewhat less satisfied than they are?

_____About as satisfied as they are?

_____Somewhat more satisfied than they are?

_____Much more satisfied than they are?

15. Would you like to work at your present job 5 years from now? (INTERVIEWER READ LIST WHICH FOLLOWS AND RECORD ANSWERS.)

_____Definitely

_____Probably

_____Uncertain

_____Probably not

_____Definitely not

16. Would you rather have some other job? ___Yes ___No ___Unsure

17. What kind of a job would you like to have in the next five years?

RECORD ANSWER, THEN PROBE TO GET ENOUGH INFORMATION TO CODE RESPONSE ACCORDING TO OCCUPATIONAL LIST.

Brief Description of Job	Occ. Code

18. I am going to read you some items which describe various aspects of jobs. Please tell me how satisfied you are with this aspect of your present job. (INTERVIEWER: CIRCLE APPROPRIATE NUMBER.)

	Very Dissat.				Very Sat.	Not Applicable
Earnings	1	2	3	4	5	NA
The duties of the job	1	2	3	4	5	NA
Job security	1	2	3	4	5	NA
The amount of responsibility I have	1	2	3	4	5	NA
Opportunity for promotion or advancement	1	2	3	4	5	NA
Benefits (insurance, sick pay, pension plans, etc.)	1	2	3	4	5	NA
Opportunities to use my knowledge and ability	1	2	3	4	5	NA
Getting along with fellow workers	1	2	3	4	5	NA
The kind of supervisor I have	1	2	3	4	5	NA
Physical working conditions	1	2	3	4	5	NA

19. Are you participating in any educational or training program? (IF "NO" SKIP TO QUESTION 26.) ___Yes ___No

If so, what type of training program are you now participating in? (INTERVIEWER CHECK ONE.)

____4-year college or university

____Junior or community college

____Vocational or technical school

____Business school

_____Trade School

_____Armed Services training program

_____Training program run by person's employer

_____Other (specify) _____ _____

20. What are (were) you studying or learning about?

RECORD ANSWER, THEN CODE ACCORDING TO THE OCCUPATIONAL LIST.

_____ _____
Brief Description of Job Occ. Code

21. How long have you been (were you) in this educational program? _____months

22. What other educational programs have you been in since you left the EBCE program.

_____ _____ _____
Brief Description of Program Subject Matter Occ. Code

_____ _____ _____
Brief Description of Program Subject Matter Occ. Code

23. Are/were you satisfied with the educational or training programs you are/were in? ___Yes ___No ___Not sure

24. What is/was your main reason for being/having been in this educational program(s)?

_____To pursue a chosen career

_____To find a career

_____Did not know what else to do

_____Pressure from parents

_____Pressure from friends

_____Could not find work

_____To learn more about a particular subject or skill

25. Can you think of any other reason? If so, what is/was it?

_____ _____

26. What kinds of subjects or skills would you like to learn about in the next five (5) years? _____

RECORD ANSWER, THEN PROBE TO GET ENOUGH INFORMATION TO CODE RESPONSE ACCORDING TO THE OCCUPATIONAL LIST.

_____ _____
Brief Description of Job Occ. Code

27. What is the level of formal education that you plan to complete?

_____

PROBE TO GET RESPONSE THAT CLASSIFIES INTO ONE OF THE FOLLOWING CATEGORIES. PROMPT RESPONDENT BY READING OFF THE LIST UNTIL HE SAYS YES, CHECKING THE HIGHEST LEVEL MENTIONED.

_____Don't know, haven't thought much about it

_____High school diploma or equivalency

_____One-year College Certificate

_____Business School Certificate

_____Vocational, Technical, or Trade School Certificate

_____Two-year College Certificate

_____Four-year College Degree

_____Master's Degree

_____Doctor's Degree

_____Other (specify) _____

28. Realistically, how much money would you like to be making five years from now? $_____

NOW I'M GOING TO ASK YOU SOME QUESTIONS ABOUT THE TIME YOU SPENT IN EBCE.

29. What did you like best about the EBCE program?

_____

_____

30. What did you dislike most about the EBCE program?

_____

31. How much do you feel you learned while you were in the EBCE program? I'm going to mention several areas of learning and you can tell me whether you feel you learned a lot, some, a little, or nothing at all. Think about each area and then make an estimate of how much you learned about this subject or skill.

ASK THE STUDENT TO USE A PIECE OF SCRATCH PAPER AND A PENCIL TO WRITE DOWN THE RATING SCALE. SO THAT HE/SHE WILL BE ABLE TO LOOK AT IT WHEN YOU READ OFF THE AREAS.

	Not at all	A Little	Some	A Lot	Don't Remember
Specific job skills	_____	_____	_____	_____	_____
Career planning	_____	_____	_____	_____	_____
Awareness of job opportunities	_____	_____	_____	_____	_____
Job-seeking skills	_____	_____	_____	_____	_____
Reading skills	_____	_____	_____	_____	_____
Writing skills	_____	_____	_____	_____	_____
Math skills	_____	_____	_____	_____	_____
Ability to communicate with adults	_____	_____	_____	_____	_____

32. What kind of things did you learn in EBCE that are most useful to you now?

_____

_____

_____

33. Why did you leave EBCE? _____

RECORD RESPONSE AND CODE IT ACCORDING TO THE FOLLOWING:

_____graduate--after one year; _____completed two years

_____dropped out voluntarily

_____was asked to leave

_____other (specify) _____

34. In general, did the time spent in EBCE have a positive, negative, or no effect on your . . .

	Positive	No Effect	Negative
Preparation for further education	_____	_____	_____
Preparation for jobs	_____	_____	_____

35. How closely did your first job after graduating relate to your EBCE experience? (CHECK ONE ONLY.)

_____I was employed in an occupation in which I had EBCE experience.

_____I was employed in a related occupation.

_____I was employed in a completely different occupation.

36. Is there anything more that you would have liked to have received from the EBCE program to assist you in further education or training? ___Yes ___No

If there is, what is it?_____

_____

_____

_____

37. Are there any other changes that you would recommend be made to improve the EBCE program? ___Yes ___No

If so, what are the changes you would recommend? _____

_____

_____

_____

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