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An examination of the student demographic information collected in the fall (see Appendix A) shows the true experimental group to be very similar to the true control group. This would be expected because of random assignment.

Summarized in Table 1 are tenth grade School and College Achievement Test (SCAT) scores and cumulative Grade Point Average (GPA) for all groups except the CWE students. For comparison purposes, data from a random sample of Tigard High School students (FY 74 THS Random Sample) and from the FY 74 $(CE)_2$ population have been included in Table 1.

Table 1

TENTH GRADE SCAT SCORES AND GPA OF $(CE)_2$ AND COMPARISON GROUPS

Score		Group						
		Exp.	Ret. Srs.	Pre. Sel.	$(CE)_2$ All	FY 75 THS Con.	FY 74 THS Ran. Sam.	FY 74 $(CE)_2$
SCAT Verbal	*$\bar{X}$	48.8	43.7	59.3	49.1	48.6	51.3	45.9
	S	8.4	10.4	7.4	10.2	8.9	8.6	9.1
	n	29	17	10	56	21	63	34
SCAT Quantitative	$\bar{X}$	44.8	42.7	62.8	47.4	45.2	51.3	44.7
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SCAT Total	$\bar{X}$	46.6	43.2	62.4	48.4	47.0	51.4	44.8
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	S	.50	.62	.39	.63	.54	.72	.65
	n	31	9	12	52	21	70	38

* $\bar{X}$ = group means; S = standard deviation; n = number of students per cell.

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ABSTRACT

Evaluation conducted during the 1974-75 school year of the Experience-Based Career Education (EBCE) program at Northwest Regional Educational Laboratory (NWREL) is reported, focusing on the evaluation findings of the EBCE demonstration project in Tigard, Oregon called Community Experiences for Career Education (CE)2, and various EBCE implementation activities in other districts. (EBCE is a comprehensive, individualized career education program that integrates basic skills, life skills, and career development through work and learning experiences in the community.) This report contains results derived from a comparison of (CE)2 experimental group students with control group students, results pertaining to all (CE)2 students, findings from seven student case studies, and program evaluation findings. Summary of evaluation data collected on the implementation activities at NWREL includes an external evaluation of Project TOTAL (Total Opportunities Through Action Learning), an EBCE program based on (CE)2, reactions and perceptions of sites which used selected EBCE materials, an evaluation of implementation training workshops, and evaluation data on the overall implementation strategies and planning. Additional descriptive and technical data are contained in a separate volume of appendixes. (TA)

FY 75

FINAL EVALUATION REPORT

of the NWREL

EXPERIENCE-BASED CAREER EDUCATION PROGRAM

Submitted to the

National Institute of Education
of the
Department of Health, Education and Welfare

Prepared by

Thomas Owens, Joseph Haenn, Harry Fehrenbacher
NWREL EBCE Evaluation Unit

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CHAPTER I. EXECUTIVE SUMMARY

Introduction

This report describes the evaluation conducted during the 1974-75 school year by the evaluation unit of the Experience-Based Career Education (EBCE) program at Northwest Regional Educational Laboratory (NWREL). EBCE is a comprehensive, individualized career education program that integrates a high school students' learning of Basic Skills, Life Skills and Career Development through work and learning experiences in the community. This report focuses on the findings from the evaluation of the EBCE demonstration project in Tigard, Oregon called Community Experiences for Career Education $(CE)_2$, and various EBCE implementation activities in other districts during the 1974-75 school year.

Audiences

Audiences for whom this report is intended include: the National Institute of Education, sponsor of EBCE research and development; educators who may be considering the adoption of EBCE in their districts; personnel associated with $(CE)_2$ and the pilot sites from whom data were collected; educational researchers; and persons interested in career education and alternative educational programs.

Report Format

Persons with limited reading time are advised to begin with Chapter V of this report for a summary and discussion of all findings written in nontechnical language. In Chapter III $(CE)_2$ evaluation findings are featured in two ways: (a) results organized around each of the $(CE)_2$ goals and (b) results from each evaluation instrument. The first structure will probably be of greatest interest to educational practitioners while the latter structure is intended primarily for a research audience. Persons interested in understanding how individual students function in EBCE and how the program affects them will find the case studies of $(CE)_2$ students in Chapter III helpful. The brief conclusions and recommendations chapter is intended for educational practitioners, researchers and the lay reader alike. Additional descriptive and technical data are contained in the separately bound volume of appendices.

Highlights of $(CE)_2$ Comparative Findings

The 1974-75 school year marked the third year of operation for $(CE)_2$, which is operated in Tigard, Oregon by a nonprofit community corporation as NWREL's "parent site" for research and demonstration of EBCE. $(CE)_2$ enrolled approximately 60 high school juniors and seniors from Tigard High School and has a professional staff of 7 members. Over 120 employers and community people cooperated with $(CE)_2$ in providing learning experiences for students in the community.

From the list of applicants to the program, students were randomly assigned to $(CE)_2$ or to remain at the high school as a control group.

This section of the Executive Summary reports the comparative findings of these two groups, while the next section details gains of $(CE)_2$ students alone.

Students in the $(CE)_2$ program and control group were tested on a number of evaluation instruments at the beginning and end of the school year. These instruments covered the program's three curriculum areas: Basic Skills, Life Skills and Career Development. It was hypothesized that the $(CE)_2$ experimental students would do as well as the control group students in terms of gains in Basic Skills, while exceeding the control group in Life Skills and Career Development skills. On the Comprehensive Test of Basic Skills there were no statistically significant differences in the gains made between the $(CE)_2$ experimental group and the control group at the high school in reading, arithmetic or study skills.

Questionnaires adminstered to both experimental and control group students at the beginning and end of the school year indicated that $(CE)_2$ students increased more in the amount of reading done during the year than did the control group. These differences were due mainly to increases in the amount of pamphlets and newspapers.

Because the Life Skills area of $(CE)_2$ does not have a direct parallel in the regular high school program, only indirect measures of these skills were assessed on a comparative basis. The $(CE)_2$ students appear to have become less idealistic in their concept of work and more critical in self-assessment of their own personal work habits than the control group. No significant differences were found between the $(CE)_2$ and control group students on self-reported measures of individua. or social adequacy, nor on ability to match their career preferences with personal interests and abilities. Over 80 percent of the students in both groups indicated career preferences congruent with their personal attributes.

On other areas comparing the performance of $(CE)_2$ and control group students the $(CE)_2$ students scored significantly higher in: (a) knowledge of information related to the world of work, (b) self-confidence in the ability to complete the necessary steps for entering a career of their choice, (c) use of public resources, especially public libraries, (d) number of public meetings attended and (e) perceived overall effectiveness of their educational experience during the year.

No significant differences between the $(CE)_2$ and control group students were found in: (a) level of career choices; (b) amount of post-secondary education planned, (c) proportion of jobs listed that students had ruled out as career choices during the year, (d) sources of information used in decisions to eliminate potential careers and (e) attitude toward the concepts of "me," "school," "adults," "learning," "community resources" and "decision making."

Highlights of $(CE)_2$ Student Growth Findings

In addition to comparing the results of $(CE)_2$ and control group students, other data were reported in terms of whether the $(CE)_2$ students made statistically significant growth during the year. When viewed from this

perspective, $(CE)_2$ students made statistically significant growth in: (a) reading comprehension; (b) arithmetic concepts and applications; (c) attitudes towards the concepts of "me," "community resources," "adults," "learning" and "school;" (d) attitudes of trust and openness to change; and (e) "capability to apply learned behaviors and to assume responsibility," "understanding another person's messages and feelings," and "conversation with an adult that reveals self-confidence" as rated by $(CE)_2$ staff.

In terms of student evaluation of $(CE)_2$ all but one of the $(CE)_2$ students indicated in May that they did not regret their decision to join the program.

When comparing $(CE)_2$ to the regular high school program 96 percent of the $(CE)_2$ students reported that $(CE)_2$ provided more opportunity to learn about occupations and 70 percent reported more opportunity for general learning. Ninety percent of the $(CE)_2$ students reported that they were more motivated to learn in $(CE)_2$ than in the regular high school.

When asked what they perceived to be the greatest strengths of the $(CE)_2$ program, 33 percent of $(CE)_2$ students identified the opportunities for "hands-on" learning, 33 percent identified the empathetic and helpful staff, and the rest mentioned a variety of things including the opportunity to learn about careers and the freedom and responsibility given students.

The most commonly mentioned weakness of the program (mentioned by 15 percent of the students) involved difficulty or inconvenience in securing a desired employer site. Other problems mentioned included transportation arrangements (6 percent) and "too much work" (6 percent).

A comparison of the number of competencies and projects completed by $(CE)_2$ students this year with those completed by $(CE)_2$ students the two prior years indicated that students completed substantially more work this year.

Documentation of weekly discussions by the $(CE)_2$ staff regarding observable behaviors in each student revealed that many students grew significantly in assuming responsibility for their actions and in cooperating with program staff and employer instructors. Significant growth was noted also by the staff in students' ability to communicate effectively with adults and with fellow students.

Intensive case studies of $(CE)_2$ students illustrated the anxieties, struggles, frustrations and personal growth of seven young people as they progressed through $(CE)_2$. They also revealed the variety of ways that employer instructors and staff work with these students. Evidence was also given to show that work values were being realized, developed and changed as a result of $(CE)_2$.

In an attempt to find a thread that helps tie together the numerous separate findings and to describe the major impact EBCE has had on students, the most important outcome, in the judgment of the evaluators, is that EBCE has helped increase in many students a sense of their personal worth and an increase in their self-confidence. This outcome may be more critical than any other in helping students to become mature adults.

EBCE Implementation Activities

Orientation, training and technical assistance were provided to districts in the Northwest interested in implementing EBCE. One district in Hillsboro, Oregon selected to begin operating of an EBCE program during the 1974-75 school year. Four other districts--Billings, Montana; Colville, Washington; Kennewick, Washington; and Kodiak, Alaska chose to use 1974-75 as a planning year and to begin operation of EBCE during the 1975-76 school year. Several other districts participated in EBCE planning during 1974-75 but were unable to begin operations during the 1975-76 year because of budgeting problems.

Information on each of the four pilot sites that will begin EBCE operations in 1975 was collected and organized into the following categories: advisory board, school staff, number and characteristics of students, employer recruitment, physical facilities, funding, parent involvement, school board action, and EBCE materials received and used.

In addition to the EBCE demonstration site operating in Tigard, a second EBCE site began operation this year in Hillsboro, Oregon called Total Opportunities Through Action Learning (TOTAL). This program operated with up to 30 students from the ninth to twelfth grades and was developed to help students who had not progressed satisfactorily in the regular high school program. Perhaps the most significant finding regarding TOTAL students was in their attendance records. During the year prior to entering TOTAL these students had an average school attendance of 36 percent. During the first and second semesters in Project TOTAL, however, these students averaged an 86 percent attendance rate.

Questionnaire results were obtained and analyzed from four of five school districts in the Pacific Northwest where selected EBCE materials were used. The general reaction to these materials was favorable and the materials were used in an interesting variety of ways.

Evaluation results of other EBCE implementation activities are presented as answers to 18 questions. As a result of effective EBCE implementation planning last year, five school districts in the Northwest will be implementing EBCE during 1975-76 using local funds.

CHAPTER II. INTRODUCTION

Section A. Purposes and Content of the Report

This FY 75 final evaluation report has been prepared in compliance with reporting requirements of the Education and Work staff of the National Institute of Education (NIE). As a year-end report, it is intended to serve four audiences. First, the EBCE operations staffs may use portions of this report as feedback to continually improve their programs and to answer questions visitors might pose. Second, the NWREL EBCE implementation staff and practitioners considering the adoption of an EBCE program may use this information in making decisions about implementing the EBCE program in other settings. Third, school district personnel in districts where EBCE is now operational may use the evaluation report to become more aware of the program's effects. And finally, NIE, the U.S. Office of Education and the research and general education audience may use the report to help them examine the program's effectiveness in terms of action research.

The report is organized into six chapters plus a separate volume of appendices.* Chapter I--"Executive Summary"--is a four page synopsis of the FY 75 evaluation findings. Chapter II--"Introduction"--contains a summary of the purposes and contents of this report, a description of EBCE and $(CE)_2$, and a summary of evaluation activities in FY 75. Chapter III--"Evaluation of $(CE)_2$"--contains the description of student populations, the evaluation design and the evaluation findings of $(CE)_2$. The evaluation of the efforts to implement EBCE in other districts is summarized in Chapter IV--"Evaluation of Implementation Activities." Chapter V contains a summary and discussion of findings and Chapter VI presents the conclusions reached by the evaluation staff and recommendations. The appendices contain supporting technical and descriptive information.

* The appendices have been bound separately to allow for a larger quantity of the basic report to be printed and a lesser number of the appendices volume. The appendices will be of special interest to educational evaluators and others desiring more complete descriptive and technical information. Copies of the appendices are available separately from NWREL.

Section B. Description of EBCE and $(CE)_2$

Community Experiences for Career Education, $(CE)_2$, is one of four Experience-Based Career Education (EBCE) programs being tested under the auspices of the National Institute of Education. Operated in Tigard, Oregon by a nonprofit community corporation, the program is directed by the Northwest Regional Educational Laboratory (NWREL). Currently in its third year of operation, $(CE)_2$ is composed of approximately 60 high school juniors and seniors and 7 professional staff members providing a comprehensive high school education through experiences in the community.

A primary goal of the $(CE)_2$ program has been to integrate a student's knowledge of a variety of careers with the acquisition of cognitive, interpersonal and affective skills through a series of planned experiences with identified learning outcomes. Emphasis is placed on the assumption of responsibility by the individual student for his or her own learning. For a description of the $(CE)_2$ student goals see Section C of Chapter III.

Four characteristics, taken together, make $(CE)_2$ different from other alternative or career education programs:

1. The learning program evolves from adult activities in the community. It is reasoned that if the learning activities are based directly on adult tasks and roles in the community, learning will be recognized as more relevant by youth in preparing for the transition to adulthood.

2. The program is based on experiential learning, actively involving students in the daily work of community life. This "hands-on" approach to learning has long been recognized as an effective learning strategy and $(CE)_2$ is attempting to implement this approach in a comprehensive program.

3. The curriculum of $(CE)_2$ is fully integrated. Just as the salesman or foreman does not think of his interactions with people strictly in terms of grammar, vocabulary or psychology, the $(CE)_2$ curriculum also applies no artificial distinction among the "disciplines."

4. $(CE)_2$ is a fully individualized program. The learning goals as well as the learning strategies are varied to meet the needs, interests and abilities of each student.

Students in $(CE)_2$ spent approximately half of their time at a learning center in a one-story professional office complex; the remaining time was spent at various employer and community sites. Upon completing the $(CE)_2$ student graduation requirements $(CE)_2$ students are granted a Tigard High School diploma. A description of EBCE program components is available upon request from NWREL.*

* For a brief description of EBCE ask for the Program Overview. For much greater depth four separate handbooks have been developed: Management and Organization, Curriculum and Instruction, Employer/Community Resources and Student Services.

Section C. Summary of the NWREL Evaluation Unit's Activities

Evaluation Design

An evaluation design was developed to include pre- and posttest of an experimental and control group, correlational and survey data, and a comprehensive case study of seven selected $(CE)_2$ students. Included in the case study design were student, parent and employer instructor interview guides and a student work site observation guide.

Data Collection

Data were collected throughout the year. The total packet of evaluation instruments was administered to all available experimental and control group students in the fall and again in spring. In addition, case study observations and interviews were conducted periodically throughout the year and student projects and products were examined. Monitoring of student progress was carried out by periodic examination of student records and student interviews were conducted midyear with a random sample of $(CE)_2$ students.

Data Analysis and Synthesis

Development of computer facilities and skills to more efficiently analyze EBCE evaluation data occurred during FY 75. EBCE evaluators were instrumental in NWREL's purchase and implementation of the Statistical Package for the Social Sciences and Multivariance, Version 5, both excellent computer programs to handle and analyze quantitative evaluation data. These programs provide the major analytic tools in the evaluation, but considerable energy was also invested in summarizing and synthesizing large amounts of qualitative case study information. A 33-page data analysis plan to analyze evaluation data by $(CE)_2$ program goals was developed early in the year and is available as a separate document.

Implementation Evaluation Design and Instruments

As a part of the replication effort, two separate preliminary evaluation designs were prepared, one to be used by school districts who implement the total EBCE model and one for those districts using EBCE materials only. Employer, staff and student questionnaires were developed to measure reactions to the use of EBCE materials.

Evaluation of Implementation

NWREL's EBCE evaluators visited many of the full model sites and materials field test sites throughout FY 75. Staff members at these sites were interviewed by the evaluators and technical assistance, such as a preliminary evaluation design, was provided. In the case of the materials field test sites, questionnaires were administered to participants to ascertain their perceptions of the materials. Results of these surveys are summarized in Chapter IV of this report.

Participation in Conferences

Members of the EBCE evaluation unit attended various NIE-sponsored evaluation meetings throughout the year. In addition, a paper dealing with the FY 74 evaluation results of $(CE)_2$ was delivered by the evaluators at the annual meeting of the American Educational Research Association in Washington, D.C.

A series of papers dealing with the use of multiple strategies in the evaluation of EBCE was prepared and presented at the annual meetings of the Pacific Northwest Educational Research Association in Seattle. This series of papers has been accepted for publication in the Research, Evaluation, Development paper series of NWREL.

In cooperation with the project director and coordinator of the implementation unit, a member of the EBCE evaluation unit participated in the planning and delivery of two-week regional presentations to state coordinators of career and vocational education. This was in connection with conferences held under the auspices of Part D, Vocational Education Act. Initial planning has also occurred in developing an evaluation package for next year that will assist school districts in evaluating EBCE programs.

Cooperation with External Evaluator

EBCE evaluators have cooperated with the external evaluation contractor, Educationl Testing Service (ETS), in recommending selected evaluation instruments, reviewing ETS-developed instruments, critiquing ETS's behavioral observation report and preparing student and employer lists requested by ETS. The ETS anthropologist studying $(CE)_2$, was provided with necessary background information and current evaluation data and participated with EBCE evaluators in the paper series on the use of multiple strategies in the evaluation of EBCE.

Reports to NIE

A first quarter evaluation report was prepared that summarized pretest data and was included as an appendix to the regular EBCE quarterly report to NIE. An interim case study report was prepared and sent to NIE in January. The purpose of this interim report was to inform NIE of the expected scope of the case studies and to elicit NIE and other professional feedback on the use of this methodology. Statements about progress in completing evaluation milestones were included in the NWREL quarterly reports to NIE.

Finally, the preparation and writing of this final evaluation report has been, itself, a major evaluation activity for FY 75. Several summaries of this report (at different levels of detail and prepared for different audiences) will be written to make the information in this report more accessible and meaningful to various audiences.

CHAPTER III. EVALUATION OF $(CE)_2$

Section A. Student Populations

Evaluation data were collected throughout the FY 75 program year from five groups of students. A definition of these five groups and a description of background and baseline data follow.

Definitions

1. True Experimental Group

   Thirty-one juniors and seniors randomly assigned to the $(CE)_2$ program from the total pool of applicants to $(CE)_2$. This is the primary group for comparisons in the experimental design.

2. Preselected Group

   Thirteen highly motivated juniors and seniors admitted to the program to counterbalance the disproportionate number of returning seniors (see three below) judged to be low in motivation. Because these students were not randomly assigned to the program, no direct comparisons were made between them and the "true" control group (see four below).

3. Returning Seniors

   Eighteen seniors who were juniors in the $(CE)_2$ program for all or part of FY 74. These students, together with groups one and two above, make up the entire $(CE)_2$ student population.

4. True Control Group

   Forty-four juniors and seniors from Tigard High School (THS) were randomly assigned to the control group from the total pool of applicants to the $(CE)_2$ program. Seventeen of these students dropped out of school prior to pretesting and two more were not available for testing, leaving a pretested control group of 25 students. Only 12 students were available for posttesting.

5. CWE Comparison Group

   Twenty-five students participating in the Diversified Occupations Cluster of the Cooperative Work Experience (CWE) program at Tigard High School. These students were used to compare career knowledge of students in an alternative career education program with that of $(CE)_2$ students.

Background Data

An examination of the student demographic information collected in the fall (see Appendix A) shows the true experimental group to be very similar to the true control group. This would be expected because of random assignment.

Summarized in Table 1 are tenth grade School and College Achievement Test (SCAT) scores and cumulative Grade Point Average (GPA) for all groups except the CWE students. For comparison purposes, data from a random sample of Tigard High School students (FY 74 THS Random Sample) and from the FY 74 $(CE)_2$ population have been included in Table 1.

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	S	7.5	8.9	6.8	10.6	10.0	9.8	8.6
	n	29	17	10	56	21	63	34
SCAT Total	$\bar{X}$	46.6	43.2	62.4	48.4	47.0	51.4	44.8
	S	7.4	9.5	6.2	10.3	9.2	9.0	8.4
	n	29	17	10	56	21	63	34
GPA	$\bar{X}$	2.42	2.19	3.27	2.58	2.42	2.81	2.11
	S	.50	.62	.39	.63	.54	.72	.65
	n	31	9	12	52	21	70	38

* $\bar{X}$ = group means; S = standard deviation; n = number of students per cell.

These scores generally are consistent with $(CE)_2$ staff judgments about subgroups of students within the $(CE)_2$ population. The returning seniors as a group exhibited the lowest pretest achievement scores and the

preselected, highly motivated group exhibited the highest pretest scores. The scores of the randomly selected experimental group are comparable to the scores of the control group. The total FY 75 $(CE)_2$ population reflects higher achievement levels than did the FY 74 $(CE)_2$ student population, but somewhat lower achievement levels than a random sample of FY 74 THS students.

Student Attrition

Displayed in Table 2 are the numbers of students in each group at pretest time and again at posttest time.

Table 2

NUMBER OF STUDENTS IN $(CE)_2$ AND CONTROL GROUP AT PRETEST AND POSTTEST TIME*

Group	Pretest	Posttest	Differences
Experimental	31	30	1
Returning Seniors	18	10	8
Preselected	13	12	1
Control	25	12	13

* Throughout the report the number of subjects in each group varies since all subjects did not complete all instruments.

Educational Testing Service (ETS), retained by NIE as an external evaluator of EBCE, conducted follow-up interviews with $(CE)_2$ and control students who did not complete the school year. These data will be included in the ETS evaluation report due in December 1975.

Because of the high rate of attrition from the control group, the representativeness of the posttest sample was questioned. Accordingly, analyses** of pretest data comparing the control group dropouts with those control group students who remained in school were conducted (see Appendix B for means and summaries of the analyses).

The analyses indicated that the differences between the groups were not statistically significant. (This nondifference may be the result of the

** Multivariate Analyses of Variance (MANOVAs).

low number of students in both groups which makes the analyses a very conservative indicator). An examination of group means on measures of academic achievement indicates that those who "dropped out" of school from the control group scored 2.0 grade equivalent years higher on reading comprehension, 0.6 years higher on arithmetic concepts and 1.5 years higher on arithmetic applications. Scores of the dropouts on attitudinal measures were substantially (though again not significantly) lower.

Thus, there is some evidence that the control group tested at the end of the year may not be representative of the same population as the experimental group. All comparisons within the experimental design between these two groups must be tempered with this knowledge.

Section B. Evaluation Design Summary

This section summarizes the goals, strategies and data analyses used in the evaluation of $(CE)_2$. A more detailed description of these strategies is available in the EBCE FY 75 Data Analysis Plan and in the FY 75 First Quarterly Report for the Experience-Based Career Education Program.

$(CE)_2$ Student Goals

The NWREL EBCE program goals and objectives are divided into two categories: (a) student outcome goals and objectives and (b) product development goals and objectives. Student outcomes include changes in students which were anticipated to take place, such as increased reading ability, increased personal management skills and increased knowledge of careers. Products include forms, documented procedures and systems developed by the staff that were essential to the operation of the EBCE program. Examples include student records, employer recruitment procedures, site analysis procedures and the student accountability system.

The FY 75 student goals and objectives follow in this section. The product development goals and objectives are listed in the FY 75 Operating Plan. Documentation of product development goal attainment is recorded in the quarterly NWREL EBCE reports to NIE.

Student outcome goals were developed through a series of group meetings involving the operations, implementation, evaluation and management staff of EBCE. The $(CE)_2$ program outcome goals for students are organized below under the headings of Direct Outcomes (Life Skills, Career Development, Basic Skills) and Other Outcomes (perceived as relating to the program as a whole). The first three categories of Direct Outcomes correspond to major components of the $(CE)_2$ curriculum. The last category refers to the broader outcomes of the experiential learning environment not tied to a specific element within the curriculum. More detailed behavioral objectives exist for each of the outcome goals specified in the first three categories and are contained in the EBCE Curriculum and Instruction handbook.

Direct Outcomes

1. Life Skills

   a. Critical Thinking. Student will increase their ability to gather, analyze and interpret information and to seek solutions to problems.

   b. Science. Students will increase their ability to recognize and apply scientific procedures and methods and be able to analyze the impact of technology on natural environments and cultural values.

c. Personal-Social Development. Students will increase their ability to determine "who they are," "what they are," and "where they are going" and accept the responsibility for the effect that their behaviors and attitudes have on themselves and other people.

d. Functional Citizenship. Students will increase their ability to understand democratic processes in the private sector and in local, state and federal government by applying those processes in their personal actions as well as in their relationships to private and public institutions.

e. Creative Development. Students will increase their ability to identify the effects of, and participate in, the creative process of blending new and/or existing materials, ideas or concepts into unique forms and experiences.

f. Competencies. Students will demonstrate survival skills that cover the economic, planning, legal-political, health-safety, property maintenance, recreational and occupational aspects of living. These competencies reflect the community's perceptions of behaviors that are considered some of the minimal functional requirements for living in today's society.

2. Career Development

a. Students will increase their knowledge of their own aptitudes, interests and abilities and apply this understanding to their potential career interests.

b. Students will increase their knowledge of social, governmental and economic issues and trends in the world of work.

c. Students will develop the general skills of job finding, job application, on-the-job negotiation and dependability necessary in daily work interactions.

d. Students will analyze potential careers for financial and psychological inducements, preparation needs and preparation programs available.

3. Basic Skills

a. Students will be able to perform applied skill tasks related to careers of interest to them.

b. Students will improve in their performance level of the Basic Skills (reading, writing, oral communication and mathematics).

c. Students will become aware of the level of Basic Skills needed to enter careers of interest to them and will understand the relationship of that level to their current Basic Skills proficiency.

d. Students will demonstrate an increased willingness to apply Basic Skills to work tasks and to avocational interests.

Other Outcomes

1. Students will broaden the range of sources they use (people, events, institutions, laws, books, etc.) in gathering information for work and decision making.

2. Students will demonstrate the ability to conduct conversation with an adult that reveals the student's self-confidence and understanding of the other person's message and feelings.

3. Students will demonstrate an increase in self-initiated behaviors and in assuming responsibility for carrying out and evaluating tasks which they agree to complete.

4. Students will demonstrate an increase in behaviors that reveal a tolerance for people and institutions who have different values, ideas or background than themselves; an openness to change and a willingness to trust others when circumstances warrant.

5. Students will include data from their total sensory system as part of their input into their decision-making processes.

6. Students will be and feel better prepared to assume imminent adult responsibilities and relationships.

7. Although not stated this year by the $(CE)_2$ staff as an objective, the evaluation unit will also be obtaining data on specific job skills acquired by students while on learning levels at employer sites.

Evaluation Strategies

A matrix of student outcomes and the evaluation instruments and data sources used to assess outcome attainment is displayed in Table 3. Multiple measures are keyed to each student outcome and can be used as direct or indirect indicators of goal attainment.

Besides this measurement of goal attainment by $(CE)_2$ students, comparisons are also made between experimental and control group students. Because of the random assignment of students to the experimental and control groups, treatment effects on some variables could be tested within an experimental design. Table 4 summarizes the availability of data for this analysis. Because of restricted pretesting time, data from certain scales were available for the control group in only posttest form. The instruments are described in Appendix C.

Table 3

MATRIX OF OUTCOME GOALS AND EVALUATION MEASURES

* = primary measure

x = secondary measure

	1 CTBS Reading Subtest Scores	2 CTBS Arithmetic Subtest Scores	3 CTBS Study Skills Subtest	4 Basic Skills Prescription Pad	5 Self Directed Search (SDS)	6 Psychosocial Maturity Scale (PSM)	7 Semantic Differential	8 Prepackaged Projects	9 Individualized Projects	10 Student Interviews	11 Case Studies and Observations	12 Goal-Directed Student Ratings	13 Case Study Interview with Parents	14 Case Study Interview with Employers	15 Parent Opinion Survey	16 Employer Opinion Survey	17 Student Interviews (Dec. and Apr.)	18 Student Application Form	19 (CE)₂ Staff Questionnaire	20 End-of-Year Student Questionnaire	21 Follow-Up of Graduates	22 Learning Site Analysis Form Obj.	23 Learning Manager Assessment	24 Skill Development Sheet	25 Exploration Packages	26 Student Performance Review	27 Student Evaluation of Learning Site	28 Career Information System	29 Competencies Certification	30 Student Staffing Notes	31 Student Resume	32 ES Basic Skills Assessment	33 Career Assessment by ERS	34 (CE)₂ Experience Record
DIRECT OUTCOMES--Life Skills																																		
A. Critical Thinking								*	x		x		x	x					*				x		x									
B. Science								*	x														x											
C. Personal-Social Development						*	*	*	x		*		*	*	x	x			*				x			x	x			x			x	x
D. Functional Citizenship								*	x														x											
E. Creative Development								*	x														x											
F. Competencies																	*												*					
--Career Development																																		
G. Aptitude, Interest & Ability, Knowledge.					*		x					*							*						x			x				*	x	*
H. Social, Governmental & Economic Knowledge								*	x											*									x				x	
I. Job Application & Maintenance Skills							x											*	*							*			*		*			*
J. Career Knowledge					x																x	*		*	x			x						
--Basic Skills																																		
K. Career Applied Basic Skills	x	x	x	*																				*		x					*	x		
L. Basic Skill Improvement	*	*	*	*											x				*											x	x	x		
M. Relationship of Careers with Basic Skills					x																	x		*	x			x				x	x	*
N. Willingness to Apply Basic Skills										*		*	*	*			*									x				x		x		*
OTHER OUTCOMES																																		
O. Broadening Range of Sources							x	x	*	*	*		x	x			*																	
P. Adult-Oriented Personal Communication					x	*				*	*	*	x	x		x	*		*				x							*				
Q. Increasing Self-Initiated Behaviors						*	x			*	*	*	x	x		x	*		*											*				
R. Increased Tolerance, Trust & Openness to Change						*				*	*		x	x			*																	
Sensory Input as Part of Decision Making							x			*	*		x	x			*																	
Preparation for Adult Responsibilities										*	*	*	x	x	x	x	*		*							*			*	*				
Specific Job Skills										x	*			*		x			*					*										

All instruments and a description of when they were used are included in Appendix C.

Table 4

DATA AVAILABLE FOR ANALYSIS
WITHIN THE EXPERIMENTAL DESIGN

	Pretest	Posttest
Demographic Questionnaire	X	
Comprehensive Test of Basic Skills	X	X*
Psychosocial Maturity Scale	X	X**
Self Directed Search	X	X
Semantic Differential	X	X
General Questionnaire	X	X

* Control group students received the study skills subtests only as a posttest.

** Control group students received only the individual adequacy section of the PSM as a pretest and all sections of the instrument as a posttest.

Case studies of seven $(CE)_2$ students were also a part of the overall evaluation design. The design and methodology of the case studies are discussed in Section E of this chapter.

Questionnaire surveys of parents of $(CE)_2$ students and of participating employers and indepth interviews of a sample of $(CE)_2$ and control group students complete the evaluation design. The survey instruments were designed by ETS with input from EBCE evaluators. ETS was also responsible for survey data collection, analysis and reporting.

Data Analysis

A variety of data analyses and display techniques have been employed. The type of analysis depended both on the kind of data available and on the purpose for which it was collected and analyzed. A detailed description of the data analyses employed is available as a 33-page document entitled EBCE FY 75 Data Analysis Plan. A summary of the types of analyses used is included here.

1. Step-down multivariate analysis of variance and covariance--used to test pretest-posttest changes on correlated dependent variables and to compare experimental and control group results.

2. Univariate analysis of variance or covariance--used to test goal attainment as measured by a single measure.

3. Regression analysis--used to ascertain the relationship between various measures and goal attainment.

4. Chi-Square analysis--used to compare frequency distribution of demographic data, student records and most survey data.

5. Content analysis--used to evaluate student products.

6. Case study narratives--used to analyze and synthesize data collected on case study students.

Section C. Evaluation Findings Organized Around $(CE)_2$ Objectives

Introduction

This section of the report contains information regarding student outcomes. It reports student outcomes related to program goal statements in Basic Skills, Life Skills and Career Development. For ease of understanding each program goal has been stated in the form of an evaluation question. Following the underlined evaluative question relating to each program goal is a brief rationale explaining why that goal is considered important, a discussion of $(CE)_2$ learning activities related to that goal and a summary of the evaluation findings.

Basic Skills Outcome Goals

The Basic Skills component of the $(CE)_2$ program corresponds roughly to the "three R's." Included in Basic Skills are reading, mathematics, and written and oral communication. All $(CE)_2$ students are expected to participate in Basic Skills activities.

Are students in the $(CE)_2$ program able to perform applied skill tasks related to careers of interest to them?

Rationale. The philosophy of $(CE)_2$ emphasizes learning of knowledge and skills that are relevant to everyday life and that can be applied to one's life career. Because students can see the relationship between these skills and life's tasks, the skills should be easier to learn and use.

Related Learning Activities. In the $(CE)_2$ program the community acts as the teacher. That is, the program developers feel that most learning skills students are normally expected to learn in the classroom setting can be obtained in a more relevant and meaningful way through contact with the real world. In the program, students are given the opportunity to utilize the community as a "classroom." Students participate in exploration level and learning level experiences at employer sites where they learn what applied Basic Skills are necessary for various occupations of interest to them. Students can then match the Basic Skills requirements demanded by the job with those that they possess and thus identify realistically those Basic Skills areas in which they may need to improve. Employers are also encouraged to identify Basic Skills needs in a particular student. The project staff then work cooperatively with the employer instructors in providing any needed skills. Basic Skills improvement can occur at employer sites through objectives written into students' projects that require them to apply Basic Skills in their work environment. Assistance is also provided to students through tutors employed by the project and through selected programmed materials.

Findings. Examination of a sample of thirty Student Performance Reviews (an evaluation of students completed by employer instructors) shows a general positive increase in employer ratings of student attitudes and

skills from the beginning of site placment to the end. No statistical tests of significance were run on these data because of weaknesses in the scales used and the lack of uniformity in the times at which these forms were completed.

$(CE)_2$ students rated this as the ninth most effective area of learning in $(CE)_2$ (out of 21) and the staff rated it fifteenth.* The experimental group rated $(CE)_2$ significantly more effective in this area than the control group did the regular high school.

The case study observations of students at employer sites, supported by interviews with students and with employer instructors, indicated numerous examples of students successfully performing applied Basic Skill tasks. The most frequent examples were in communicating orally with adults (in person or on the telephone), using basic mathematics in sales work and in making change for customers, and reading company materials and personal materials belonging to the employer instructors. The reading activities were often performed in conjunction with $(CE)_2$ projects that students were engaged in.

Interviews with students normally indicated that they were able to perform the applied Basic Skills required by jobs where they were working.

In general the evaluators found most students able to perform applied Basic Skills required at sites where they were working.

Have students improved in their performance level of the Basic Skills (reading, writing, oral communications and mathematics)?

Rationale. A young adult participating in today's society continually encounters the need to use the Basic Skills of reading, writing, oral communications and mathematics. Although the $(CE)_2$ program is not an intensive Basic Skills development program, growth in this area is an expected part of each students learning.

Related Learning Activities. The $(CE)_2$ student is able to use the community to gain Basic Skills in an applied, relevant manner often missing in the traditional high school setting. The tasks encountered at the learning level site frequently require the student to utilize reading, computational and communication ability. This strategy forces the student to recognize the value of having these skills. If her or his ability is lower than that needed to perform the test, the student is responsible for upgrading those abilities to an adequate level. Upgrading of these skills is accomplished through the use of projects specifically designed to meet the student's needs. Independent study and the individualized Basic Skills program are also available to the student.

Findings. Analysis of pre and post data from the Comprehensive Test of Basic Skills (CTBS) indicates that students made significant positive growth in reading comprehension, arithmetic concepts and arithmetic applications but not in study skills.

* See Table 5 for the student and staff ratings on each program goal.

No differences were found between gains by the experimental and control groups on the CTBS.

Staff ratings of student behaviors on a pre- and post basis indicate a significant improvement in student ability to communicate. The overall student rating on "conducts conversation with adults that reveals his/her self-confidence" increased from 2.84 (on a five-point scale) to 3.21. The rating on "understands another person's message and feelings" increased from 3.01 to 3.89.

$(CE)_2$ student rating of the program effectiveness in helping them attain Basic Skills objectives were low in all these areas. Reading was rated as the least effective area, arithmetic as the twentieth most effective and written and oral communication was rated eighteenth. Staff members rated the Basic Skills areas equally low. In spite of the low ratings, the experimental students rated $(CE)_2$ significantly higher in helping improve arithmetic skills than the control students rated the high school. Additional discussion regarding the CTBS results is contained in the following section of this chapter.

Have $(CE)_2$ students become aware of the level of Basic Skills needed to enter careers of interest to them and do they understand the relationship of that level to their current Basic Skills proficiency?

Rationale. The $(CE)_2$ program does not assume that all students need to reach the same level of proficiency in the Basic Skills (e.g., a grade equivalent of 12.9 years) to enter the world of adulthood. Consequently, students are encouraged to investigate the kind and level of Basic Skills needed for careers of interest to them and to evaluate their own Basic Skills proficiency and potential in light of that need.

Related Learning Activities. Self-assessment and career information searches on the computerized Career Information System (CIS) are one source of information on training and skill demands of various occupations. The career exploration process, in which students explore careers of interest first hand, and the Exploration Package, which helps students evaluate the demands of that career in light of their own skill proficiency play the more important role in helping students attain this goal.

Findings. When asked to rate how useful their $(CE)_2$ experiences have been in helping them know what level of Basic Skills proficiency is required in the jobs of interest to them, $(CE)_2$ rated this as the thirteenth most effective learning area. Staff members rated it fifth. Experimental students rated $(CE)_2$ significantly higher in this area than control group students rated the high school.

Staff ratings of student behavior indicate a significant increase in student activity (during the course of the year) involving applying knowledge of their own Basic Skills abilities to potential career interests.

Case study student interviews indicated that most students were aware of the Basic Skills needed to enter careers of interest to them. Separate interviews with their employer instructors, however, sometimes indicated that students were only vaguely aware of Basic Skills needed to advance to higher levels within a company. Although most students interviewed felt that they already possessed the Basic Skills needed for careers of interest, some employer instructors stated that the students needed more advanced skills than they possessed if they were to be hired as regular employees of the company. In a few cases, students became aware of the discrepancies between their existing level of performance in Basic Skills and what was required by the job and asked the $(CE)_2$ staff for help or purchased workbooks on their own to help improve themselves.

Evaluation data gathered this year indicate that this objective has been achieved.

Have $(CE)_2$ students demonstrated an increased willingness to apply Basic Skills to work tasks and to avocational interests?

Rationale. As students interact with community members and job tasks they become aware of the need in everyday life for proficiency in the Basic Skills. This awareness should make students more willing to practice and apply Basic Skills.

Related Learning Activities. The total $(CE)_2$ program experiences, but especially experiences on employer and community sites, interact to produce this outcome.

Findings. Staff members were asked to rate the degree to which each student demonstrated a willingness to apply Basic Skills to work tasks and to avocational interests. Because of the subjective nature of observing a person's "willingness," the inter-rater reliability for this behavior was only .42. The overall mean rating did increase significantly over the course of the year. Observations of case study students at various employer sites this year indicated that when Basic Skills were an integral part of a job, students were generally willing to engage in them as a part of their learning level experiences. Many of the jobs observed, however, required only a minimal amount and level of Basic Skills.

When asked to what degree the $(CE)_2$ program had helped them gain confidence in their ability to apply Basic Skills, $(CE)_2$ students placed this area in a tie for the thirteenth most effective learning area. Staff members rated it as the eighth most effective. There was no significant difference between the ratings of the experimental and control students.

Student interest in reading, as measured by the number of books, magazines, and pamphlets read this year as contrasted with the year prior to entering $(CE)_2$, revealed a significant increase thus providing at least one indicator of applied use of Basic Skills.

Life Skills Outcome Goals

The Life Skills include the attitudes and skills necessary to integrate the multiple roles that students will play in their daily lives. The Life Skills portion of the $(CE)_2$ curriculum builds awareness and skills in: critical thinking, science, personal and social development, functional citizenship, and creative development. Thirteen competencies (survival skills) complete the Life Skills area.

1. Critical Thinking

Did students increase their ability to gather, analyze and interpret information and to seek solutions to their problems?

Rationale. The student faces the need to make important decisions many times throughout his or her lifetime. The use of critical thinking skills enables the student to make more often the most advantageous decision.

Related Learning Activities. The $(CE)_2$ program continually forces student participants to develop their critical thinking skills through the use of two learning projects in this area per year (an individualized project and a preprepared one that focuses on the outcome goals) and through explorations on job sites. The student is repeatedly confronted with the need to gather data and then use it to make viable decisions. For critical thinking, as in all Life Skills areas, all $(CE)_2$ students are required to engage in activities to improve these skills. While an opportunity to do this might be available at the regular high school, not all students there are required to interact with all Life Skills areas.

Findings. On the study skills sections of the Comprehensive Test of Basic Skills, which measures the student's ability to interpret a variety of graphic and reference resources to solve problems, $(CE)_2$ students on the average increased the scores .6 grade equivalent years in the use of references. These gains were not statistically significant.

Student attitude toward the concept of "decision making" as measured by a semantic differential type of instrument did not change significantly over the course of the year. $(CE)_2$ students were asked to rate the extent to which they thought $(CE)_2$ helped them reach each program goal.* In doing so, they rated the critical thinking goal as the second most effective area in $(CE)_2$. The experimental group rated $(CE)_2$ significantly higher than the control group rated the regular high school program in the help they felt they received in the area of critical thinking. These ratings can be interpreted as evidence that students in $(CE)_2$ perceive their program as more helpful in developing critical thinking skills than do students in the traditional program. While the $(CE)_2$ staff members also rated the program quite high (4.0 on the same five-point scale) in this area, this rating was the twelfth highest (out of

* For a summary of staff and student ratings of program effectiveness in each of the Program Outcome Goal areas, see Table 5.

21 goals) of the goal ratings by staff members.

Table 5

RANK ORDER OF $(CE)_2$ STAFF AND STUDENT RATINGS OF PERCEIVED PROGRAM EFFECTIVENESS IN EACH OF THE PROGRAM OUTCOME GOAL AREAS

Program Outcome Goals	Group	
	Staff	Student
Life Skills		
Critical Thinking	12-14*	2-3
Science	18-21	16
Personal-Social Development	2-4	2-3
Functional Citizenship	18-21	20
Creative Development	18-21	8
Career Development		
Aptitude, Interests & Ability Knowledge	5-7	5
Social, Governmental & Economic Knowledge	17	18
Job Application & Maintenance Skills	8-11	15
Career Knowledge	12-14	1
Basic Skills		
Career Applied Basic Skills	15-16	9
Basic Skills Improvement - Reading	18-21	21
Basic Skills Improvement - Arithmetic	15-16	19
Basic Skills Improvement - Communication	8-11	17
Relationship of Career with Basic Skills	5-7	13-14
Willingness to Apply Basic Skills	8-11	13-14
Other Outcomes		
Broadening Range of Services	2-4	12
Adult-Oriented Personal Communication	1	11
Increasing Self-Initiated Behaviors	2-4	4
Increased Tolerance, Trust & Openness to Change	8-11	7
Sensory Input as a Part of Decision Making	5-7	10
Preparation for Adult Responsibilities	12-14	6

* When there is a tie in the rank order of goals rated, this is shown by using the same rank orders for the tied items. Rank order rather than means was used because most goals received high ratings on a five-point scale.

In the critical thinking preprepared project, students were required to (a) demonstrate an understanding of $(CE)_2$ staff relationships and learning resources, (b) describe $(CE)_2$ involvement with employer and community sites, (c) describe the relationship of $(CE)_2$ and Tigard High School, Northwest Regional Educational Laboratory, and the $(CE)_2$ Board of Directors, (d) select one employer site and complete an exploration there, (e) understand and explain other components/strategies of $(CE)_2$, (f) write a student project in a Life Skill area of their choice

and (g) evaluate their participation in this project.*

Ninety-six percent of the $(CE)_2$ students eventually completed all activities of the preprepared critical thinking project in a manner judged acceptable by the learning manager. Four percent did not initiate this project.

A sample of six of these projects, all completed by students selected for the case studies, were evaluated by an external reviewer from a neighboring school district.

In reviewing the preprepared projects in Critical Thinking titled "$(CE)_2$ For You", the reviewer indicated she felt this project was an excellent introductory project that helps students facilitate understanding of the process of critical thinking through very practical means. The reviewer gave all six critical thinking projects evaluated a rating of five (on a five-point scale) in terms of the degree to which the students appeared to reach this objective.

As part of the student case studies, employers who supervised students on a learning level were asked in an interview to judge the students' effectiveness in solving practical problems at the site and whether any changes had been seen in the student's problem solving abilities. Over half of the employers interviewed had not had an opportunity to observe the students' ability to solve problems. In a few cases, however, examples were given where the student had recommended solutions to a problem that were judged useful by the employer.

In summary, the evaluation findings suggest that the critical thinking projects are providing students with relevant experiences in the area but inadequate evaluation data exists to judge the extent to which students have internalized the critical thinking process.

2. Science

Have students increased their ability to recognize and apply scientific procedures and methods in daily life? Can students analyze the impact of technology on both the environment and man's cultural values?

Rationale. The existing level of technology in this country has brought every person into contact with the influence of science. Understanding scientific procedures and the effects of the resultant processes on the natural environment and on human values is an essential step toward meaningful participation in today's society.

* For an illustration of a preprepared critical thinking project containing the purposes, activities, resources, products expected and criteria see pages 40-54 of the EBCE Curriculum and Instruction handbook developed by NWREL, dated December 1974.

Related Learning Activities. The $(CE)_2$ program attempts to develop this understanding through the use of projects specifically designed to involve students in the consideration of some aspect of science. Learning activities require the student to actually use scientific processes in exploring both the factual background and cultural implication of a subject. The student may often utilize the employer site for his investigation; special community resources are also available. The projects are formulated to direct the student toward accomplishing the behaviorally written learning objectives.

Findings. In the science preprepared project, titled "I Was a Teenage Scientist" students were required to (a) read information which describes the scientifc method and restate that process in their own words (b) write definitions, in their own words, of fifteen applied science terms, (c) identify two ways the scientific method is used on each of two employer sites of their choice, (d) become familiar with the concept of cause/effect reasoning by reading, (e) identify, in two recent articles, the use of cause/effect reasoning, (f) identify four examples of cause/effect relationships on two employer sites of the student's choice, (g) indentify and discover the extent to which precision, accuracy and self-discipline as traits basic to scientific methodology existed at an employer site of the student's choice, (h) write a summary of what was learned about scientific procedures at a job site and how well the student's own "traits" match them, (i) broaden their concept of what topics are legitimate sources of scientific inquiry by brainstorming ten areas on the employer site that could be legitimate science areas, (j) select a problem on the employer site, apply the scientific method to it and carefully document the results, (k) evaluate the application of the scientific method to problem solving.*

Eighty-three percent of the $(CE)_2$ students successfully completed the requirements for the science preprepared project and were certified by the learning manager as having accomplished all the above mentioned tasks and activities. Ten percent of the students did not initiate this project and eight percent began but did not complete it.

A sample of 10 science projects, all completed by students in the case study sample, were evaluated by an external reviewer. This evaluation indicated that the reviewer regarded the science projects as more than adequate to help students attain the science outcome goal.

Students rated the science outcome area as the sixteenth (out of 21) most effective learning area in $(CE)_2$. The experimental group rated $(CE)_2$ significantly higher in this area than the control group rated the regular high school. Staff members rated this as the eighteenth (out of 21) most effective learning area.

* For a complete description of the purposes, activities, resources, products and criteria for the science preprepared project see pages 59 to 68 of the EBCE Curriculum and Instruction handbook, dated December 1974.

The evaluators feel that student science projects have provided the best evidence for accomplishment of this objective.

3. Personal-Social Development

Have students increased their ability to determine "Who they are," "What they are," and "Where they are going?" Do they accept the responsibility for the effect that their behaviors and attitudes have on themselves and on other people?

Rationale. Personal management skills, including mental health skills, self-analysis, self-direction and an understanding of responsibility are essential to life adjustment. The student's personal well-being as an adult depends in large part on the ability of the educational system to reinforce growth in these areas.

Related Learning Activities. Several aspects of the $(CE)_2$ instructional system are designed to provide direction to the students's personal and social development. As in all the Life Skills areas, students working in this area use projects to help them achieve the designated outcome goal. In addition, students face many of the responsibilities required of mature adults when they participate at employer sites. Getting along with coworkers, being on time and having a respect for property are only a few examples of the "working world" habits that a $(CE)_2$ student must develop.

Activities of the student/staff retreats, Wednesday student meetings and individual work task negotiations between staff and students also provide an opportunity for the student's personal and social improvement. A program accountability system is in operation. This system helps students understand the importance of adhering to established procedures. Rewards and penalties are employed to help students become more responsible for their own behavior. The program's structure also provides each student with substantial opportunities for receiving counseling and guidance from staff, employers and community individuals and agency personnel.

Findings. On the Psychosocial Maturity Scale (PSM) $(CE)_2$ students on the average did not demonstrate significant change on their individual adequacy scale scores due partly to having received high scores at the beginning of the year. This scale is designed to measure a student's perceived adequacy in relationship to work, self reliance and knowledge of him/herself. Significant positive change was registered, however, on a semantic differential instrument that measured attitude toward the concept of "me."

On an instrument with which staff members rated $(CE)_2$ students on a pre-post basis on seven behavioral scales, a significant increase in behaviors was noted that demonstrate that students know their own aptitudes, interests and abilities. Students were also rated significantly high at the end of the year on a scale called "Assumes responsibility for carrying out tasks."

On the perso l and social development preprepared project, students were asked to (a) make a list of their strengths and weaknesses, (b) identify an observable behavior they exhibit at an employer site and would like to change, (c) do a force field analysis for this behavior, (d) carefully observe this behavior at an employer site and record the data (e) interpret the information collected about themselves as it affects other people, (f) plan and carry out a strategy to change the behavior (including setting a realistic goal, planning a timeline, implementing the plan, evaluating progress and, if needed, considering alternatives), (g) be a participant observer in a group activity with the intention of describing behavior in nonjudgmental terms, (h) identify an adult and have him/her observe them in a group situation and give feedback on group process skills, and (i) evaluate performance on this project to isolate the part that was most difficult or challenging and initiate another project in that area.*

Ninety percent of the $(CE)_2$ students were judged by the staff as successfully completing each of these personal and social development activities. Eight percent of the students did not begin this project and one student began but did not finish it.

Eight personal and social development projects were reviewed by an external evaluator who rated all eight of them as very appropriate (five on a five-point scale) for helping students attain the personal and social development goals.

Case study interviews with students and staff have provided illustrations of how students have been helped to accept responsibility for their actions. The most concrete examples of this have occurred where students have failed to show up for an appointment with an employer, community resource person, or staff member. Students are made aware of their behavior, how people react to it and the consequences. Other critical incidents have also been documented in the case studies where students fall substantially behind in completing their $(CE)_2$ tasks and are required to make the big decision whether to catch up or to leave the program.

Personal and social development outcome goals tied with critical thinking goals as the second most effective area of learning according to the $(CE)_2$ student ratings. The experimental group rated $(CE)_2$ significantly higher than the control group rated the regular high school. Staff members also rated this as the second most effective outcome area.

Based upon the evidence gathered this year, the evaluators feel that this goal has been achieved.

* For an illustration of this project see pages 91 to 111 of the EBCE Curriculum and Instruction handbook.

4. Functional Citizenship

Have students increased their ability to understand democratic processes in the local, state and federal governments and in the private sector? Do they apply those processes in their personal actions as well as in their relationships to private and public institutions?

Rationale. There is probably little question that an increased awareness of the workings of government and the responsibility of citizenship is highly beneficial to both the student and to society. The daily application of democratic principles combined with a knowledge of the framework of our governmental system can do much toward helping the student become an effective citizen.

Related Learning Activities. The $(CE)_2$ program attempts, through use of carefully designed projects, to place the students into a learning situation where their own efforts will lead them to discover the role citizenship plays in developing a well-rounded member of the adult world. In addition, five of the student competencies relate directly to citizenship objectives (e.g., "understand the basic structure and function of local, state and federal government," "explain one's own legal rights and responsibilities"). The student accountability system encourages students to be responsible for planning their own learning program and coordinating their own day-to-day activities. Finally, through the process of student staffing, student progress in the area of personal responsibility is monitored and individualized activies are planned.

Findings. Sixty-three percent of the $(CE)_2$ student population successfully completed each of the competencies dealing with civic and political skills. This is slightly fewer than the average number of students obtaining certification on the other non-"citizenship" competencies, (76 percent). This suggests that the citizenship competencies are either less popular or are regarded as more difficult than other competencies.

$(CE)_2$ students gave this the second lowest effectiveness rating of all the 21 learning areas. The control group also rated the high school very low in this area and there were no significant differences between the experimental and control group's ratings. Staff members rated this area low, putting it in a three-way tie for last place.

In the functional citizenship preprepared project, students were asked to (a) describe democracy by comparing how well it works now with the ideals set forth in the constitution and by giving examples of three different levels on which it works, (b) investigate other governmental forms of decision making by observing decision making processes at employer sites, (c) describe their own role in decision making at home, with friends, on employer sites and at the $(CE)_2$ learning center, (d) select one social problem of interest and/or importance and investigate the type and amount of citizen and special interest involvement,

(e) identify and examine two types of business taxes on an employer site, (f) identify and discuss (in terms of purpose, how collected, how computed, how it is used and why it is necessary) four kinds of taxes which they as a citizen will be required to pay, (g) describe how state and/or federal codes govern working conditions at an employer site, (h) define citizenship, (i) list five examples of individual participation in the government decision-making process, and (j) select one citizenship activity from a list and participate in it.*

Sixty-nine percent of the $(CE)_2$ students successfully completed all the activities from the functional citizenship preprepared projects and received the staff sign-off. Twenty-five percent of the students did not initiate this project and six percent began but did not complete it.

An outside evaluation of 8 projects of students in the case study sample rated seven of the projects as definitely able to help students attain the citizenship goals while one was judged definitely not appropriate for this Life Skills area.

The case study of George provides a rich illustration of real life experiences that some of the $(CE)_2$ students have had in participating actively in the democratic processes of government. George and another student spent two weeks living in Salem and working on various projects with a state representative.

A comparison of the $(CE)_2$ experimental and control group on the student End of Year Questionnaire revealed that a significantly larger number of $(CE)_2$ students attend public meetings than was true for the control group.

Based upon the available evidence, the evaluators feel that this goal was achieved for most of the $(CE)_2$ students.

5. Creative Development

Have students increased their participation in the creative process of blending new and/or existing materials, ideas or concepts into unique forms and experiences? Can they identify the effects and desirability of these creative experiences?

Rationale. Education in the traditional setting often concerns itself primarily with a repetition of past facts rather than stressing individuality and creativity in the present. Creativity is an essential element of self-expression; the development of one's creative abilities is an important step in satisfactory overall growth.

Related Learning Activities. Student learning projects in the $(CE)_2$ program are chosen to help direct creative growth. Two projects during the year are intended to provide each student with an opportunity to transform one of his or her own interests into a unique and creative

* For an illustration of a functional citizenship preprepared project see pages 69 to 80 of the EBCE Curriculum and Instruction handbook.

learning experience that does not perpetuate the often irrelevant methods of the typical curriculum.

Findings. $(CE)_2$ students rated the creative development area of $(CE)_2$ as the eighth most effective of the 21 learning areas. The experimental group rated $(CE)_2$ significantly higher than the control group on this variable. In the staff ratings the creative development area tied as the least effective learning area.

In the creative development preprepared project, students were asked to (a) describe in their own words what creativity is, (b) collect photographs of common things that exhibit creativity and describe what makes these things creative, (c) describe the differences between style, discovery and creativity, (d) with the help of the employer instructor, identify an example of creativity that has improved the operation of business, (e) identify five examples of creativity expressed in different forms in the community and explain what is creative about them, (f) after reviewing recent articles on advertising, explain the function of creativity in that field, (g) propose three solutions to a problem at an employer site and with the employer instructor discuss the creativity of their solutions, (h) describe themselves as creative beings, and (i) redefine creativity based on their experiences with this project.*

Eighty-eight percent of the $(CE)_2$ students successfully accomplished the tasks laid out in this project and were approved by the $(CE)_2$ staff. Twelve percent did not initiate this project.

An outside evaluation of seven projects completed by the case study students indicated that six of the projects reviewed were judged as very appropriate to help students attain the creative development goal. One project was rated only slightly lower. In the opinion of the evaluators, adequate evidence exists to support the achievement of this goal.

6. Competencies

Have students demonstrated survival skills that cover the economic, planning, legal-political, safety-health, property maintenance, recreational and occupational aspects of living; i.e., can students perform behaviors considered by the community to be some of the minimal functional requirements for living in today's society?

Rationale. A critical aim of the $(CE)_2$ program is to provide students with the opportunity to learn skills considered essential to their survival in the adult world. Competencies such as responding to emergencies or holding a job are required of mature members of society. Quite often no segment of the traditional high school curriculum will consider these mandatory Life Skills, dwelling instead on more academic but generally less relevant topics.

* For an illustration of a creative development preprepared project see pages 81 to 90 of the EBCE Curriculum and Instruction handbook.

Related Learning Activities. In the $(CE)_2$ program information is made available to the students to direct their independent learning of the competencies. Students study until they feel secure in their ability to perform one or more of the competency tasks. An expert in the community is then contacted to act as the "competency certifier." Students demonstrate their ability to perform the competency to this expert who, if satisfied, certifies that the student does in fact possess the required Life Skill. The 13 $(CE)_2$ program competencies are: (a) transact business on a credit basis; (b) maintain a checking account in good order; (c) provide adequate insurance for self, family and possessions; (d) file state and federal income tax statements; (e) budget time and money effectively; (f) maintain the best possible health and make appropriate use of leisure time; (g) respond appropriately to police, fire and physical health emergencies; (h) participate in the electoral process; (i) understand the basic structure of local, state and federal government; (j) explain one's own legal rights and responsibilities; (k) make appropriate use of public agencies; (l) make application for employment and successfully hold a job; and (m) operate and maintain an automobile.* A student is required to complete at least half the competencies each program year and all of the competencies to graduate from the program.

Findings. The number and percent of students certified as having successfully completed each competency in FY 74 and FY 75 are displayed in Table 6. These competencies are certified by experienced members of the community. Since the program has operated with approximately the same number of students in each of these two years it is interesting to note that a substantially larger proportion of the students have completed competencies this year in comparison with last year.

* For a description of the activities required to complete each of these competencies see Appendix J of this report.

Table 6

NUMBER AND PERCENT OF STUDENTS COMPLETING EACH COMPETENCY IN FY 74 AND FY 75

Competencies Certified	FY 74		FY 75	
	Total	% of Students Enrolled	Total	% of Students Enrolled
1. Transact Business on A Credit Basis	47	94	52	98
2. Maintain a Checking Account in Good Order	45	90	51	96
3. Provide Adequate Insurance for Self, Family and Possessions	29	58	44	83
4. File State and Federal Income Tax	28	56	38	72
5. Budget Time and Money Effectively	17	34	31	59
6. Maintain the Best Physical Health and Make Appropriate Use of Leisure Time	10	20	23	43
7. Respond Appropriately to Fire, Police and Physical Health Emergencies	24	48	42	79
8. Participate in the Electoral Process	8	16	33	62
9. Understand the Basic Structure and Function of Local, State and Federal Government	6	12	24	45
10. Explain Own Legal Rights and Responsibilities	5	10	29	55
11. Make Appropriate Use of Public Agencies	17	34	44	93
12. Make Application for Employment and Successfully Hold a Job	28	56	46	87
13. Operate and Maintain an Automobile	17	34	31	59
Total	281		488	

These data indicate that some competencies are attained by students much more than others. For example, the physical fitness competency was completed by 43 percent of the students while the credit competency was completed by 98 percent of the students.

Career Development Outcome Goals

The Career Development component of $(CE)_2$ has the goal of providing students with the opportunity to explore and learn about specific careers at job sites, while at the same time enabling them to learn more about their own interests and aptitudes and how they fit into the world of work.

Have $(CE)_2$ students increased their knowledge of their own aptitudes, interests and abilities and applied this understanding to their potential career interests?

Rationale. The $(CE)_2$ project staff consider a mature career choice to be one in which a person matches a knowledge of her or his own aptitudes, interests and abilities to the characteristics related to a given occupation. Such a match requires an adequate knowledge of self.

Related Learning Activities. $(CE)_2$ students are required during each program year to use at least five different employer learning sites for exploration level experiences. Each exploration level lasts approximately three to five days. During and after completing each exploration level, the students obtain career information such as company policies, nature of the work, work environment, qualifications and preparation required, earnings and fringe benefits and future employment prospects. The exploration level also develops and enhances the student's ability to understand her or his interests, abilities and skills and to match these with job characteristics.

Other resources used by $(CE)_2$ students to help them better understand their own aptitudes, interests and abilities and their relationship to potential careers are the Self Directed Search (SDS) and the Career Information System (CIS). The Self Directed Search is a self-administered inventory of educational and vocation planning in which the student identifies preferred activities, competencies and occupations. The Career Information System, developed by the University of Oregon in cooperation with several other agencies, is an interactive computer program that students can access whenever they wish on the $(CE)_2$ terminal. This computer system helps the student to identify and match certain personal and job characteristics such as physical limitations, preferred location for living and working, education and training requirements, aptitudes, interests and job earnings. Information from both of these instruments was used to guide students in the selection of appropriate job exploration sites.

Findings. No significant changes, except for an increase in the Realistic code, were noted in the $(CE)_2$ students as a group on the Self Directed Search, an instrument, which among other things, measures the consistency of a person's aptitudes, interest and self-appraisals. A non-significant decline in self-perception as measured on the work scale of the Psychsocial Maturity Scale was noted. Student attitude toward themselves as measured by a semantic differential improved significantly.

On the student End of Year Questionnaire, 57 percent of the students in $(CE)_2$ were able to cite specific jobs that they were once interested in but had now determined did not match their interests and abilities. Thirty-six percent of the control group were able to cite jobs in the same category.

When asked to rate the extent to which $(CE)_2$ helped them learn how their interests and abilities fit into potential careers, $(CE)_2$ students rated this as the fifth most effective area. Control group students rated the regular high school program significantly lower in this area. Staff members also rated this as the fifth most effective of the 21 learning areas.

The $(CE)_2$ staff was asked to rate each student at the beginning of the year and again at the end of the year on her/his knowledge of her/his own aptitudes, interests and abilities and on how much the student applies that knowledge to potential career interests. The average student rating increased significantly on both dimensions. It changed from a 2.87 to a 3.35 (on a five-point scale) on the knowledge dimension and from a 2.71 to a 3.27 on the application dimension.

On the Student Questionnaire, significantly more experimental students (88 percent) expressed confidence in being able to complete the steps necessary to attain the career of their choice than did control students (57 percent).

Examples of how this goal is being accomplished are discussed in the evaluators' conclusion 3 at the end of the case studies section of Chapter III in this report.

Sufficient evidence exists to support the successful accomplishment of this goal.

Have $(CE)_2$ students increased their knowledge of social, governmental, and economic issues and trends of the world of work?

Rationale. Before a person chooses an appropriate career she or he should have adequate knowledge of the world of work as well as knowledge about a particular job.

Related Learning Activities. One of the primary strategies used by $(CE)_2$ to communicate an understanding of social and economic issues and trends of the world of work is that of employer seminars. In these seminars this year employers discussed with students procedures for applying for a job, the impact of economics on our lives, the changing work ethic and job discrimination.

Knowledge of social and economic issues and trends was sometimes gained by students on an individual basis through exploration and learning level experiences and through student projects.

Findings. The student End of Year Questionnaire contained ten items (items 31-40 in Appendix D) selected from the Career Planning Knowledge Scale developed by D. J. Prediger at American College Testing Program. Responses on these items were reported for a national sample of 9,307 eleventh grade students.* These true-false items measure common misconceptions about the world of work such as "few women work outside of the home after marriage." The $(CE)_2$ experimental students responded correctly 65 percent of the time while the control group students responded correctly to 53 percent of the items. The difference in performance between the two groups was statistically significant, using a multivariate analysis of variance, in favor of the $(CE)_2$ students. In comparison with the national sample of eleventh graders, $(CE)_2$ students scored the same or higher than the national sample on 8 out of 9 items. These same items were administered at the end of the year to students in the Diversified Occupational Cluster of the Work Experience Program at Tigard High School. This latter group scored higher than the national sample on 6 out of 9 items and was not significantly different from the $(CE)_2$ students.*

Based on the above data, the evaluators feel that the goal was achieved.

Have $(CE)_2$ students developed the general skills of job finding, job application, on-the-job negotiation and daily work interactions? Have they developed entry level work skills when appropriate?

Rationale. Mastery of general and specific career skills is essential for obtaining and holding a job. Some skills such as being able to use a variety of sources to locate available jobs, writing resumes and interviewing for a job, and successfully interacting with supervisors and coworkers on a job are considered essential for all students and can best be mastered through direct experiences. The development of specialized entry level skills for a potential career of the student's choice has not been mandated for all students because some have not made a firm choice and others are planning to enter jobs requiring postsecondary preparation.

Related Learning Activities. The $(CE)_2$ project offers students opportunities for general and specific job skills through exploration and learning levels; employer seminars, such as the one on job application procedures; student projects taking place at employer sites; and the competency requiring a student to make application for employment and successfully hold a job.

Findings. A total of 87 percent of the $(CE)_2$ students have successfully made "application for employment and successfully (held) a job" this year as certified by competency number 12. This is the most direct measure of goal attainment in this area.

* Prediger, D. J., Roth, J. D. and Noeth, R. V.; Nationwide Study of Student Career Development: Summary of Results (ACT Research Report No. 61); Iowa City, Iowa: The American College Testing Program, 1973.

In response to a question asking how useful $(CE)_2$ had been in helping them attain this goal, $(CE)_2$ students' ratings on the average placed this as the fifteenth most effective of 21 learning areas. There were no differences in experimental and control group ratings. The $(CE)_2$ staff rated this as the twelfth most effective area of $(CE)_2$.

The second part of this career development goal deals with entry level work skills acquired by $(CE)_2$ students. The Skill Development Sheet which is a part of the portfolio of each student who graduates from the $(CE)_2$ program lists those applied skills which were observed, practiced and acquired by students at employer sites. An examination of the student portfolio revealed that a multitude of skills (some students have as many as 60 identified) of widely varying natures (e.g., operating a keypunch, "doing" a throat specimen, taking inventory, etc.) have been documented.

Have $(CE)_2$ students analyzed potential careers for financial and psychological inducements, preparation needs and preparation programs available?

Rationale. Knowledge of financial and psychological career inducements, training needs and resources help students plan more realistically for careers and career training.

Related Learning Activities. Use of the Career Information System at the computer terminal provides students with a quick knowledge of job requirements and rewards for a number of areas in which they may have a potential interest. Direct experience at the exploration level gives students a first-hand knowledge about what particular jobs are like and about the life style of people occupying such positions. A more detailed understanding of job requirements and rewards occurs through learning level experiences.

Findings. When asked to rate the extent to which $(CE)_2$ was helpful in helping them learn what to look at in considering a job, $(CE)_2$ students' ratings placed this as the most effective of the $(CE)_2$ learning areas. The staff rated it as the eighth most effective area. The experimental group's rating was significantly higher than that of the control group.

On a student End of Year Questionnaire's item asking students how sure they were of steps to prepare for and enter each of two careers they had considered entering after completing their education, eight percent of the $(CE)_2$ students and none of the control students indicated they did not "know where to begin." Eighty-seven percent of the $(CE)_2$ students and 57 percent of the control group students felt they would be "able to complete the necessary steps for entry into at least one of the (two preferred) jobs." The difference was statistically significant in favor of $(CE)_2$. While these data would indicate that $(CE)_2$ was successful in achieving this goal, it was disappointing to see that twenty percent of the $(CE)_2$ students who had been in the program for two full years stated that they didn't know where to begin in preparing for and entering their two favorite career areas.

Student case study interviews conducted by the evaluators indicated that students could adequately analyze potential careers of interest for financial and psychological inducements but were much less clear on steps needed to prepare for such career entries.

Indirect Outcome Goals

Have $(CE)_2$ students broadened the range of sources they use (people, events, institutions, laws, books, etc.) in gathering information for work and decision making?

Rationale. Education has traditionally emphasized two primary sources of information that are available for students: books and teachers. The community- and experience-based nature of $(CE)_2$ make the community and life the classroom and open to students a much broader range of resources.

Related Learning Activities. Employer and community site experiences bring students in contact with a variety of people, institutions and situations. Student projects are written to help students utilize these resources and make students aware of their potential as a resource for a lifetime of learning.

Findings. When asked what aspects of their learning experience had influenced their choice of potential careers, roughly the same proportion of $(CE)_2$ and control group students indicated that teachers or counselors, people working in that career and relatives and friends had been influential. More $(CE)_2$ students (71 percent) than control students (42 percent) reported actual job experience as a factor and more control group students (28 percent) than $(CE)_2$ students (17 percent) reported reading as factor.

Students were asked on the End of Year Questionnaire to indicate how often during the year they had visited or made use of different public agencies or resources. Table 7 displays the percent of $(CE)_2$ and control group students who reported that they had used each resource at least once.

Table 7

PERCENT OF $(CE)_2$ AND CONTROL GROUP STUDENTS WHO HAVE UTILIZED SELECTED COMMUNITY RESOURCES

Resource	Group		
	$(CE)_2$ Total	$(CE)_2$ Experimental	Control
Public Library	92.3	85.7	30.8
Museum	48.1	46.4	15.4
Court	65.4	55.6	46.2
Public Meeting	75.0	66.6	7.7
College	57.7	59.3	31.8
State Legislature	25.0	7.7	23.1

It is apparent that $(CE)_2$ students are utilizing most of these public resources to a greater degree than students in the control group. Of course, the nature of the program which frees students from the classroom accounts for some of this difference. The degree to which students continue to use these resources after graduation will indicate how well the program has functioned to attain this goal.

$(CE)_2$ students rated this as the twelfth most effective learning area while staff members rated it second. Experimental students rated $(CE)_2$ significantly higher in this area than control students rated the high school.

Student attitude toward the concept of "community resources" as measured by a semantic differential made a statistically significant improvement over the course of the year. This indicates that in addition to making a greater use of these community resources students are also changing their attitude toward them.

One of the case study students helped to clarify the thinking about this goal by stating that he felt $(CE)_2$ graduates may not use these community resources more frequently than graduates of the regular high school program but that they would be more willing and able to use these resources as needs arose.

Do $(CE)_2$ students demonstrate an ability to conduct conversation with an adult that reveals the students' self-confidence and understanding of the other person's message and feelings?

Rationale. Students in a traditional program interact with adults on a very limited basis and within the framework of superordinate teacher and subordinate student roles. Students in $(CE)_2$ have the opportunity to meet, talk and work with a great number of adults in a variety of roles. This experience should better prepare them for the transition to adulthood than the "cold start" communications experience of graduates of traditional programs.

Related Learning Activities. Besides very intensive interactions with all staff members at the $(CE)_2$ learning center, all $(CE)_2$ students meet and talk with many adults in the community. Students interview the employer instructor as part of the exploration process and must work and negotiate with employees and other community people to complete the exploration and learning level experiences and be certified in the competencies.

Findings. Staff members rated this as the program's most effective area of learning while students rated it eleventh. Experimental students rated $(CE)_2$ significantly higher in this area than the control students rated the regular high school program.

On a rating form on which staff members were asked to rate individual student behaviors on a beginning and end of year basis, staff members

indicated that students made significant growth in both aspects of communication listed in this goal. On the behavior, "conducts conversation with an adult that reveals his/her self-confidence, the average rating increased from 2.84 (on a five-point scale) to 3.21. On the behavior, "understands another person's message and feelings," the average rating changed from 3.01 to 3.59.

During the interviews with case study students it became apparent that these $(CE)_2$ students had become at ease communicating with adults. They demonstrated an ability to listen to and respond to evaluators' questions in a manner indicative of their feelings of equality and rapport with an unfamiliar adult.

Do students demonstrate an increase in self-initiated behaviors and in assuming responsibility for carrying out and evaluating tasks which they agree to complete?

Rationale. In a traditional high school program, students are "programmed" by the bell and by course and teacher expectations. It is not uncommon for a student to go through school in a totally passive manner, never being encouraged to initiate his/her own activities and never being given the opportunity to judge the worth of his/her work against his/her own value systems. $(CE)_2$ philsophy assumes that the best way to prepare students for these and other life tasks is to begin working on them prior to graduation from high school.

Related Learning Activities. Student project initiation, negotiation and evaluation processes encourage students directly to take responsibility for their own learning. The less formal atmosphere of experience-based learning at community and employer sites also places students in a situation where their own level of initiative and follow-through determines, to a great extent, the benefit they will glean from the experience.

Findings. An interview at midyear with a random sample of 20 $(CE)_2$ students revealed a generally high level of student involvement in planning their own learning program (e.g., identifying topics for student projects, selecting appropriate learning activities, choosing employer sites, etc.). Students also described a high level of freedom (and responsibility) in carrying out these learning plans. Less than half of the students, however, felt they played an important role in the evaluation of their own work.

Both staff and student ratings on the extent to which $(CE)_2$ helped students attain this goal were quite high (fourth most effective for students and a tie for second place for staff). Control group students rated the traditional program significantly lower in this area.

Staff ratings of student behaviors at the beginning of the year and again at the end reveal a significant increase in self-initiated program related behaviors (from an average 2.74 beginning-of-the-year rating to an average 3.19 end-of-year rating on a five-point scale). A significant increase

in responsibility for carrying out tasks was also described (2.91 prerating to a 3.36 postrating).

Student staffing notes and those made at the end of the student accountability year indicate many students were having trouble carrying out their program tasks. Records regarding the number of students behind schedule in completing projects, competencies and other program requirements also indicate that this is a major problem for many students. Student case studies have been helpful this year in documenting in a personal fashion the steps taken by staff and students alike in helping students become more responsible. Perhaps the best way to summarize progress regarding this goal is to state that many teenagers are not self initiating and responsible if left on their own, but that significant improvement has been made by many but not all $(CE)_2$ students in this area.

Do students demonstrate an increase in behaviors that reveal: a tolerance for people and institutions who have different values, ideas or backgrounds than themselves, an openness to change and a willingness to trust others when circumstances warrant?

Rationale. The pluralism that is the American culture (described by some as a "salad bowl" rather than a "melting pot") brings each citizen into contact with a wide range of values and ideas with which he/she must learn to cope. $(CE)_2$ attempts to help students both "taste" and "season" the salad by learning about other people's values and by developing and expressing their own.

Related Learning Activities. Rather than learn in a relatively homogeneous environment of students and teacher within classroom walls, $(CE)_2$ students are thrust into the realities of everyday life. They must learn to talk and work with people that make up all the ingredients of the "salad bowl."

Findings. The $(CE)_2$ staff members rated this as the eighth most effective learning area while students rated it seventh. There was no significant difference in experimental and control group rating on this dimension.

On the Psychosocial Maturity Scale, $(CE)_2$ students at the beginning of the school year already scored high on the trust, tolerance, and openness to change scales and thus there was relatively less chance than last year of showing significant growth in these areas. Nevertheless, the $(CE)_2$ students did demonstrate a significant gain in trust and openness to change, and a marginal decline in tolerance.

The case studies conducted this year included interview questions to case study students and their employers that dealt with the students' ability to relate to people with different values and backgrounds, students' openness to change, and their willingness to trust others when circumstances warrant. In some cases, employer instructors had not had sufficient time to judge students on these traits. When employer instructors did respond and present examples, they usually supported the students' positive performance in these areas. Tolerance and trust,

however, were difficult areas to pinpoint.

Because these three traits of tolerance, trust and openness to change are difficult to observe except when they are violated, the evaluators feel that insufficient data exist to judge the achievement of this goal.

Do students include data from their total sensory system as part of their input into their decision-making process?

Rationale. Education has for many years emphasized the cognitive nature of learning and has ignored or de-emphasized the affective domain. $(CE)_2$ emphasizes all aspects of learning and encourages students to consider all data--cognitive, affective and sensory data (as it affects the cognitive and affective)--in the decision-making process.

Related Learning Activities. Because $(CE)_2$ is experience based, students in the normal course of events encounter multiple sensory input (as opposed to the vicarious learning in a classroom). The career exploration process encourages them to use this input as real data in the decision making process.

Findings. Although no significant change was indicated in student attitude toward the concept of "decision making" as measured by a semantic differential, $(CE)_2$ students rated this as the tenth most effective learning area with the experimental students rating $(CE)_2$ significantly higher than the control students rated the high school. Staff members rated this as the fifth most effective learning area.

This goal has been difficult to evaluate by any means other than the case study student interviews. The discussion under conclusion 7 at the end of the case study section of this report illustrates how students are utilizing a variety of information obtained through direct experience in making decisions. Students in the case study sample were able to quote sound reasons, based on "hands-on" experience for choosing to change career goals or to decide not to pursue a given career.

Are students better prepared to assume imminent adult responsibilities and relationships?

Rationale. Few would question the goal of education that seeks to prepare students to assume adult responsibility. The $(CE)_2$ program is oriented with the overall purpose of easing the student's transition to adulthood.

Related Learning Activities. The whole $(CE)_2$ program is designed to help students become responsible adults, but the Student Accountability System is the most direct strategy to effect this outcome. Through the Student Accountability System, students are increasingly given more responsibility and the freedom to avoid this responsibility and suffer the natural consequences of their actions.

Findings. Because this goal is so comprehensive, the evaluators feel that it is impossible to answer adequately in a few words. The $(CE)_2$ learning strategies appear consistent with and supportive of this goal. Readers are encouraged to reach their own conclusions regarding this goal after reading the student case studies and other information contained in this report. The interviews that Educational Testing Service has conducted with graduates and drop outs of $(CE)_2$ may also shed some light in this area when they become available in December 1975.

Section D. $(CE)_2$ Evaluation Findings by Instrument

Rationale for Instruments

The reader is reminded that a description of each instrument discussed in this section is found in Appendix C. This section contains the findings for the following instruments used in the evaluation of $(CE)_2$: the Comprehensive Test of Basic Skills (CTBS), the Psychosocial Maturity Scale (PSM), a semantic differential, the Self Directed Search (SDS), a student End of Year Questionnaire, a Staff Questionnaire and a student midyear interview.

The CTBS was used to measure Basic Skills abilities and assess growth in the Basic Skills areas. In order to conserve testing time, the reading comprehension subtest was selected as a measure of growth in verbal ability and the arithmetic concepts and arithmetic applications subtests were chosen as measures of growth in quantitative ability. The study skills subtests were used as measures of ability to use resource materials. Pretest CTBS scores were transmitted to $(CE)_2$ staff members to aid in individualizing student programs, while growth measures from pretest to posttest administration were used to assess the kind and amount of Basic Skills development which occurred as a program outcome in relationship to growth in a traditional high school program.

The PMS and semantic differential were used to assess growth in the Life Skills area of personal-social development and towards the concept of work. In addition, the PSM was used to assess growth in the goal-related behaviors of self-reliance, tolerance, trust, openness to change and social commitment, while the semantic differential was used as a measure of growth in attitudes towards self, learning and community resources.

The SDS served many purposes. From an operations viewpoint it was used at pretest time as feedback to students to their career interests. From a research point of view it served: (a) to describe the career/personality styles of students, (b) as a change score measure of differentiation (the extent to which a student can differentiate his or her career interests) and consistency (the compatibility of a student's interests, competencies and career preferences), and (c) as a reference in matching the fit between a student's SDS career type with his or her two top career preferences as expressed on the student End of Year Questionnaire. This third research use was directed to a $(CE)_2$ program goal of increasing students' ability to apply an understanding of their own aptitudes, interests and abilities to their potential career interests.

The student End of Year Questionnaire measured student attitudes towards $(CE)_2$ (or the high school program for control students), knowledge of the world of work and future work and educational plans. The Staff Questionnaire was used to assess importance and effectiveness of each of the program goals. The individual student interviews attempted to ascertain whether some of the more abstract program goals (especially those listed as Other Outcomes in Chapter III, Section B) were being adequately addressed by the program.

Comprehensive Test of Basic Skills

The CTBS reading comprehension, arithmetic concepts, arithmetic applications, study skills using references and study skills graphic materials sections were administered to all $(CE)_2$ students in the early fall of 1974 and again the spring of 1975. These same sections, less the study skills sections (removed to shorten the testing time), were administered to the control group students in the fall. All sections were administered to the control group in the spring.

The CTBS was used to measure change in students' Basic Skills achievement. It was hypothesized that $(CE)_2$ students would improve their Basic Skills achievement and that their growth in this area would not be less than that evidenced by their counterparts at the high school.

Expanded standard score group means and standard deviations on the pre- and posttests are included in Table 8.

Table 8

PRETEST AND POSTTEST EXPANDED STANDARD SCORE MEANS AND STANDARD DEVIATIONS OF THE $(CE)_2$ AND CONTROL GROUP ON THE COMPREHENSIVE TEST OF BASIC SKILLS*

Group \ Score		Reading Comp.		Arithmetic Concepts		Arithmetic Appl.		Study Skills References		Study Skills Graphics	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Exp.	$\bar{X}$	568.4	617.2	558.3	565.7	543.9	572.0	554.6	578.1	606.9	616.5
n = 29	S	88.6	94.7	95.8	76.8	79.4	87.0	105.6	118.1	180.1	91.8
Ret. Srs.	$\bar{X}$	599.2	626.0	581.5	610.8	568.8	563.3	600.6	602.0	605.0	606.9
n = 10	S	132.3	92.6	97.8	94.1	95.9	117.6	123.1	93.4	110.6	128.7
Presel.	$\bar{X}$	666.5	697.8	651.2	676.0	666.6	677.6	676.2	706.6	696.2	735.1
n = 12	S	74.5	53.5	95.4	87.4	90.9	78.8	76.4	89.3	88.5	77.4
Tot. $(CE)_2$	$\bar{X}$	597.5	637.9	584.7	600.5	577.7	595.2	592.2	613.0	627.5	642.5
n = 52	S	102.0	91.3	101.6	93.1	97.9	101.2	113.1	118.2	109.3	108.3
Control	$\bar{X}$	531.4	570.0	526.9	541.8	532.1	565.9	---	533.2	---	566.3
n = 12	S	112.0	102.9	77.4	76.5	56.7	72.9	---	114.3	---	90.5

* In this and future tables the letters n, $\bar{X}$ and S are used. The letter n represents the number of students in a particular group, $\bar{X}$ represents the mean (or average score for the group) and S represents the standard deviation (a measure of group dispersion such that two-thirds of the group will appear within the range of one standard deviation above or below the mean).

A multivariate analysis of covariance (MANCOVA) was run on the pre- and posttest scores of the total $(CE)_2$ population. A MANCOVA table is included in Appendix B (CTBS #2).

It can be inferred from the analysis that $(CE)_2$ students made statistically significant gains in Basic Skills, especially in reading comprehension.

They also made marginally significant gains* in arithmetic concepts and arithmetic applications; but when conditioned for reading comprehension, these significant gains disappear. Apparently, the arithmetic subtests contain a large general intelligence or reading comprehension component. No significant changes were noted in the study skills subtests. Conversion of the expanded standard scores to grade equivalent scores indicates that during the appromixately 6 months between pretest and posttest, $(CE)_2$ students gained 18 months in reading comprehension, 6 months in arithmetic concepts, 5 months in arithmetic applications, 7 months in study skills reference and 12 months in study skills graphics.

Pre- and post-$(CE)_2$ CTBS scores on the reading and arithmetic subtests were also analyzed to determine the variability of change scores among $(CE)_2$ students. To answer the question of how many students made negative change, no change, or positive change, a frequency distribution of change scores was constructed (see Table 9). The distribution was fairly normal, with the median slightly above zero. A considerable number of students made negative changes--changes probably more indicative of test taking attitude than actual change in Basic Skills ability.

Table 9

DISTRIBUTION OF CHANGES ON $(CE)_2$ CTBS SCORES IN FY 75

Score Change	CTBS Subtest		
	Reading Comprehension	Arithmetic Concepts	Arithmetic Applications
-150 to -100	0**	0	2
- 99 to - 50	3	5	3
- 49 to 0	12	15	17
+ 1 to 50	13	18	13
+ 51 to 100	17	12	15
+101 to 150	5	2	2
+151 to 200	1	0	0
Over 200	1	0	0

** Numbers refer to the number of $(CE)_2$ students demonstrating a given range of changes in CTBS scores stated in expanded standard score units.

A multivariat analysis of covariance (Appendix B, CTBS #1) using the pretest as the covariate and comparing the experimental group with the control group indicates no significant differences in the adjusted mean posttest scores. This supports the hypothesis that $(CE)_2$ students would not gain less than comparable students in the high school.

* Throughout this report the term "marginally significant" will be used to denote an effect with a probability level such that $.05<p<.10$.

These results from the Basic Skills assessment tend to support both the hypothesis that $(CE)_2$ students would make gains in Basic Skills and the hypothesis that the control group would not gain more. This is an encouraging if not impressive result, especially considering the fact that $(CE)_2$ is not a concentrated Basic Skills program.

A multivariate analysis of covariance of $(CE)_2$ student scores (see Appendix B, CTBS #4) compared gains made by the three student groups within $(CE)_2$: the experimental group, returning seniors and the preselected group. There were no significant differences between the groups.

Psychosocial Maturity Scale

The Psychosocial Maturity Scale (PSM) was adminstered to all $(CE)_2$ students in the fall and again in the spring. The work, self-reliance and identity scales only were adminstered to the control group in the fall (due to time constraints) and the entire instrument was administered to the control group in the spring. The purpose of the instrument was to assess students' self-perceptions on a range of variables related to individual adequacy and social adequacy and to see if change in these self-perceptions took place.

Means and standard deviations on the pre- and posttest of the PSM are displayed in Table 10.

Table 10

SUMMARY OF THE PSM DATA FOR $(CE)_2$ AND THE CONTROL GROUP

Group / Score		Exp. n = 29		Ret. Sr. n = 10		Pre. Sel. n = 12		Total $(CE)_2$ n = 51		Control n = 8	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Work	$\bar{X}$	29.1	24.8	27.8	27.0	30.4	27.6	29.2	25.9	28.0	28.0
	S	4.7	5.4	7.1	4.6	3.9	5.7	5.0	5.4	3.4	4.0
Self-Reliance	$\bar{X}$	30.7	29.9	28.4	32.6	33.8	32.8	31.0	31.1	29.5	30.4
	S	5.0	5.7	5.1	2.8	3.7	4.7	5.0	5.1	6.9	4.7
Identity	$\bar{X}$	29.6	27.1	26.6	31.0	32.2	29.4	29.6	28.4	28.9	29.0
	S	5.2	7.2	5.6	5.1	4.8	6.5	5.4	6.8	5.7	5.5
Communicate	$\bar{X}$	26.9	26.7	24.3	29.1	26.7	27.2	26.3	27.3	--	26.8
	S	6.4	5.5	6.1	5.3	4.7	4.6	5.9	5.3	--	4.8
Role	$\bar{X}$	32.3	31.2	31.5	33.3	33.8	34.8	32.5	32.5	--	31.8
	S	3.8	4.4	4.3	3.7	3.7	3.0	3.9	4.2	--	5.4
Trust	$\bar{X}$	28.2	29.8	26.7	29.3	30.9	31.6	28.6	30.1	--	26.8
	S	5.0	5.0	3.7	3.8	4.0	3.6	4.7	4.5	--	4.1
Social Commitment	$\bar{X}$	33.4	32.4	35.7	35.6	37.1	35.7	34.7	33.8	--	30.9
	S	5.1	5.2	4.1	4.4	4.1	4.4	4.9	5.0	--	4.1
Change	$\bar{X}$	35.7	35.3	37.4	36.1	39.8	37.8	37.0	36.1	--	33.0
	S	4.2	4.3	5.9	5.8	3.6	3.3	4.7	4.7	--	6.2
Social Desir.	$\bar{X}$	21.1	19.6	22.1	21.8	20.4	19.2	21.1	19.9	--	20.9
	S	3.5	3.5	4.2	2.0	2.9	3.4	3.5	3.3	--	2.7

A multivariate analysis of covariance run on the pre- and posttest scores of the total $(CE)_2$ population is summarized in Appendix B (PSM #2). While an examination of group means indicated very small changes in scores from pre- to posttest the multivariate test indicated a significant change in overall PSM scores. This effect was due primarily to growth on the change and trust scales.

A multivariate analysis of covariance was run using pretest scores as covariates and comparing the adjusted posttest means on the work, self-reliance and identity scales for experimental and control students (see Appendix B, PSM #1). The analysis indicated that the experimental group score on the work scale declined significantly over the course of the year in comparison to the control group score on the same scale.

The possible explanation for the significant decline in score on the work scale is that $(CE)_2$ students, exposed to the everyday experience of work (including the routine and the responsibility) developed a more realistic though less positive attitude toward work. An honest response to certain items on the work scale (e.g., "I often get behind in my work") for many $(CE)_2$ students who were in fact behind in completing program expectations would also tend to lower the posttest score.

The ten items comprising the work scale together with the percentage of $(CE)_2$ experimental group and control group students disagreeing with each item at the beginning and end of the school year are displayed in Table 11. The $(CE)_2$ students had "less positive" attitudes toward nine of the ten items at the end of the year while the control group had "more positive" attitudes on seven of the ten items based upon the scoring key of the test authors. Further discussion of these findings appears on page 138 of this report.

$(CE)_2$ pretest scores on the PSM tended to be quite high. Scores on eight of the nine scales were higher at pretest time this year than they were at the posttest of FY 74. Thus regression toward the mean may have influenced pre-post change on all scales and tempered any indications of upward growth. Correlations were run between the sex of $(CE)_2$ students and their scores on each of the PSM scales. No significant differences were found between boys and girls except on the role scale ($r=.37$, $p<.01$, $dF=38$) and social commitment scale ($r=.33$, $p<.02$, $dF=38$) where girls outscored boys.

A comparison of the three $(CE)_2$ subgroups on the PSM using MANCOVA revealed no significant trends among the groups (see Appendix B, PSM #3).

Table 11

PERCENT OF $(CE)_2$ EXPERIMENTAL GROUP AND CONTROL GROUP STUDENTS WHO DISAGREED WITH EACH ITEM ON THE PSM WORK SCALE*

Item		Pre	Post
I often forget the work I am supposed to do.	$(CE)_2$ (n=52)	63	46
	Control (n=12)	62	87
It's more important for a job to pay well than for it to be interesting.	$(CE)_2$	92	77
	Control	62	75
I believe in working only as hard as I have to.	$(CE)_2$	89	53
	Control	75	87
I leave my homework unfinished if there are lots of good TV shows on that evening.	$(CE)_2$	57	49
	Control	62	75
I don't often finish the work I start.	$(CE)_2$	63	40
	Control	62	62
I often tend to go from one thing to another before finishing any one of them.	$(CE)_2$	63	40
	Control	62	75
I often get behind in my work.	$(CE)_2$	57	29
	Control	37	37
I hate to admit it, but I give up on my work when things go wrong.	$(CE)_2$	66	46
	Control	75	87
I find it hard to stick to anything.	$(CE)_2$	74	46
	Control	62	50
When a job turns out to be much harder than I was told it would be, I don't feel I have to do it perfectly.	$(CE)_2$	86	86
	Control	75	57

* Percentages shown are a combination of students who disagreed or strongly disagreed with each item. The test authors consider the "best" response to each item to be that of disagreeing with the statement.

Semantic Differential

A semantic differential type of instrument was administered to all $(CE)_2$ students on a pre-post basis. Only the me, adults, school, learning and work scales were administered to the control group students in the fall to conserve testing time and the total instrument was administered to the control group in the spring. The purpose of the instrument was to assess changes in student attitude toward themselves and toward selected concepts related to learning and the world of work.

Means and standard deviations for the pretest and posttest are displayed in Table 12.

Table 12

PRETEST AND POSTTEST MEANS AND STANDARD DEVIATIONS OF THE (CE)$_2$ AND CONTROL GROUP ON THE SEMANTIC DIFFERENTIAL INSTRUMENT

Scale / Group		Me		Com. Res.		Adults		School		Learning		Work		Dec. Mak.	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Ext.	$\bar{X}$	[illegible]	[illegible]	[illegible]	57.1	[illegible]	[illegible]	43.1	57.5	[illegible]	58.6	59.4	55.8	[illegible]	[illegible]
n=24	S	[illegible]	[illegible]	9.7	7.6	[illegible]	6.8	11.7	8.8	7.5	6.9	7.9	9.9	[illegible]	[illegible]
Ret. [illegible]	$\bar{X}$	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	50.9	57.4	[illegible]	58.5	50.6	57.2	[illegible]	[illegible]
n=1[illegible]	S	[illegible]	7.4	[illegible]	[illegible]	[illegible]	7.7	13.3	10.5	10.2	9.0	11.9	[illegible]	[illegible]	[illegible]
Pre. [illegible]	$\bar{X}$	[illegible]	[illegible]	[illegible]	55.7	[illegible]	54.3	46.9	56.9	57.2	58.5	59.4	57.3	[illegible]	52.4
n=11	S	[illegible]	[illegible]	12.2	9.4	[illegible]	7.9	15.5	11.6	[illegible]	7.7	8.9	9.1	10.1	[illegible]
(CE)$_2$ Tot.	$\bar{X}$	55.1	58.1	[illegible]	[illegible]	[illegible]	53.5	45.4	57.3	56.9	58.6	57.6	54.4	51.9	[illegible]
n=[illegible]0	S	[illegible]	8.1	[illegible]	[illegible]	[illegible]	7.2	13.0	[illegible]	8.7	7.4	[illegible]	[illegible]	10.8	9.1
Control	$\bar{X}$	[illegible]	[illegible]	--	52.7	[illegible]	54.	48.4	54.0	61.1	[illegible]	61.4	57.4	--	[illegible]
n=12	S	[illegible]	[illegible]	--	[illegible]	[illegible]	[illegible]	14.9	[illegible]	8.2	8.1	9.5	7.3	--	[illegible]

A multivariate analysis of covariance was run on the pre- and posttest scores of the total (CE)$_2$ group. A summary of the analysis is displayed in Appendix B (SD #2).

The multivariate F test indicated a positive significant change in (CE)$_2$ student attitude as measured by this instrument. All of the concepts except for "decision making" showed significant growth. As with the Psychosocial Maturity Scale, attitude toward the concept of "work" declined significantly over the course of the year, but when conditioned for the effects of the other scales (except "decision making"), this significant effect disappears and is thus not a unique effect.

MANCOVA analysis of experimental and control group data (Appendix B, SD #1) indicated no significant differences in change scores between those two groups on the semantic differential.

Self Directed Search

The Self Directed Search (SDS) was administered to all students in (CE)$_2$, the control group and students in the Diversified Occupations class of the Cooperative Work Experience (CWE) program in the fall and again in the spring.

Pretest and posttest means and standard deviations are displayed in Table 13. A brief description of the six career and personality styles (i.e., realistic, investigative, etc.) is contained in Appendix C.

Table 13

PRETEST AND POSTTEST MEANS AND STANDARD DEVIATIONS OF THE $(CE)_2$, CONTROL AND COOPERATIVE WORK EXPERIENCE PROGRAM STUDENTS ON THE SELF DIRECTED SEARCH

		Realistic		Invest.		Artistic		Social		Enter.		Convent.		Differ.		Consist.	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Exp.	$\bar{X}$	6.9	7:5	5.2	5.9	8.2	7.8	9.8	9.9	6.1	5.9	3.7	4.5	5.5	5.3	2.5	2.3
n=30	S	4.7	4.9	3.7	3.5	3.2	3.1	3.7	2.9	2.8	2.9	2.9	2.8	2.8	3.1	.68	.64
Ret. Srs.	$\bar{X}$	9.0	9.3	6.2	6.9	6.9	6.6	10.0	9.8	5.9	7.0	6.4	5.6	5.5	4.4	2.2	2.4
n=10	S	5.1	3.8	2.9	3.7	5.0	3.7	2.9	3.7	5.0	3.7	2.5	3.3	2.5	1.9	.92	.84
Pre. Sel.	$\bar{X}$	5.8	5.8	5.9	7.0	6.8	6.8	10.7	10.7	5.0	5.3	4.3	3.6	6.8	6.0	2.8	2.8
n=12	S	4.5	4.9	3.5	2.1	3.1	2.8	3.6	3.8	2.6	3.2	2.6	2.4	1.6	2.7	.62	.39
Total $(CE)_2$	$\bar{X}$	7.0	7.5	5.6	6.3	7.6	7.3	10.0	10.1	5.8	5.9	4.4	4.5	5.8	5.3	2.5	2.4
n=52	X	4.7	4.8	3.5	3.2	3.6	3.1	3.5	3.2	2.7	3.1	2.9	2.9	2.6	2.8	.72	.67
Control	$\bar{X}$	8.2	8.7	4.0	3.9	7.0	6.6	10.9	9.8	6.3	6.9	4.8	5.6	5.6	6.0	2.0	2.3
n=12	S	5.2	6.1	2.1	2.7	3.7	3.6	2.6	3.5	3.4	3.5	3.7	3.6	1.8	2.5	.95	.78
CWE	$\bar{X}$	7.9	8.6	5.8	5.2	6.4	7.4	10.1	8.8	5.4	5.3	5.0	4.4	5.9	6.6	2.3	2.4
n=16	S	5.0	4.4	3.9	4.4	3.4	4.2	3.1	3.5	3.3	3.6	4.3	3.9	2.6	2.4	.85	.73

A multivariate analysis of covariance on $(CE)_2$ SDS data indicates no significant change in scores over the course of the year (see Appendix B, SDS #4).

Multivariate analysis of covariance revealed no significant difference in adjusted posttest means between experimental and control groups (Appendix B, SDS #1). A second analysis of covariance, comparing $(CE)_2$ experimental students and CEW SDS results indicates that $(CE)_2$ students increased their investigative and social scores to a significantly greater extent than did the CWE students (Appendix B, SDS #2). No definite conclusions can be drawn from these data. Both the differentiation and consistency scores remained very stable over the course of the year for all groups. Changes in scores on the six career/personality areas (realistic, investigative, etc.) also were not significant except for the increase in realistic. This was probably influenced by the fact that many students did explorations in career areas that could be labeled within the category of realistic.

The extent to which students' projected careers were congruent with their SDS code was computed using the two preferred careers cited by students in the End of Year Questionnaire and their SDS codes. Student careers were classified into Holland's six categories (realistic, investigative, artistic, social, enterprising and conventional) using The Occupations Finder as a guide.* If the classification of the career matched the student's primary (first) SDS code, a congruency code of "3" was assigned. If the classification of the career matched the secondary or tertiary code, a congruency code of "2" or "1" was assigned respectively. If the classification did not match the SDS code at all, a "0" was assigned.

A percentage distribution of $(CE)_2$ and control group SDS congruency codes for the two careers selected at the end of the year is displayed in Table 15.

Table 14

PERCENTAGE DISTRIBUTION OF SDS CONGRUENCY CODES FOR $(CE)_2$ AND CONTROL GROUP STUDENTS

Group	First Occupational Choice				Second Occupational Choice			
	0	1	2	3	0	1	2	3
Experimental (n=30)	17**	3	28	52	4	18	21	57
Preselected (n=12)	17	17	8	58	27	9	18	46
Returning Srs. (n=10)	10	30	20	40	33	17	17	33
Control (n=12)	0	29	14	57	13	13	13	61

** Percent of students

* Consulting Psychologist Press, © 1972, revised 1974.

Eighty-three percent of the experimental students' first career choices and 96 percent of their second choices matched (to some degree) their SDS codes. One-hundred percent of the control group students' first choices and 87 percent of their second choices matched their SDS codes. Because the congruency code distributions were so similar for these two groups, no inferential statistics were computed and it was concluded that no significant differences existed between the congruency of experimental and control group career choices.

Nearly one-third of the preselected and returning seniors' second career choices did not match their SDS codes. It should be noted, however, that Holland's system of classifying careers utilizes the full three letter SDS code while our method of computing the congruency code utilized only one SDS code at a time. An examination of the $(CE)_2$ "0" congruency scores reveals that many of them would have been higher if a more sophisticated matching system utilizing the full three letter code for occupations had been used as well as the actual strength of the students' score in each area rather than merely the rank order.

During the coming year, additional scoring systems will be investigated and a better alternative developed to that employed this year.

Staff Rating of Students

Two $(CE)_2$ staff members who have continuous contact with $(CE)_2$ students (the learning manager and student coordinator) were asked during the first semester to rate on seven scales of behavior each $(CE)_2$ student as he/she appeared during the first three weeks of the program. These staff members were again asked to rate the same students at the end of the program year. The purpose of these ratings was to document staff members' perceptions of individual student change over the course of the year. A summary of the ratings is displayed in Table 15.

Table 15

PRE- AND POST-STAFF RATINGS OF $(CE)_2$ STUDENTS ON SEVEN TRAITS

Dimension Rated		Category of Students							
		Exp. (n=30)		Ret. Srs. (n=10)		Pre Sel. (n=12)		Total (n=52)	
		X	S	X	S	X	S	X	S
Knows Self	Pre	2.69	.82	2.67	.56	3.46	.45	2.87	.77
	Post	3.14	.79	3.50	.79	3.75	.81	3.35	.8[illegible]
Applies Know. of Self to Car. Int.	Pre	2.51	.79	2.79	.71	3.13	.64	2.71	.7[illegible]
	Post	3.16	.97	3.[illegible]	.74	3.46	1.14	3.[illegible]7	.9[illegible]
Applies Basic Skills	Pre	2.85	.68	3.17	.50	3.38	.68	3.03	.6[illegible]
	Post	3.12	.73	3.50	.94	3.71	.99	3.33	.9[illegible]
Initiates Activities	Pre	2.53	.96	2.56	.63	3.38	.74[illegible]	2.74	.91
	Post	2.91	1.03	3.44	.77	3.67	1.[illegible]1	3.19	1.0[illegible]
Assumes Responsibility	Pre	2.64	1.09	2.78	.44	3.67	.7[illegible]	2.91	1.[illegible]1
	Post	3.12	1.14	3.50	1.06	3.83	1.14	3.38	1.14
Converses with Adults	Pre	2.79	1.04	2.89	.74	3.29	.89	2.94	.99
	Post	2.97	1.02	3.11	1.[illegible]2	3.88	1.09	3.21	1.0[illegible]
Understands Other's Messages	Pre	2.93	.98	2.56	.73	3.[illegible]4	.[illegible]	3.01	.91
	Post	3.48	.84	3.44	.88	3.[illegible]8	.[illegible]	3.[illegible]9	.84

A multivariate analysis of covariance run on the pre-post data indicated significant positive growth on this instrument on the multivariate test and on each scale (except the converse with adults scale) on the univariate F test (see Appendix B, Staff Ratings #1). The step-down F tests, however, indicate a high degree of correlation between the first six scales.

The interpretation of these staff ratings should be tempered by the fact that the interrated reliability for this instrument is only moderate (see Appendix C).

Student End of Year Questionnaire

A student questionnaire was administered to all $(CE)_2$ and control group students in the spring. The purpose of the instrument was to obtain end of year data on certain questions asked of the same students at the beginning of the year, to assess student knowledge of job trends and related information, and to collect data on student reflections about their school/$(CE)_2$ experiences. A tabluation of responses to the questionnaire is displayed in Appendix D.

In response to a question on future plans, 27 percent of the $(CE)_2$ students reported plans to be working full-time one year after high school. In conjunction with furthering their education, 20 percent of the students expect to be working part-time.

Most of the $(CE)_2$ students (76 percent) plan to continue their formal education beyond high school. Twenty percent of them plan to graduate from a four-year institution while another 10 percent plan to go to a graduate or professional school beyond college.

In comparing the responses of the $(CE)_2$ experimental group with the responses of the control group,* significantly more control group students (Chi-square=6.28, $p<.01$, dF=1) plan to enter an apprenticeship program. No significant differences were found in other future vocational plans or in educational plans.

Fifty-one percent of the $(CE)_2$ students reported being interested in professional, administrative, or proprietary careers as the first occupational choice. Eight percent were interested in semiskilled jobs and no students were interested in unskilled jobs. No significant differences were found in the level of career choices of the experimental and control groups.

Two-thirds of the $(CE)_2$ students reported that they had worked and/or observed at both jobs listed as career choices. Only one student reported having neither worked or observed at the careers he/she was interested in. Significantly more (Chi-square=8.28, $p<.04$, dF=3) of the experimental students reported work and observation in the careers of their choice than did control students.

* The responses of the total $(CE)_2$ group were not compared to those of the control group because these students are not representative of the same population.

Eight percent of the $(CE)_2$ students reported that they did not know the steps necessary to prepare for and enter each of the two jobs, but 87 percent felt they would be able to complete the necessary steps for preparation and entry into at least one of the jobs. Significantly more experimental students than control students felt they would be able to complete the necessary steps for job entry (Chi-square=6.28, $p<.04$, $dF=2$). No differences between experimental and control groups were observed in the sources of information used to choose between potential careers nor were there differences in the proportions of students able to list jobs that they had ruled out as career choices during the year.

$(CE)_2$ students rated the program high in helping them attain the program goals. Average ratings were from 3.27 to 4.47 on a five-point scale. The goal area in which they reported the program least effective was in the improvement of reading skills. This student rating is in sharp contrast to the CTBS evidence of dramatic growth in reading achievement. Students rated the program highest in helping them learn what to look at in considering a job.

Control group students were asked to rate the regular high school program on the same dimensions. The experimental group gave $(CE)_2$ significantly higher ratings on 14 of the 21 goals. No significant differences were found in the other seven ratings, although all differences except one were in favor of $(CE)_2$ (see Appendix D).

Students were asked a series of ten questions dealing with job trends and career knowledge. The $(CE)_2$ experimental group significantly outperformed the control students on the group of ten items (multivariate $F=3.21$, $p<.006$, $dF=10$ and 33). This difference was primarily due to two items. Significantly fewer $(CE)_2$ students agreed with the statement "Most persons remain on the same job throughout their adult life" and significantly more agreed with the statement "The State Employment Service Office provides free information about job openings and job training programs." On a marginally significant item, more $(CE)_2$ students agreed with the statement "Less than one-third of all job openings require a college degree."

Marginal significant differences were found favoring the experimental group over the control group in reading habits (multivariate $F=1.96$, $p<.093$, $dF=8$ and 26). These differences were due mainly to increases in the amount of reading of pamphlets and newspapers. Experimental students also reported significantly more use of public resources (multivariate $F=2$, $p<.086$, $dF=6$ and 37), especially libraries and attendance at public meetings.

$(CE)_2$ students gave the program a very high overall rating (4.40 on a five-point scale) with the experimental group rating $(CE)_2$ significantly higher (Chi-square=19.62, $p<.001$, $dF=3$) than the control group rated the regular high school. One $(CE)_2$ student reported that he/she would not enter $(CE)_2$ if he/she had it to do over again but 87 percent were "sure" or "very sure" that they would enter the program again.

Comparing $(CE)_2$ to the regular high school program 96 percent of the students reported that $(CE)_2$ provided more opportunity to learn about

occupations and 70 percent reported that it provided more opportunity for general learning. Ninety percent of the $(CE)_2$ students reported that they were more motivated to learn in $(CE)_2$ than in the regular high school.

When asked what they perceived to be the greatest strengths of the $(CE)_2$ program, 33 percent of $(CE)_2$ students identified the opportunities for "hands-on" learning, 33 percent identified the empathetic and helpful staff, and the rest mentioned a variety of things including the opportunity to learn about careers and the freedom and responsibility given students.

The most commonly mentioned weakness of the program (mentioned by 15 percent of the students) involved difficulty or inconvenience in securing a desired employer site. Other problems mentioned included transportation problems (6 percent) and too much work (6 percent).

Staff Questionnaire

An end of year questionnaire was administered to the staff of the $(CE)_2$ program. The questionnaire asked staff members to rate the importance and effectiveness of 14 learning strategies employed in $(CE)_2$. The staff members were also asked to rate the extent to which $(CE)_2$ helped students attain the FY 75 student outcome goals. Then, on a more general level, staff members were asked to identify the major factors that contributed to the success of $(CE)_2$ and those that limited $(CE)_2$'s success. They were asked to identify the areas of greatest and least student growth, and to predict how a $(CE)_2$ graduate would differ four years in the future from his/her peer who graduated from the regular high school program.

Six of the seven staff members responded to the anonymous questionnaire. A copy of the questionnaire with the tabulated responses is included in Appendix F.

Staff members were asked to rate the importance and effectiveness of 14 $(CE)_2$ learning strategies. These include: student orientation, the Student Accountability System, student negotiation, preprepared projects, individual projects, journals, competencies, Exploration Packages, learning level process, special placement, ILA Basic Skills materials, employer seminars, student retreat and group activities.

Although all the $(CE)_2$ learning strategies were rated important (rated three or greater on a five-point scale), the staff rated the Student Accountability System, the student negotiation process, individual projects and the learning level process as the four most important learning strategies. Group activities and employer seminars were rated as the least important strategies in the $(CE)_2$ learning program.

The most effective learning strategy based on $(CE)_2$ staff ratings was the Student Accountability System. The student negotiation process, individual projects, the journals and the competencies shared ratings as the second most effective learning strategies. The strategies rated least effective were group activities, employer seminars and student orientation.

Staff members rated program attainment of outcome goals high on a five-point scale. The range of ratings went from 3.5 to 5.0 with most ratings distributed close to 4.0.

The $(CE)_2$ program has been most successful in "helping students to communicate comfortably with adults" according to the staff ratings of outcome attainment. Three program outcomes that shared the second highest rating by the staff were:

"...students...understand more about themselves."

"...students...become acquainted with a broad range of resources to use in gathering information for work and decision making."

"...students...take responsibility for their own action."

The four student outcomes rated as least attained were:

"...students...understand the role of science in our society today."

"...students...understand the democratic process."

"...students...develop their own creativity."

"...students...improve their reading skills."

The one factor mentioned most often on an open-ended question by staff members as contributing in a major way to the success of the $(CE)_2$ program this past year was the improved compatibility of the staff itself, and its ability to work together consistently. There was no consensus on what factors limited the success of the program, although uncertainty about the future direction of the funding agency (NIE) was mentioned by two staff members as a constraint.

Career awareness was mentioned most often as the area in which students made greatest growth. Basic Skills, especially reading, were mentioned as an area where least growth was perceived.

Many outcomes were mentioned as the ones that would differentiate this year's $(CE)_2$ graduate from this year's regular high school graduate in four years. Most prominent among these outcomes was an "understanding of career options" and "satisfaction with career." $(CE)_2$ graduates should, according to the staff, also be more able to communicate with adults and utilize their community as a resource.

Student Mid-Year Interview Summary

In early January 1975, a semistructured interview was conducted by the internal evaluation staff with 20 randomly selected $(CE)_2$ students. The purpose of the interview was to assess student perceptions of processes and activities that could not be easily assessed by questionnaires or some other means.

Topics covered in the interview included:

1. Student involvement in planning the learning program
2. Student freedom in carrying out learning activities
3. Student evaluation of their own learning activities
4. Student career awareness
5. Student progress
6. Program's effect on students

A copy of the interview schedule with tabulated responses is included in Appendix E.

One student, because of a time conflict was unable to complete the interview. For this reason, questions one and two represent the responses of 20 students and questions three through nine, the responses of 19 students.

Most $(CE)_2$ students felt they had a high level of involvement in the planning of their learning program. On a scale ranging from "no involvement" to "much involvement," 20 percent of the students sampled said they were somewhat involved in the planning process and 80 percent said they were very much involved.

On a more specific level, students felt they were very involved in planning their individual projects. The most common procedure described started with the student taking an idea for a project to the learning manager (LM). They discussed it and the LM asked the student to think about it for a few days and write down ideas about appropriate learning activities. The LM then reserved the right to alter these activities or add to them and to write them up on the project form. Ninety percent of the students sampled indicated that they usually came up with the topic themselves and took their ideas to the LM and eighty-five percent generated a list of activities that they felt would be appropriate.

Less involvement was indicated in the planning of the preprepared projects. Sixty percent of the students indicated that they have negotiated with the LM to change certain activities in these projects. For example, instead of written summary, one student taped his comments. Another read a book and discussed it with the LM in place of an activity he did not find particularly relevant. Other students (40 percent) reported no involvement in the planning of the preprepared projects. They just worked through it as it was written.

Another area where students reported having input into the planning of their program was in the selection of employer sites for exploration and learning level work. Seventy-five percent of the sample indicated that they were generally able to get the employer sites they asked for. One student remarked that two sites were recruited especially for him. Most

of the problems indicated by students not able to get the job sites they wanted involved either waiting until another student finished at the site in question (15 percent) or the limited availability of some site, especially learning levels such as color photography studios, airplane pilot programs and art studios (10 percent).

Most students reported a great deal of flexibility in how they carried out their projects. (Eighty percent indicated "much" freedom, 20 percent indicated "some".) Fewer felt this flexibility in work at employer sites. Twenty-five percent of the students felt they had a lot of freedom in doing things at the employer sites. Sixty-five percent felt they had "some" freedom and 10 percent felt they had "little." For most students, company and union regulations, production schedules and lack of skills or knowledge on their part tended to limit somewhat their activities. It should be pointed out at this point that 70 percent of the students sampled at that time had not yet had an opportunity to work on a learning level experience where student involvement would conceivably be much greater.

In demonstrating and being certified in the competencies students reported the least amount of flexibility. Twenty percent indicated "some" freedom, mostly in terms of when they could be certified on any given competency. Two students indicated that some options existed as to how subparts of certain competencies could be completed. Fifty-five percent of the students felt they had "a little" flexibility and 20 percent felt they had none.

Much variation existed in student opportunity or student use of opportunities to evaluate their own work in $(CE)_2$. Thirty-seven percent indicated that they had "some" or "much" opportunity to evaluate what they accomplished in the program. They pointed to the "Project Wrap-Up" activity which was optional on each project, informal discussions about projects with the LM and requests for feedback by employer instructors. Sixty-three percent of the students felt little or no involvement in evaluation processes. The typical response from these students was "I turn in the work. If they like it--fine. If they don't, they tell me to do it over."

Most students (95 percent) indicated that they had thought seriously about their future career and educational plans after they entered $(CE)_2$. While this thinking and the experiences in $(CE)_2$ have opened new horizons about possible careers, they have also helped students decide in which careers they would not want to work. Nearly 80 percent of the students were able to list specific jobs or fields of work that, as a result of experiences in $(CE)_2$ (usually explorations) they were definitely not interested in. A rich variety of reasons were given as to why these jobs no longer seemed appropriate. Some are listed here.

"Police work requires an authoritarian-type person."

"I wouldn't be challenged by secretarial work."

"It's very difficult to always be encouraging in the retirement home."

"I can't stand the constant activity of a day care center."

"It takes too much education to be a lawyer."

"Assembly line work is very routine--you don't learn much."

"Working in a loud machine shop might damage my hearing."

"I didn't know secretaries did that much typing."

According to the responses during the interviews, $(CE)_2$ experiences have helped most students (95 percent) identify careers that they would like to find out more about and have helped 63 percent decide on careers that they would be interested in following although very few had made specific career plans by January. Eighty-two percent of those students interested in specific careers were able to identify specific things about themselves (mostly interests) that suited them for that type of career. All but one student traced their heightened interest in a given career area to specific exploration level experiences. The one exception was a student interested in public relations work for which he had not yet done an exploration. He felt, however, from general experiences both in and outside of $(CE)_2$ that this type of work would appeal to him.

Although over half the students sampled (68 percent) reported being behind in completing projects and 53 percent were behind schedule in getting competencies certified, 74 percent felt that the number of projects and competencies expected by the $(CE)_2$ staff was reasonable. Two students felt there were too many projects, two thought there were too many competencies and one felt there were too many of both. The chief complaint about the competencies, expressed by several students, dealt with the mechanics of competency certification. They reported that it was a very time consuming process, and, after the first few times, its cost (in terms of time and energy) outweighed its merits.

The principle reason offered by students for being behind in their work centered around their procrastination and their "just not getting started." Two students expressed misunderstanding about the program expectations, two had difficulty in locating the resources they needed and one explained that his schedule and preferred way of doing things didn't coincide with staff expectations. In his way of thinking, he said, he was not behind. In spite of being behind schedule, 89 percent of the students thought it highly likely that they would complete all expected activities by the end of the year. Eleven percent were uncertain.

Nearly three quarters of the students interviewed (74 percent) felt that the Program Year Action Zone system was a useful adjunct in planning their learning activities. Although some students were no longer using the system because they were far ahead of program expectations, they and others felt the system provided motivation and good intermediate goals to work toward throughout the year. Eleven percent of the students felt the zone goals and activities were an extra burden and pressure which actually slowed them down. One other student reported not being affected at all by the system because of being an independent worker.

In response to an open-ended question about how the $(CE)_2$ program affected the student, 52 percent responded that it had helped them grow in responsibility and learning to take the initiative in what they did. Twenty-one percent reported an increased ability to communicate and express feelings to others. Other program effects mentioned included:

"Helped me learn about careers." (3)*

"Gave me more self-confidence." (2)

"Helped me to look at things realistically." (1)

"Helped me to get to know my community." (1)

"Helped me do higher quality work." (1)

"Kept me in school." (1)

"Gave me freedom to express myself." (1)

"Really helped me prepare for life." (1)

No consensus was reached by students on how the $(CE)_2$ program might be changed to be more useful for students. No more than two students expressed the same suggestions, indicating that no one particular problem was felt by many students. Suggestions included changing program requirements, adding staff members, and allowing other school districts to try the program.

Another question added to the interview process after the first few students had already been interviewed asked students to estimate what proportion of their $(CE)_2$ time was spent in the learning center and what proportion was spent in the community. Estimates for time spent in the community ranged from 25 percent to 65 percent with a mean of 45 percent. Students reported spending from 35 to 75 percent of their time in the learning center with a mean estimate of 55 percent.

Little variation was expressed between community and learning center activities in terms of student enjoyment or usefulness for learning. Half the students reported enjoying community activities more, 44 percent reported enjoying learning center activities more and 6 percent could not rate one above the other. In terms of learning, 43 percent felt they learned more in the community, 38 percent felt they learned more in the learning center and 19 percent could not decide.

A final question, asked of only the last 13 of the 20 students interviewed, dealt with the student-staff retreat and student perceptions of its benefits. Forty-six percent of the students felt its primary usefulness was in helping them get to know others. Related to that, 31 percent felt it helped build a sense of community at $(CE)_2$. Fifteen percent found the

* Number of students expressing each response.

problem-solving aspects of the student-staff retreat most useful and 8 percent of the students viewed it as a useful change of pace. All comments about the retreat were extremely positive.

Additional Student Findings

Student Attendance Data. Student records indicate that $(CE)_2$ students were absent from the learning center an average of 9.1 days during the FY 75 program year. This figure is not substantially different from these same students' absentee rate while enrolled in Tigard High School prior to $(CE)_2$, (8.1 days) nor from the absentee rate of a random sample of Tigard High students in the 1972-73 school year (10.9 days).

Student Use of Employer Sites. For the purposes of this analysis, "participating" employers means those employers on the "active" list in April 1975. This designation applies to 95 employer sites. Shown in Table 16 are the number of participating employer sites in each of the main categories of the Standard Industrial Classification* system for 1974 and 1975. The number of employers in each category is approximately the same for both years.

Table 16

PARTICIPATING $(CE)_2$ EMPLOYER SITES
CLASSIFIED BY THE
STANDARD INDUSTRIAL CLASSIFICATION SYSTEM

Classification	1974 No. of Sites	1975 No. of Sites
Agriculture, Forestry and Fishing	1	2
Construction	3	1
Finance, Insurance and Real Estate	2	4
Manufacturing	7	9
Mining	0	0
Public Administration	8	7
Retail Trade	17	16
Services	44	50
Transportation, Communications, Electric, Gas and Sanitary Services	5	5
Wholesale Trade	0	1
Total	87	95

The explorations and learning level experiences that students participated in in FY 75 were classified by the Occupational Outlook Handbook (OOH)

* Standard Industrial Classification system classifies businesses by types.

classifications and are summarized in Table 17. (See Appendix I for a complete list of occupations explored by $(CE)_2$ students.)

Table 17

NUMBER OF $(CE)_2$ EXPLORATION AND LEARNING PLACEMENTS BY OCCUPATIONAL OUTLOOK HANDBOOK CLASSIFICATION

OOH Classifications	Number of Site Placements	
	Exploration	Learning
1. Industrial Production and Related Occupations	20	2
2. Office Occupations	40	8
3. Service Occupations	51	10
4. Education and Related Occupations	33	12
5. Sales Occupations	22	3
6. Construction Occupations	6	1
7. Occupations in Transportation Activities	0	0
8. Scientific and Technical Occupations	30	8
9. Mechanics and Repairmen	53	12
10. Health Occupations	39	6
11. Social Scientists	0	0
12. Social Service Occupations	17	5
13. Art, Design and Communications Related Occupations	57	5
14. Not Classified	22	8
Total	390	82

The total number of explorations in FY 75 (390) by $(CE)_2$ students is nearly double that of the previous year (201). This may be partly explained by the slightly larger student population (62 students this year versus 50 last year) and by the decline in numbers of learning level experiences. Program requirements were changed slightly in FY 75, making a given number of learning level hours no longer mandatory. As a result, 82 learning levels were completed this year compared to 90 in FY 74.

The proportion of experiences in each of the OOH categories has remained about the same, with the largest number of experiences in Office, Service, Education, Mechanical and Health occupations.

Student Use of Tigard High School. Seven students were involved in courses at Tigard High School (THS) this year. These courses were: algebra, current events, French, chemistry, advanced theatre arts, scuba diving and emergency medical technology.

Five students were also involved in extracurricular activities at Tigard High School. These activities were football, wrestling, water polo manager, swimming/water polo and volleyball. In addition, $(CE)_2$ students used the lunchroom and library facilities. The number and types of uses of the

high school this year compare favorably with those found in previous years.

Re-enrollment in Tigard High School. At the completion of their junior year in $(CE)_2$, two students made the decision to return to Tigard High School for their senior year. Below is a summary of two interviews conducted in June by a member of the NWREL evaluation unit with these two $(CE)_2$ juniors, whom we will call Charles and Larry. It was felt that additional insights might be gained about $(CE)_2$ by interviewing the two students who have decided to return to the regular high school program to complete their senior year.

Charles indicated four reasons for wanting to return to the regular high school program: to take some necessary courses, such as advanced biology and algebra II needed to prepare him for college and a future dental career; to play football and have a better chance of obtaining a football scholarship; to participate in the social life at Tigard; and, to be able to rk for pay a half of each day after the football season.

When he first learned about $(CE)_2$ he felt it was a neat program and would be a good escape from the regular high school routine. At that time he was thinking of it as a two year experience. His parents first thought he was dropping out of school by getting into $(CE)_2$ but later they became sold on the program. The personality of several of the $(CE)_2$ staff and the opportunity to work at various job sites were two of the main things that attracted Charles to $(CE)_2$.

As a result of being in $(CE)_2$ for the year, Charles felt that he has become more mature due largely to the fact that he was treated as an adult and left free to reach the expectations of the program whereas at THS he felt he had been treated like a kid. Charles' $(CE)_2$ work experiences in his opinion, and his work with the denti helped to influcen his career choice of dentistry.

During the year in $(CE)_2$, Charles continued to play football at THS and wrestled for a month and a half. Toward the beginning of the year he used the THS library and lunch room a lot but this dropped off later in the year.

Charles would be willing to recommend $(CE)_2$ to other students and has left open the option of returning to $(CE)_2$ at the end of the next semester if the adjustment of returning to THS does not work well. He felt that one problem faced by a student in $(CE)_2$ who returns after a year to regular high school may be the adjustment back into an environment where students are told exactly what to do rather than given the freedom available in $(CE)_2$. For that reason, he felt it may be better for a student planning to spend only one year in $(CE)_2$ to make that his senior rather than junior year.

Larry spent his entire year as a junior in $(CE)_2$. During this time, he took an algebra class at THS and also explored emergency service careers and that of an optometrist. These were the main career areas that interested Larry and thus he decided to return to THS for his senior year in order to complete a well rounded education. While he regarded $(CE)_2$

as a "refreshing change" he is looking forward to seeing his THS friends again next year and does not anticipate any problems of readjusting to life at THS.

His experiences in $(CE)_2$ this year would cause him to recommend $(CE)_2$ to other students. While he felt a one year stay in $(CE)_2$ was appropriate for him, he indicated that others might continue to gain from a two or even three year participation in the program.

After completing high school, Larry plans to eventually attend college. Some of the THS courses he will take next year he felt would be useful in preparing for college.

Information obtained from $(CE)_2$ in September 1975 indicates that Charles has petitioned to re-enter $(CE)_2$ and has been readmitted into the program.

Section E. Case Study Findings

Introduction

This section of the report contains the rationale and methodology used in seven student case studies, profiles of four students, and a set of tentative conclusions based upon all seven case studies. Since the individual student profiles are somewhat long (even after editing) and yet contain valuable information about student behaviors in $(CE)_2$, a decision was made to present only four student profiles in the body of this report and place the remaining three profiles in Appendix G.

Rationale

Several factors suggest the use of case study methodology in the evaluation of the $(CE)_2$ program. The program is new, complex and highly individualized, involving a multitude of interrelated learning strategies and environments and a wide spectrum of student outcomes. As such, it is not easily evaluated by a traditional nomothetic approach alone.

Because the $(CE)_2$ program is highly individualized, the case study approach to evaluation seems appropriate. It is in keeping with the philosophy and practice of $(CE)_2$ and concentrates on the individual student. Thus outcomes directly related to individual needs are easily assessed. For example, it might be a $(CE)_2$ learning goal to help a shy withdrawn student become more outgoing or to help an overly aggressive person become more restrained. Changes in these two students would cancel each other out in a purely nomothetic approach. A case study, because it involves the student as the unit of analysis, can capture this individualization and can document the effectiveness of the program.

A systems approach to learning is employed in the design and operation of $(CE)_2$. The learning strategies and management techniques are highly interrelated and interdependent. The holistic nature of the case study approach also fits well with a systems approach. It does not reduce the learning processes to independent isolated parts to be studied, but describes the Gestalt as it traces a student's progress, frustrations, and failures throughout the program year.

The $(CE)_2$ program is process oriented. It is the philosophy of the program that the medium is the message. Therefore, experiential learning is employed to help students learn how to learn. Unlike traditional evaluation methodologies which focus on outcomes, the case study approach zeros in on the process of learning. Its primary focus is the student experiencing the learning situation. It describes the student, the situation and the resulting interaction of the two.

Because both career education and $(CE)_2$ are relatively new entities in the field of education, definitive descriptions of what is involved in either of them are not available. Both are evolving and changing. To precisely define either career education or $(CE)_2$ or to make ultimate conclusions about their effects is not possible today. To fill the void in the

interim, case studies do provide empirical definitions of $(CE)_2$. Also, a case study can be a rich source of data from which to generate working hypotheses.

Methodology

1. Subjects

$(CE)_2$ students were stratified first into three groups: juniors, seniors in their first year in the program and seniors who were in the program also during their junior year. Within each of these groups students were divided into those considered by the $(CE)_2$ staff as above average, average, or below average in terms of demonstrated performance during the first six weeks of the school year. Since resource constraints led the evaluators to limit the total number of regular case studies to six, a decision was made to randomly select students only from the above average and below average categories from each of the three strata identified above. This stratified random selection resulted in a sample of four boys and two girls. It was felt that this design would give a good representation of the students in $(CE)_2$. A seventh student, the subject of a limited case study in FY 74, was included to document a two year participation in $(CE)_2$.

2. Data Collection

Multiple data collection strategies were used in this study to allow the evaluators to obtain a cross validation of information about each of the students. These methods included (a) observations of case study students at employer sites three times during the year, (b) interviews three times a year with the student's employer instructor at the time of observation, (c) parent interviews in March, (d) indepth student interviews four times during the year, (e) informal discussions with program staff and (f) a review of student projects and other documents. A total of 23 records were also identified as secondary sources of data for each student and a set of guide questions was prepared for analyzing each source. These records include employer evaluations of students, student products, test scores and staff evaluations.*

3. Data Analysis and Synthesis

Because case studies can result in the accumulation of vast amounts of data that become difficult to analyze and integrate, the evaluation staff felt it important to establish focal points for the case studies. Focal points used to organize and reduce data include:

a. Student decision points (e.g., Why did the student choose $(CE)_2$ over other alternative programs?)

b. Role relationships with peers, staff and employers (e.g., How do the student's relationships with the $(CE)_2$ staff compare with former relationships with the regular high school staff?)

* For a more complete description of data sources and data collection methods, see EBCE Student Case Study Interim Report, NWREL, January 1975.

c. Student ability to see relationships in what they are experiencing (e.g., Do the students perceive their experiences at the employer site fitting in with what they are doing at the learning center?)

d. Student ability to match personal qualities with career demands (e.g., How do the students perceive their current ability in Basic Skills in relationship with those skills required for the job they are exploring?)

e. Student ability to relate current learning to future vocational and educational plans (e.g., How do student learning experiences fit into their plans for the future?)

In addition to organizing data around prespecified focal points, evaluators also sorted and analyzed data to detect patterns of attitudes or behaviors in each student. These patterns were then further investigated to determine how they related to the student's background and what impact, if any, the $(CE)_2$ program had on them. For example, if a student's past high school record and early $(CE)_2$ experience indicates a pattern of high absenteeism, this behavior becomes a prime object of investigation. If another student consistently demonstrates leadership, willingness and ability, the investigation focuses on how the program capitalizes on this ability for the student's sake and that of his peers.

The conducting of a case study relies heavily on the judgment of the evaluation team and, for this reason, is very susceptible to evaluator bias. As case study data were assembled, the reliability and validity of the information were assessed by comparing evaluator observations with those of employers, parents, staff and the student himself and with data collected by other evaluation methodologies. Inconsistencies were then investigated and cleared up, or reported as unresolved inconsistencies.

When the narratives were synthesized for each case study student, one final kind of empirical data was collected. Case study students were asked to read the draft of their own case study and to reflect on the accuracy of fact and of interpretation. The student's reflections were then incorporated into each narrative.

In the subsections that follow, the evaluator's reflections about the program's interactions with the student are offered at the end of each case study narrative. In order to help provide a balanced interpretation of the data, two independent evaluators from out-of-state were asked to review the case study in a critical manner, looking specifically for the writer's bias and any unwarranted conclusions. All questionable conclusions were challenged, and either supported by empirical evidence or excluded from this final report.

Student Profiles

This section provides a summary of selected data regarding each of four case study students--two boys and two girls. The remaining three student profiles on Mike, Bob, and George are contained in Appendix G. Fictitious names have been used to protect the confidentiality of individual student information. Of the two boys described here, Fred was considered by his high school counselor as above average in self-directedness and was one of 13 students guaranteed admission into $(CE)_2$. He enrolled as a senior. Greg was a junior in $(CE)_2$ last year and returned this year as a senior. The $(CE)_2$ staff rated him as below average in self-directedness in the Fall of this year. Evelyn entered $(CE)_2$ as a senior and was rated by the project staff as below average in self-directedness. Cheryl was rated as above average in self-directedness and spent her junior year in $(CE)_2$.

Fred

Background. Fred first heard about $(CE)_2$ in his junior year through two friends who were in the program last year. He decided to join $(CE)_2$ as a senior because he felt "so much hassling at high school"* and that he was being "treated like an imposter there" when he needed attention. He anticipated there would be "less regimentation" in $(CE)_2$ and that he "could return to Tigard High School if he didn't like $(CE)_2$." He said he "wasn't learning anything in high school although I was getting A's." Fred felt that $(CE)_2$ was for him because he "wanted to take responsibility for himself."

Fred and $(CE)_2$, First Semester. During his first few days in $(CE)_2$, Fred felt confused and had problems in learning to schedule his time and in meeting people. He "worried about what to do and expect at the job sites and was shaking at first." Soon he found that the job sites were "a lot looser" than he expected and got used to going there.

Fred's pretest scores on a self-report survey revealed that he was above the $(CE)_2$ average** in self-reliance and in tolerance for people different from himself. His attitude toward the concepts of "community resources" and "school" were negative, however. The attitude toward "school" score was almost 30 points below the $(CE)_2$ average. This was consistent with his interview statements about high school.

During September the $(CE)_2$ staff noted that Fred was initiating his own actions and following through well on tasks he had begun. He was falling a bit behind, however, in completing some project activities. In October, the staff noted that he was somewhat hesitant to go to employer sites for explorations. The staff also agreed to encourage Fred to be a little more

* Unless otherwise indicated, statements in quotation marks refer to comments made by the student during the interview with the evaluator.

** When the term "above average" or "below average" is used in this section it will mean that a student's score was greater than one standard deviation above or below the $(CE)_2$ group mean for that variable, meaning that less than 18% of his peers scored above or below that level.

outgoing and one of the staff volunteered to discuss with Fred his likes and dislikes about job sites. Staff notes for the remainder of the year indicated that Fred was carrying out the $(CE)_2$ activities on time. See Table 18 for a description of his activities.

This year Fred completed ten exploration levels including photography, carpentry, telephone repair and maintenance, sound recording, furniture design and law enforcement. These explorations lasted from two days to a week. In discussing these explorations, Fred mentioned that "It's sometimes hard to get a job site you want because it's in demand." In December Fred discussed his most recent exploration at the Tigard Police Department. He selected this site because he wanted to "check it out and see what it's like and how they (the police) feel." He found that they hate to give tickets and have a lot of paperwork to do, "which you never see on Adam-12."

While at the police department Fred interviewed a lieutenant who explained the workings of the department and procedures for advancement. Fred also accompanied two different officers in their patrol cars and observed and talked with the radio dispatcher. He felt that they were all interested in him and willing to answer his questions. Most of his time at the police department was spent in observation and discussion rather than active participation. They explained that they couldn't give him free access because of security regulations and therefore he had someone with him at all times.

In addition to learning about the various jobs within the department and the training necessary, Fred also investigated legal regulations on areas of personal interest--like speeding, drinking and youth curfew. It was good "just having a better understanding of what they (the police) are there for. They're not all pigs!" he said.

Was Fred interested in a law enforcement career? Absolutely not. He wants to be a musician. The $(CE)_2$ employer relation specialist recommended that Fred "explore jobs related to music (sound recording, teaching, symphony) while continuing to explore other careers he selects from the employer list. These will be broadening experiences in which to develop other marketable skills."

Unlike most students who go on an exploration because they are considering a career area, Fred had no desire to become a law enforcement officer but simply wanted to satisfy his curiosity about what they really do. From his conversations with a police lieutenant, he became aware of the need for law enforcement officers to act impartially and maintain control over their feelings. Fred shared some insights into his own personality and its relationship to job demands. "They (the police) get a lot of BS from people and can't swing back." He added that he felt he couldn't be a policeman "because he would be tempted to carry his feelings into his job." He viewed the exploration level process as "the first step and an essential part of the total experience in $(CE)_2$." In relation to the rest of the program, it merely "touches on the outer layer of skin."

Besides the five job explorations that Fred had completed, he also spent a week at an inner city high school in Portland on a "special placement."

Table 18

TIME CHART OF FRED'S ACTIVITIES IN $(CE)_2$

Projects		Sept Oct Nov Dec Jan Feb Mar Apr May Jun
Critical Thinking	1	⊢ *(CE)$_2$ For You*
	2	*Critical Thinking Wrap-up Activity* ⊢
Functional Citizenship	1	*Are There Opposing Ways of Being a Good Citizen?* ⊢
	2	*Where Do I Fit In?* ⊢
Personal/Social Development	1	⊢ *What Can I Do About Me?*
	2	⊢ *John Adams High School*
Creative Development	1	⊢ *Don't Just Stand There— Do Something*
	2	*Professional and Leisure Excellence* ⊢
Science	1	*Telephone Install.* ⊢ *and Repair*
	2	*I Was A Teenage* ⊢ *Scientist*
Employer Sites		
Exploration	1	⊢ *Photography Studio*
	2	⊢ *Furniture Store*
	3	⊢ *Telephone Company*
	4	⊢ *Industry*
	5	⊢ *Police Department*
	6	*Public Defenders* ⊢
	7	*Sound Studio* ⊢
	8	*Arimal Clinic* ⊢
	9	*Dentist* ⊢
	10	*Restaurant* ⊢
Learning Level	1	*Telephone* ⊢ ⊢ *Company*
	2	*High School* ⊢ *(special placement)*
Competencies		
Credit	1	X
Checking Account	2	X
Insurance	3	X
Income Tax	4	X
Budgeting	5	X
Physical Health	6	X
Emergencies	7	X
Electoral Process	8	X
Government	9	X
Individual Rights	10	X
Public Agencies	11	X
Employment	12	X
Automobile	13	X

This is a term used at $(CE)_2$ to refer to an experience that a student has in the community that is not geared toward career development. In this case, Fred was interested in having an opportunity to get to know some Black students and see first-hand what it is like to attend a class in basic skills where all of the students are Black. He wrote up a Life Skills project plan which would provide such an experience. His learning manager, the $(CE)_2$ staff member responsible for directing his learning activities, had worked previously in an inner city high school in Portland with a high concentration of Black students and arranged for him to spend a week in a Title I program class there.

Fred wrote a 13-page single-spaced handwritten journal account of his one-week special placement with the Black Title I director at the inner city high school. It contained a daily recounting of the experiences written in a flow of consciousness style interspersed with humorous anecdotes and glimpses into his own reflections on the experiences. He started by mentioning that he drove his mother's car to the Portland school and in the walk from the car to the front door of the school passed more Blacks than he had met in his entire lifetime. His journal revealed his feelings of anxiety and his playing the drums with an informal Black jazz group Thursday at school, letting a younger Black boy try to play the drums, talking freely with some Black students that day, and having an extended rap with one Black girl the next day. By Friday he felt accepted by some of the students and expressed a real disappointment that it was his last day there since he couldn't arrange to continue borrowing his mother's car the following week or arrange other transportation.

The Title I director to whom Fred was responsible while at the inner city high school related to the NWREL evaluator that the week's experience had been good for Fred. It was obvious that the director had shown a personal interest in Fred and in addition to allowing him to observe the classes, introducing him to students, allowing time for informal discussions with students, explaining the purposes and nature of the Title I program, he found time to take Fred on a drive through parts of the Black community.

Fred and $(CE)_2$, Second Semester. Between January and March, Fred worked on a project that was closely tied in with his learning level in an installation and repair department of a telephone company. The objectives of this project required that Fred demonstrate, to the satisfaction of his employer instructor, that he could (a) verify that the required telephone equipment had been loaded on the truck for a given day, (b) present a work order to a customer and discuss what needed to be done. (c) check out the work order requirements for the type of phones ordered and the locations where they were to be installed, (d) identify important safety precautions in installing a phone, (e) install phone equipment, (f) communicate responsibly with the dispatch office, (g) independently wind up a day's work which included filling out required paperwork and returning unused equipment, and (h) write an essay of several pages discussing the positive and negative aspects of the job in relation to his personal career needs.

The employer instructor at the telephone company felt that Fred's largest gain while working in repair and installation was in learning how to relate to adults including older people. "When he first came he was

reserved and when speaking with adults used much slang. Now he is less reserved and can speak without using slang. Also he has become more self-confident." In addition to working closely with one employer instructor Fred also talked with and rode on a truck with other repairmen. His conversations about these experiences with his employer instructor indicated that Fred had picked up on differences in attitude toward the job by different repairmen. In comparing Fred with other $(CE)_2$ students who have worked at the telephone company, the supervisor indicated that they treated Fred more like a regular employee than they have any other $(CE)_2$ students.

In talking about his experiences at the telephone company Fred said that "at first I felt I couldn't do the work. I gained confidence with the help of the people there. I was given a chance and it felt good to be on my own and meeting the customer. It's a neat feeling knowing that you put in a person's phone." Although being a musician is his vocational ambition, Fred indicated that he would enjoy working as an installer and repairman. "It would offer security and music doesn't have job security. Communications are always needed. At the telephone company the pay and people are good. However, you get rained on and have to take guff from some customers." In another interview Fred again referred to the fact that telephone men have to have patience in dealing with customers and that he was not sure he would always have such patience.

In April Fred spent four days on an exploration level at a recording studio in downtown Portland. The company manager and shop supervisor indicated that Fred asked a number of good questions, had observed the production of radio commercials and slide films, had learned to edit music recordings and transmit discs to tapes, and to do "fade outs." They also said that he had received permission from another employee there to come in on his own on Saturday to observe music recording. He stayed beyond the time required by $(CE)_2$ during weekdays and has "seemed to enjoy being here." The company manager's and shop supervisor's attitude toward Fred was perhaps best summarized when they said that they "let him handle the expensive equipment which they might not allow even regular employees to do during their first few months."

Fred's desire for first-hand experiences is also revealed in his vocational plans. He wants to be a professional musician and already has an expensive set of drums and equipment, has taken years of music instruction, plays professionally and gives private drum lessons to children. He recognizes that competition in music is tight and he is open to the possibility of other jobs if he does not work as a musician. Some experienced musicians have advised him that college isn't the best place for learning music and have emphasized the importance of gaining experience in actually playing with other good musicians. He isn't certain yet, because of the cost, about whether to attend college but would like to return to Los Angeles after graduating from $(CE)_2$ to attend music school there, "study with as many teachers as possible, and locate other musicians to play with." Realizing that being a musician is not a high security position, Fred said he could see himself working as a backup in many jobs such as a telephone installer and repairman. Also he has considered law or medicine but is uncertain about his willingness to invest the time needed in formal training.

Reflections by Fred. In summarizing his experiences this year, Fred commented, "My $(CE)_2$ experience so far has been more valuable than my total time at the high school." He indicated on a questionnaire at the end of the school year that $(CE)_2$ was particularly valuable in helping him solve problems logically and was moderately valuable in helping him understand more about himself, getting along with others, improving his communication skills, becoming acquainted with a broad range of resources to use in gathering information for work and decision making, and in using information obtained through direct experiences in making decisions. Because Fred had already made a career decision to become a professional musician he felt $(CE)_2$ was of little or no help to him in learning how his interests and abilities fit into potential careers, learning what to look at in considering a job, and in learning what basic skills are necessary for careers of interest.

In reflecting on his perceptions of the greatest strengths and weaknesses of $(CE)_2$, Fred stated that one of the strengths was that "the staff is together." Another strength is the opportunity to get out and meet people at the employer sites. "You don't get that chance in (regular) high school. Here you get an opportunity to get into depth if you want it." Weaknesses in $(CE)_2$ perceived by Fred includes "the hassle" of getting some competencies certified. He related an incident in which one certifier left him sitting in her office for almost an hour while she walked out and did other things. He also felt that there is a lack of $(CE)_2$ communication with some certifiers who don't seem to know what is expected of them. A second perceived weakness identified by Fred was that the science pre-prepared project had some activities that seemed school textbook-oriented rather than community-oriented. Fred felt that the science project was the hardest for him because he wasn't interested in it.

The Views of His Parents. In a home interview, Fred's parents indicated that they hoped $(CE)_2$ would give Fred an incentive to finish high school. "He was getting bored at school. It was like a prison to him. Fred has had a much happier senior year in $(CE)_2$ than he would likely have had at the high school. Kids don't really get things out of high school that carry on beyond that time. Fred found that $(CE)_2$ really wants kids to open up. The high school doesn't encourage that. You can't just dump rules and regulations on them." His parents felt that $(CE)_2$ has improved Fred's writing ability, has inspired him and has "self-propelled" him. "He responds well to the staff's push," they said. On a one-page rating scale listing nine skills that may be important for young people to acquire, his parents indicated their perception that Fred was helped the most by $(CE)_2$ in thinking through and solving problems, communicating with others in a mature way, assuming responsibility for himself and becoming more mature. There were no skills in which they thought $(CE)_2$ had not helped their son.

Test Progress Measures on Fred. The analysis of Fred's pre- and posttest scores indicated that Fred had made substantial gain over the year on certain parts of the Comprehensive Test of Basic Skills. In reading comprehension, he went from a 10.6 grade equivalent to 13.3, in arithmetic concepts he went from 9.0 to 11.5 and on the study skills section dealing with a use of references he jumped from 9.1 to 13.6. He gained slightly in arithmetic applications and remained at the same high

level in the graphics section of study skills. On the semantic differential instrument Fred remained constant in his attitude toward most concepts except for "school" where his score jumped signifncantly from 19 at the beginning of the year when rating the high school to 52 at the end of the year when referring to $(CE)_2$. On the student behavior ratings by $(CE)_2$ staff, Fred was rated average or above average in all seven behaviors. The ratings increased at least one point on a five point scale on the following traits: application of a knowledge of his own aptitudes, interests and abilities to potential career interests; willingness to apply Basic Skills to work tasks and avocational interests; and assuming responsibility in carrying out tasks. He did not decrease more than a point on any of the traits.

Evaluator's Reflections. It appears to this evaluator that Fred has an above average ability to express his ideas and feelings orally and in writing. Fred appears to be a sensitive observer of his own experiences. His case is interesting for several reasons. First, it suggests that exploration levels are serving a broader function than that of providing specific knowledge about a particular career that a student is considering. In Fred's case he went on several explorations not because he was seriously considering those occupations as careers but because he wanted to "check them out" in terms of understanding more about what people are like who do those types of work. Another characteristic that emerges from a study of Fred is a broad career development concept in $(CE)_2$. Even though Fred entered the program with a clear idea in mind for a career, the staff and he felt it was important to explore a variety of additional career options and match these options with his personal interests and skills. Thus, it was just as important for Fred to realize why he would not be suitable for law enforcement work as it was to confirm his convictions that he would enjoy being a professional musician. Although Fred was rather certain before entering $(CE)_2$ that he wanted to be a musician the experiences in $(CE)_2$ allowed him to explore other options as a backup to his first choice. A third point that Fred's case illustrates is the interest of the $(CE)_2$ staff in the total development of each student and their flexibility in scheduling a special placement for Fred in an inner city location removed from suburbia.

A fourth point worthy of note in Fred's case study is the cross validation of information available. For example, his oral statements about high school were highly consistent with his attitude toward the term "school" on pretest measures. His high score in "self-reliance" on the Psychosocial Maturity Scale seems supported by the independent staff comments made about his initiative. Likewise, his high score on "tolerance" for people different from himself is highly consistent with his experiences during the special placement in the all Black class at an inner city high school.

While Fred was strong in the praise of $(CE)_2$ he was equally articulate in his criticism of the "hassle" involved in getting some competencies certified and in describing his dislike for the artificial nature of the science preprepared project.

Greg

Background. "I wasn't doing too good in high school. It's not that I wasn't able to do the work, it's just that I didn't like some of the classes that I scheduled myself for and so I didn't attend those classes. It came to the point where I was missing too many classes and I had the choice of either sticking it out at the high school or coming to $(CE)_2$.... I thought it was a program for dropout students."

Faced with this choice and with parental pressure Greg selected $(CE)_2$ and entered as a junior in April of last year. His initial feelings after starting were not atypical, "When I first got here I didn't know what was going on, just confusion....but then when I got into the swing of things I thought it was really a fantastic program....At the high school I was just doing my work in the class and I couldn't see any further than the high school. In $(CE)_2$, everything interrelates so that you can see what's happening here and what's going to happen when you get out, 'cause that's what this is all about, I think."

Prior to entering $(CE)_2$ Greg had worked as a dishwasher and as a janitor to make spending money. When completing the $(CE)_2$ application form last year Greg indicated that after completing his education he wanted to become a carpenter or musician. Pretest scores on the Self Directed Search indicated a preference for the artistic area, but the enterprising, social and investigative areas also were given strong weightings.

Pretest data also indicated that Greg had average ability in Basic Skills and a particularly positive attitude toward the concepts of "community resources" and "school." However, his acceptance of role relationships, his attitude towards work and his tolerance for people different from himself were at least one standard deviation below the $(CE)_2$ average. In addition, on $(CE)_2$ staff ratings of student behaviors Greg was rated one standard deviation below the $(CE)_2$ mean on "knows his/her own aptitudes, interests and abilities," "demonstrates willingness to apply Basic Skills to work tasks and to avocational interests," "initiates program-related behaviors (a self-starter)" and "assumes responsibility for carrying out tasks." He was rated two standard deviations below the $(CE)_2$ mean on "applies a knowledge of his/her own aptitudes, interests and abilities to potential career interests."

Greg and $(CE)_2$, First Semester. Table 19 shows that by midyear Greg had completed one out of five projects started, four competencies and only three Exploration Packages. He had, however, explored six different employer sites.

After four employer site explorations of slight to moderate interest Greg struck upon one that really excited him--an insurance company. When he first went there in November he thought it was a place where he could learn something about how insurance companies work. "And then when I got there it was data processing and I thought, wow! But then I started to get into it and it was really fun and there was nothing in data processing that I didn't like Even the hours." Greg was impressed by the friendliness of the people there, the thorough way they oriented him and the general opportunity to try out a responsible position to see whether or not he liked it.

Table 19

TIME CHART OF GREG'S ACTIVITIES IN $(CE)_2$

Projects		Sept Oct Nov Dec Jan Feb Mar Apr May Jun
Critical Thinking	1	⊢——⊣ *$(CE)_2$ For You*
	2	
Functional Citizenship	1	
	2	
Personal/Social Development	1	*What* ⊢——⊣ *Can I Do About Me*
	2	*Physical* ⊢——⊣ *Fitness*
Creative Development	1	⊢——⊣ *Pottery*
	2	*Don't* ⊢——⊣ *Just Stand There*
		There--Do Something
Science	1	
	2	
Employer Sites		
Exploration	1	⊢⊣ *Wildlife management at a game preserve*
	2	⊢⊣ *Aircraft mechanics*
	3	*Computer* ⊢⊣ *programming at an insurance company*
	4	
	5	
	6	
	7	
	8	
Learning Level	1	
	2	
	3	
Competencies		
Credit	1	X
Checking Account	2	
Insurance	3	X - April 74
Income Tax	4	X
Budgeting	5	
Physical Health	6	
Emergencies	7	
Electoral Process	8	
Government	9	
Individual Right.	10	
Public Agencies	11	
Employment	12	X
Automobile	13	

Arrangements were made to observe Greg during the second morning of his exploration in the data processing unit of the insurance company. During this 45-minute observation Greg was involved in keypunching his own data, using a sorter to alphabetize names and debugging an RPG computer program to list the names of his friends. The observation began with Greg keypunching a program he had coded. The employer instructor then showed Greg how to exchange disk packs on IBM 5445 disk drives. He then continued keypunching with some help periodically from the employer instructor who then showed Greg how to get a listing of cards on the computer. Greg proceeded with this until the list snagged with an error code. The employer instructor showed him how to look up the error codes and Greg located the mistake. Greg was then shown how to use the Sort program and proceeded to use it. He asked some questions and talked with the employer instructor while the sorting occurred.

An interview with the employer instructor followed the morning observation period. She related how Greg had read some manuals about computers the first day, observed their operations, ran a decollator and sorter, used the keypunch; he learned about disks, the card reader, the CPU (processor) and the printer. The employer instructor felt that Greg had an adequate understanding of the activities required by the job, fringe benefits, job skills and training needed, the career ladder in their data processing unit and a general feeling of what it's like to work there. She had not discussed salary or current employment prospects with Greg. She also observed that she enjoyed very much working with Greg and that he was dressed much more appropriately the second day than the first.

In talking with Greg several days later, he told the evaluator that the data processing experience had been his first exploration "in a white collar type office....Even though I am an outdoor type person I liked that job site."

According to Greg gains in general skills as result of doing more than one exploration were centered on communications. "When I first came in here (to $(CE)_2$) I was hip. I talked all the lingo of my generation and I can still do that. I can now bullshit around with the kids here plus I can talk to a person like you and use a sufficient amount of good grammar. And that really helps."

Greg described how he was using $(CE)_2$ to test out career options, aptitudes and interests: "I'm not using it as something that I could base a career on this year....I haven't really thought of definite plans of what I'm going to do in the future. I see myself as still having a lot of time left. Even when I get out of here I'm going to be doing some type of janitorial...work because as I see it there's not going to be too many... things open because of our economy the way it is right now."

On a Learning Style Self-Assessment completed in early September, Greg stated that he preferred to "...learn at a moderate speed...not be pushed to hard...do thing(s) that are fun...procrastinate...(get on me for procrastinating)...." He found the hardest things in school to be "math, homework, meet deadlines" and needed the most work in "use of time" and "understanding what is expected of me." He also checked "takes me longer than it should to complete assignments" and "often need to be reminded about deadlines."

His self-assessment proved to be very accurate. Records of his $(CE)_2$ learning manager indicated that during each of the first three $(CE)_2$ program year action zones, Greg was told by the staff that he was behind schedule in meeting his assignments. At the end of his second zone he and his parents were advised that at his current rate of participation he would not complete the year's requirements on time. In zone three the staff encouraged Greg to give serious consideration to whether he wanted to remain in $(CE)_2$. After considering several alternatives he came up with a plan which called for him to complete zone four on target in all program requirement areas or no longer continue in $(CE)_2$. In addition to being behind schedule in completing assignments Greg missed several scheduled meetings with staff members, skipped school one day without calling in, turned in low quality work and failed to report on a job site for two weeks. In addition to numerous conferences with individual staff members about his inadequate performance, he was denied use of the student lounge and required to spend more time at the learning center so that he could catch up on his work. In all, five accountability writeups were completed on Greg during the first half of the school year resulting in the contract to complete zone four on target.

Greg stated quite openly that "I was being lazy and procrastinating and therefore I was falling behind in the program." Part of this behavior he explained was due to his feeling of "moping around" because several of the employer sites he wanted to visit fell through, in one case because of a scheduling conflict and in another because the firm went out of business. The turning point that he felt snapped him out of his depression was when the $(CE)_2$ staff confronted him with the work he had not completed and "placed me in a spot where I either wanted to be out or I wanted to be in." He then produced the work and took it to them but "they said it wasn't good enough and it really shook me up a lot." Greg had a long talk with the $(CE)_2$ student coordinator whom he likes and decided that he had been avoiding responsibility. "I finally realized that I was making so many excuses for myself that I really built up a front so that everything I did I had to make an excuse for....I'm going to show that I'm really interested by working over Christmas vacation....I hope that impresses them."

Greg and $(CE)_2$, Second Semester. Greg did not complete zone four requirements on time and was asked to leave the program as provided in his written contract. Before leaving he did complete two additional projects, but still had two uncompleted projects and was behind in all areas of the program. After searching around for about three weeks, he was finally accepted back into the high school. He was interviewed again after being at the high school for about four weeks.

Greg's Views of $(CE)_2$. Greg feels that although the staff wanted things done at a certain time period, the rules at $(CE)_2$ are so lenient that the staff can make them what they want. He feels that he got "rooked" because he had more done at $(CE)_2$ before he left than a friend of his did at that time. He was always told that his ability was higher than his performance level. However, he likes the $(CE)_2$ staff members, especially the student coordinator and the learning managers.

According to Greg, $(CE)_2$ does not inform its employer instructors as much as they should. At some sites he was "pawned off by (the) contact person working as a second hand." At other sites, he really didn't get that much information out of his explorations. However, he was forced to talk to strangers on these explorations--a very difficult endeavor at first. He also became more aware of himself and people around him. He had already worked in the community and did not find this particular aspect of the program as rewarding.

Greg was unable to explore several of his ambitions. One music site dropped out of the program before he could schedule his exploration. He also feels that a broader range of employer sites may be necessary with more employer relations specialists to cover the sites.

While at job sites, the employer instructors decided what things Greg was to do. According to Greg, some of these did a good job, some did nothing at all, and some considered the program to be for dropouts. Several of his projects were written around explorations, but Greg did not really find many of these sites of interest to him. In fact, he didn't find any interesting jobs besides computer programming.

At this time Greg really had not thought about a career. He was simply interested in getting any job he could get to get out of the house. He has decided that the restaurant business and carpentry are definitely not for him. The former occupation was eliminated because of Greg's experiences outside of the $(CE)_2$ program, while the latter decision was made following a $(CE)_2$ exploration. He said, "I don't want to be a carpenter. I was there and found out that I had a problem with sawdust in my nose and I didn't like it. I wasn't really into metal working or wood working at high school either. It just didn't appeal to me. I always thought that was something for people that weren't very smart. But then I found out it goes into as much depth as most things. I just didn't like it. But I was going to try it anyway since this program is for me to make my decision either way."

However, he does prefer outdoor work and wants a job that he can forget at night. Two years from now Greg would hope to have his own house and share it with a friend, obtain additional music equipment and live his own life. He has discussed these plans with his friend.

Greg has found that $(CE)_2$ is "...about the same as working at a job..." because you have to produce on your own and meet certain standards. When you don't meet these standards you are asked to leave. You must use your time efficiently and be able to communicate with adults. You should "work first--goof off later."

The arts are preferred by Greg because of some of the associated work values and habits. Greg wants to be more lenient with his time, not follow a strict orientation and prefers long hair.

Since Greg will soon be out on his own, he realizes the importance of learning to communicate with adults. Before entering $(CE)_2$ the only adults he had to interact with were his parents--and they were always "on his back." Through his experiences in $(CE)_2$ Greg now realizes that there

are all kinds of adults--both good and bad--and he feels that $(CE)_2$ has helped him to communicate with them better.

Greg's Comparison of $(CE)_2$ and the High School. After being asked to leave the $(CE)_2$ program Greg simply wanted to stay home and play the guitar. However, he knew that he had to go to school. His present plans are to finish up any needed credits beyond this year and get his GED at the community college.

Greg now likes high school better after leaving $(CE)_2$ than he did before entering $(CE)_2$. Before entering $(CE)_2$ Greg did not use his time very wisely at the high school. He uses his time better now and says this is "...perhaps because of $(CE)_2$." Greg said he was doing more since he returned to the high school than during his previous two years at the high school. He had never really done much written work before entering $(CE)_2$, but the program made him write. The program also made him think about how to use his time and to consider the effect of his actions. He no longer just does what is fun. He attributes this increased responsibility to $(CE)_2$ and says it has helped his high school grades jump from .5 to 2.0.

Problems at $(CE)_2$ seemed bigger there than at the high school. There was a family thing at $(CE)_2$ and everyone seemed to be against him. Now, he knows that he has an effect on people around him.

Greg feels freer at the high school even though the regulations are stricter and he attributes this to the constant change of students. He feels that he has more time to himself.

Greg finds that students at the high school think of the $(CE)_2$ as a program for "dropouts and goof-offs." He finds it very difficult to explain the curriculum to another student. However, he strongly recommends the $(CE)_2$ program to "students who know they have to work and get something out of school." He would not recommend the program to "people who get stoned all the time."

Finally, Greg has some recommendations for the $(CE)_2$ program. He feels the learning center should be away from the school--especially for the counselors and uniqueness of experiences. It should be an escape from school. In addition, $(CE)_2$ needs separate working spaces for students such as a quiet space, a music lounge and the like.

Evaluator's Reflections. The richness of student quotes in this case study was due to the fact that Greg could express his feelings so clearly. Several aspects of this case study are revealing. The first is the way in which the $(CE)_2$ staff worked patiently with Greg in trying to help him recognize the "games" he was playing and to make a mature decision about whether or not to remain in $(CE)_2$. A second point of interest was the tremendous impact on Greg's outlook caused by suddenly discovering an employer site and career possibility that excited him. It's hard to imagine a classroom event that could so affect a person's perspective. A third insight gained from Greg's case study is a better understanding of the nature of experiential learning as it relates to career education. For example while at high school it was easy for Greg to stereotype

students who take wood shop classes as "not being too smart." By actually exploring careers in the community Greg learned that carpentry is more challenging and goes into more depth than he realized.

There may be some truth to Greg's contention that he was "rooked." At the end of the third zone, Greg had completed two explorations, one competency and one project, while Evelyn completed only one exploration, one competency and one project. Greg had four absences at the learning center compared to Evelyn's two and no absences at weekly meetings compared to Evelyn's one absence. In addition, Greg had missed three journals while Evelyn had not missed any. Greg and Evelyn had similar mathematics scores and although Greg was significantly higher than Evelyn in reading comprehension, he had substantially lower study skills scores. In spite of this a contract was written requiring Greg to complete four projects, four explorations and five competencies by the end of zone four. He completed only one project, three explorations and three competencies. If this same contract had been written for Evelyn, she too would have been asked to leave the program since by the end of zone four she had completed only one project, three explorations, and two competencies. In fact, even Cheryl, who was considered to be of much higher ability, completed only three projects, two explorations and two competencies by the end of zone four and would not have met the terms of the contract. Although Greg had entered the program in April of the previous year and had to do three extra projects, it seems that the standards are highly flexible. Such occurrences are perhaps to be expected in any individualized program.

A final point of interest in Greg's case study was his ability to profit from his partial year in $(CE)_2$ after he returned to the regular high school. Instead of being more disillusioned and resentful of school, he seemed to have made a good adjustment and, in fact, performed better in school than he had prior to entering $(CE)_2$. This tends to indicate that some of the attitudes and skills students acquire in $(CE)_2$ are transferable to other environments. When interviewed during the summer in response to the first draft of this case study, Greg revealed his intentions to take courses this fall at the community college in pottery, poetry, and perhaps music theory or psychology.

Evelyn

Background. Evelyn comes from a family that feels strongly about providing support for their children, especially in their educational endeavors. Last year while at the high school, Evelyn skipped classes on several occasions. When her parents later found out and realized that they had not been notified by school personnel, they were very upset. Her parents see $(CE)_2$ as providing a valuable learning opportunity and they strongly endorse the program.

The first impressions of $(CE)_2$ by Evelyn were that "it was a good idea because you get out in the community more and you learn more about what you want to be doing when you get out of school. Last year I didn't know what I wanted to do so I wanted to get into ($(CE)_2$) and try to figure out what I wanted to do when I got out of school."

A new senior in the program, Evelyn decided to apply to the program after a $(CE)_2$ presentation was made at the high school. Her parents "didn't real know what (the program) was at first, and then when they started coming to all of the meetings and the parent conferences...they really appreciate it now and feel that the staff has a lot of dedication to the kids." Evelyn said "I wanted to bring myself to go out into the community by myself to learn more about what different jobs were that I had heard about but didn't really know what they were." There was nothing that she didn't like initially about the program.

Evelyn was not hesitant about leaving her friends at the high school "because it was time to get to know more people than just the people I hung around with....Everybody thought that I wouldn't associate with them after I got into (the program), but that just isn't true because I think I have learned more here and been more understanding about things. And it's not like I used to be, really shy toward people and this has helped me as I am not so shy around other people."

Evelyn chose $(CE)_2$ because she was bored, didn't like the high school and wanted more freedom and independence. These reasons correlated with her attitude toward school which was significantly below the $(CE)_2$ pretest average rating, but did not agree with her average self-reliance rating. Most of her basic skills were at or above average, but her reading comprehension score was somewhat below average. This score was consistent with her general dislike for reading.

Evelyn and $(CE)_2$, First Semester. By mid-year Evelyn had completed only one project, although she had begun two other projects. She had also completed just two competencies. (See Table 20) However, the staff reported that her attitude seemed to be improving and she had been checking in more often with staff members. Her handwriting on activities had improved, she seemed more concerned and her work, when completed, was of good quality.

In the opinion of the staff, Evelyn was not using employer sites effectively. She had gone out on six explorations, but had only completed three exploration packages. She did feel that these explorations could be fitted to certain projects. For instance, she wanted to do a project on drugs and planned to go to a medical site for help. For a creativity project she had to locate a site that had something wrong with it and recommend three changes that she thought would be good for that place and then have the employer sign off on her suggested changes.

Evelyn went to a horse boarding farm for one of her explorations "because I like horses and I just wanted to see what kind of things (the boarding farm) did." This particular site was chosen after talking with a fellow student who had already completed an exploration activity at that site and told her what she could expect. At the site, Evelyn spent much of her time observing riding lessons, but also led the horses out to pasture, fed them, cleaned barns and bed stalls and learned the general operations. She felt she made good use of her time while at the site and didn't just sit around.

Table 20

TIME CHART OF EVELYN'S ACTIVITIES IN $(CE)_2$

Projects		Sept Oct Nov Dec Jan Feb Mar Apr May Jun
Critical Thinking	1	$(CE)_2$ For You
	2	Critical Thinking Wrap-up Activity
Functional Citizenship	1	Where Do I Fit In?
Personal/Social Development	1	What (Can I Do) About Me?
	2	Budgeting the Household
Creative Development	1	Don't Just Stand There
Science	1	I Was a Teenage Scientist
	2	Growing Herbs
ILA	1	Mathematics
	2	Communications
Employer Sites		
Exploration	1	Bank teller
	2	Photo reproduction
	3	Horse farm
	4	Animal clinic / veterinarian assistant
	5	Telephone repair and service scheduler
	6	Photo reproduction
	7	Florist
	8	Garden shop sales
	9	Kennel assistant
	10	Animal veterinarian assistant
No Learning Levels		
Competencies		
Credit	1	X
Checking Account	2	X
Insurance	3	X
Income Tax	4	X
Budgeting	5	X
Physical Health	6	X
Emergencies	7	X
Electoral Process	8	X
Government	9	X
Individual Rights	10	X
Public Agencies	11	X
Employment	12	X
Automobile	13	X

The employer instructor found Evelyn to be very attentive and she, in turn, enjoyed her experiences. "Most places I've went (sic) out to I'm really nervous the first time into the exploration level. Here (the employer instructor) just made you feel like you were just one of his fellow workers."

Evelyn found out that horses need a lot of care and attention. Persons working with horses need to stand up a lot, love horses and not show fright, be outgoing and be able to stand the smell of the stables. She said, "I like horses and I like to be outside. I like to be doing something all of the time and not just sitting around for maybe two hours and then getting out and doing something."

There were several things which Evelyn was unable to learn at this site, mainly because the employer instructor was busy much of the time. She wanted to learn about the various breeds of horses and how they react to different things, how to braid horses tails and/or manes, and how to give riding lessons. Evelyn hoped to learn these things at another employer site.

Thus far, Evelyn's explorations had not really matched her career plans. She wanted to be placed "in a dentist's office, but (the employer resource specialist) couldn't get one...until December and so I just went out on different places that I thought 'I got to go and see what they do.'" Her interest at the horse farm was more of a recreational interest, since she was most attracted to becoming a dental assistant, or possibly working in a bank. Evelyn likes math and felt that her math basic skills would be sufficient for work in a bank. Because of her explorations she decided that she would not like to become involved in the development and processing of pictures.

Evelyn's plans for the future at this time called for completion of high school followed by dental school. She contacted a dental training school and planned to go for an interview in the near future. These plans were discussed with her parents and both she and her parents discussed them with the student coordinator at a parent conference.

At first a very quiet, shy and hesitant person, Evelyn was becoming more open and responding positively to the (CE)$_2$ environment according to her learning manager. However, she often allowed her friends to interfere with her work progress, was very reluctant to initiate her own productive activity and needed considerable staff attention and support.

During this time period there were six accountability writings (staff checks on progress problems) made on Evelyn concerning overdue exploration packages, phoney excuses for non-job-site attendance, failure to seek job placements and an overdue project. Many student staffing comments were negative and included: "not doing a thing," "attitude is improving/ checks in more/quality work/better handwriting on activities/more concerned," "emergency on job-sites/doesn't check in/hard to place/no enthusiasm indicated (re: going out on job sites)/doesn't crowe as much," "dragging feet; upset easily when confronted by staff for not following through on meeting contract commitments," and "good follow-through on

explorations/turns exploration packages in immediately/choosing job sites on her own." Obviously, Evelyn had her ups and downs during this period.

Evelyn and $(CE)_2$, Second Semester. By the end of the year Evelyn had completed ten projects (including two in an ILA basic skills), ten of the eighteen exploration sites she had initiated, and all 13 competencies. She had completed no learning level activities. The exploration activities ranged from the telephone company and a photographic studio through a florist and garden shop to veterinarians and a kennel.

The exploration at General Telephone investigated the activities of a scheduler for telephone installations and repairs. The employer instructor was Evelyn's mother and Evelyn arranged the exploration to find out more about what her mother's work involved and why she really gets tired. While on this exploration Evelyn added totals, located files and posted orders, but did not complete any of the repair reports themselves.

The observation of Evelyn's third day at this site began with her reading off addresses for repair and installation sites to the employer instructor, her mother. As she read each address the employer instructor explained the grid system on the map and Evelyn posted the location with a grease pencil. As they worked, the employer instructor asked Evelyn several questions regarding the report forms and aided in pinpointing locations.

After finishing this activity Evelyn went to the employer instructor's desk to check on late arrival requests and Evelyn secured a file order requested by the employer instructor. This activity concluded with the employer instructor initialing Evelyn's time sheet.

The employer instructor stated that Evelyn conducted the exploration interview and seemed to understand the activities required by the job, the job skills and training necessary, the level of basic skills needed, the salary and fringe benefits and the opportunities for advancement in this field. Although the employer instructor said she believed Evelyn knew what it felt like to work there, she also mentioned that Evelyn left the job site before the busy time of the late afternoon. Evelyn used her interview guide to conduct an effective interview with the employer instructor, recording comments verbatim.

Both the contact person at General Telephone and Evelyn's father dropped out of high school and expressed understanding of the importance of having a program like $(CE)_2$. Evelyn's younger sister is quite active and involved in the high school, but Evelyn was just the opposite. In fact, Evelyn tends to be lazy and is less mature than her sister according to her mother.

Evelyn said that she had plenty to do at the telephone company site and wasn't bored even though it was routine work. She had some idea in advance about the site, but did not realize that it was so complicated. Although she found the work to be fairly easy, it was hectic and fatiguing.

The contact person at the telephone company said he believes that students should explore the commercial area first and learn how installation and repair orders are received and written up before posting orders. Although Evelyn agreed, she doubted she would go back for that exploration.

Even though her mother was the employer instructor Evelyn felt that she was treated like an employee. She was able to ask questions and liked the site because she likes to file and answer the telephone. There are no skills which Evelyn felt she lacks for this occupation.

Through her exploration activities Evelyn felt that she was better able to communicate with adults and more able to speak out with her ideas to different people. She has also learned how to better cope with situations and get a better idea of the resources available in the community.

Evelyn had been working on her mathematics and communications skills on the ILA. However, she did not feel that she really had been acquiring any applied skills.

Thus far Evelyn had decided that she definitely did not want to work in a snack bar, sell furniture or things of this nature. At this time she had an interest in the field of veterinarian assistant, but had not made a definite decision.

The most important thing about $(CE)_2$ to Evelyn had been the opportunity to meet new people and she especially liked the way the staff treated her. She got to be with her friends, but also had time to be by herself.

Evelyn spent some time back at the high school, especially at basketball games, and still had some friends there. She found little change in her social life since entering $(CE)_2$. However, she said, "I think I got to know the staff here (at $(CE)_2$) better than the teachers over there (at the high school) because here you can talk to them individually where they have, like, 200 students or more that are in their classes and you can't really talk to them that well...I can talk to the people here more openly than I could when I went to the high school...and (as a result) I've learned more....They treat me here as an individual where over there they treat you as a whole group."

Evelyn was also observed on the third day of an exploration while working as a kennel attendant at a pet kennel. While at the kennel she swept floors, cleaned dishes and pens, emptied the washer and drier and folded blankets, fed and exercised pets according to directions and did some grooming. She performed most of these activities during the period she was observed.

Evelyn was judged to adequately know the activities required by the job and what it feels like to work at a kennel. However, the employment prospects are slim and the employer instructor was unsure whether Evelyn knew much about the salary, fringe benefits and opportunities of the job. Most of the information she collected was from observation and direct instruction. The employer instructor only worked part-time and was unsure whether Evelyn had yet conducted her interview with the owner. However, the employer instructor had also worked with previous $(CE)_2$

students and enjoyed the relationships. Students were "more help than hindrance" and did not take up too much time.

While on this job site Evelyn had little opportunity to apply her basic skills. The employer instructor did note that she did not pay enough attention or listen closely and was not capable of adequately following all of a series of directions.

Evelyn felt that the job was pretty easy, although different animals required different foods and medications. She did have enough to do and was not just sitting around. Her employer instructor treated her as though she was a regular employee, according to Evelyn.

Although Evelyn would have liked to observe some animal training, there was none occurring at the time. She felt that she learned everything that her employer instructor did at the site, especially being gentle with the animals. Also, there was nothing that she feels she cannot do or is not qualified to do and she enjoys working with animals. All in all, Evelyn really enjoyed this site even though she was unable to add or change activities.

During the second half of the school year Evelyn was constantly behind in her work. Each end-of-zone debriefing was filled with problem areas. In addition, there was a parent conference and another conference with the student coordinator. Her lack of time input resulted in a requirement to attend after-school time make-up sessions. In addition, there were eight accountability write-ups made on Evelyn concerning lack of employer site maintenance, not turning in time slips or exploration packages, and failure to keep appointments at employer sites.

An example of this failure to keep appointments was evidenced during her exploration at the garden center. A time was set up to observe Evelyn, but she left the job site and returned to the learning center before the appointed time. A second appointment was set up with Evelyn and the employer relations specialist to observe her on the following day. When the observer arrived he was informed that Evelyn had called in sick with a toothache, but had not bothered to inform her employer relations specialist or the observer. When the observer returned to the learning center he found Evelyn sitting in the lounge drinking a soft drink.

Finally, Evelyn's lack of participation in job sites resulted in an ultimatum. A contract was drawn up containing explicit provisions for expected job performance. She was to select an entirely new job site by the following day, meet all schedules and times while on that job site with no unexcused absences, turn in her completed exploration packet for that site by a specified date, attend no other unassigned job sites nor accompany fellow students to their job sites, schedule all remaining projects with target dates and complete all work on journals. If any of these provisions was broken, Evelyn would "...automatically and immediately be asked to leave the program permanently."

At this time Evelyn's work year really began. From this date she completed six projects, six competencies and two explorations. Thus, in less than six weeks she completed sixty percent of her projects, almost half of her competencies and twenty percent of her explorations and she was able to graduate with her class.

Reflections by Evelyn. Since joining $(CE)_2$ Evelyn feels that she has "been able to talk to people more easily...than just running away from them...." She said "I can let my feelings out...I just don't hold them inside...." "In the first of the year I'd just...tell lies just to get attention from people...because I felt like I wasn't getting enough attention--that people would just pay attention to somebody else and forget all about me so I'd make up lies...so they'd pay attention to me...." However, she "...just started thinking about it and (found) it's easier to tell the truth....It's a lot easier--you don't have to think up some quick lies...."

Evelyn finds the real world "kind of scary but (she's) happy this is her last year and (she doesn't) have to get up in the morning." A project on Budgeting the Household for a month "...really gave (her) a good idea of what is going to go on." She wants to move out of her home and get a place of her own but first has to get a job and some money.

Because of her experiences in $(CE)_2$ Evelyn felt that she can better relate to adults. She said "I can look at their opinion just as I can mine instead of locking my mind." She feels adults are "...the same as us except they are a little older and know more." She also felt that now she is not as scared to do things on her own or go places by herself.

Two years from now Evelyn hopes to be working in a veterinarian's office as a veterinarian assistant. She had been thinking about this career for about five months. These plans were discussed with her parents, the student coordinator and her employer relations specialist.

Veterinarian assistant was a switch in careers from the beginning of the year. At that time she was decidedly in favor of a career as a dental assistant. Because of scheduling problems she was unable to explore this career until mid-December. While on this exploration she decided that this career was definitely not for her and did not even complete her exploration package. She vividly recalls one event, "This was weird, but the first day I went out there I was with the hygienist and she was cleaning this guy's teeth, and they were all green, you know, and she was picking the green stuff off, and I had to sit there and hold the suction cup thing, and he had blood all in his mouth, and I kept getting the suction cup stuck to the sides of his teeth, and he'd go, 'Wuspps,' and I'd go 'Ooops,' and I'd pull it out."

Evelyn felt that $(CE)_2$ has helped her to know herself. She said, "I know what I want to do and what I want to be and where I want to go." She also "can talk with her Mom better than (she) could." There are no areas in which she made less growth this year than she had hoped to make.

The Views of Her Parents. Evelyn's parents first heard about $(CE)_2$ when Evelyn told them about a seminar discussing the program which was presented at the high school. They hoped that the program would make Evelyn less introverted, better able to relate to people and give her an idea of what the "outside" was like so as to give her ideas for the future.

By mid-March Evelyn's parents were really "turned on" by the $(CE)_2$ program. They said the program had done more than they thought it would. She never talked about her experiences at the high school, but now would go in streaks

talking about her $(CE)_2$ job site experiences. Evelyn would even argue with her parents, where before she was very reticent and submissive. She had also become more critical, questioned others when she felt she was right, expressed her feelings and looked people in the eye when talking.

According to her parents, the $(CE)_2$ program had most helped Evelyn to be more considerate of other people and to accept more responsibility. Her parents really did not expect miracles of the program but hoped that it would help Evelyn to be able to develop a more definite plan of what she wants to do. They found out that she no longer wanted to become a dental assistant or work in a snack bar but they had to initiate most of this kind of discussion.

Evelyn's parents felt that she had improved a lot in written and oral communications, but her mathematics skill "has always been good." They did not know what she was doing in Life Skills, but did know that she had been out on quite a few job sites. They also felt that punctuality was always one of Evelyn's strong points. The $(CE)_2$ program helped Evelyn very little in "preparing for college or future education" but helped a little in "communicating with others in a mature way," "demonstrating tolerance for others," and "becoming more mature," according to her parents.

The $(CE)_2$ staff kept Evelyn's parents well-informed--"much better than the high school." Both her mother and father had meetings with the staff regarding Evelyn and were highly impressed by the ability of the $(CE)_2$ staff and their interest in students. Most of the time the $(CE)_2$ staff, especially the student coordinator, contacted them, although her father also contacted the staff. If there had been no contact the parents said they surely would have initiated some.

The information Evelyn's parents received included where and what she was doing, how she was doing, and what she needed to improve on. In parent conferences, the staff praised as well as mentioned problems. Evelyn's parents also felt that they could have made their opinions known to staff members. The only information they felt they had not received was what types of job sites were available and what Evelyn was going to see.

Problems encountered by Evelyn which her parents noted included her penchant to put off work until the last minute and a fear of going out to job sites and interacting with strange people. These problems were somewhat resolved by forcing Evelyn to make and stick to a time schedule. Both parents were satisfied with how the situation was handled and are strong supporters of the $(CE)_2$ program.

One example of parental involvement in the program in Evelyn's case concerned one of her projects. Her parents worked with the learning manager to set up the project "Budgeting the Household." In this project, Evelyn was required to take full responsibility for running the house for a week. She paid the bills, shopped for food, cooked the meals, cleaned the house and the like to get a feel for what running the household was like. Both parents were very impressed with this project.

Evelyn's Views of $(CE)_2$. Evelyn felt that her project work did not fit into her job explorations. She did two projects incorporating mathematics but used this basic skill only at her bank exploration. She was able to do a separate project on herbs while at the garden center. She also found several of the explorations to be rather boring. The only general skill she felt she gained out of attending multiple explorations was "being patient with people."

Evelyn indicated that $(CE)_2$ was helpful in all areas in an end-of-year questionnaire. However, her lack of variance in response (she marked "4" on a five-point scale) for all 22 items probably is representative of little thought given to each question. She rated the "overall quality of the $(CE)_2$ program as "excellent" and would definitely decide to participate in $(CE)_2$ again. Evelyn felt that you could progress in the $(CE)_2$ program at your own rate, but rated $(CE)_2$ about the same as the high school on opportunity for "learning about occupations," "general learning," and for motivation to learn. She stated that there were no program weaknesses and that the greatest strength was that "the staff members are all helpful and there when and if you need them."

Test Progress Measures on Evelyn. In the area of Basic Skills, Evelyn increased one grade level in arithmetic concepts, arithmetic applications and study skills using reference materials, but decreased in reading comprehension and study skills using graphic materials. At the end of the year she was at least three grade levels below the national norms in reading comprehension and study skills. She was also more than one standard deviation below the $(CE)_2$ reading comprehension mean on the posttest.

On a semantic differential instrument, Evelyn was signficantly below the $(CE)_2$ mean in her attitude toward the concept "school" at pretest time and "learning" at posttest time. She made gains on all scales over the year except for work and decision making and her gain on the school scale was significant.

On the Psychosocial Maturity Scale Evelyn had posttest means at least one standard deviation below the $(CE)_2$ posttest means. She had significant declines on the self-reliance, role, social commitment, tolerance and change scales.

The social occupational area was still strongest at posttest time on the Self Directed Search but the conventional (e.g., clerical) area moved up from third (out of seven) to second and the enterprising (e.g., sales) area jumped from last to third. Meanwhile, the realistic (e.g., mechanical) area dropped from a tie for third to last (seventh).

The $(CE)_2$ student coordinator and the appropriate learning manager rated each student on a five-point scale in November and again in April. Evelyn was one standard deviation or more below the $(CE)_2$ mean at the time of the first rating on each scale except "demonstrates willingness to apply Basic Skills to work tasks and to avocational interests." At the time of the final rating Evelyn was more than one standard below the $(CE)_2$ mean on only "knows his/her own aptitudes, interests and abilities." She made gains of at least one point on each of the other six scales according to staff ratings.

Evaluator's Reflections. A problem revealed through this case study was discovery of a very poorly written thank you letter which Evelyn sent to the employer instructor after the exploration at the horse farm. Although this letter consisted of only two sentences, it contained two grammatical errors. These letters, and all student products which are distributed to the community, should first be screened by $(CE)_2$ staff members so they might better identify which students need additional help and maintain a better program image in the community.

A concern was also expressed by the employer instructor at the horse farm. He felt that the program was excellent and enjoyed working with the students. However, he also felt that students at his site did not get a realistic feeling of that site because of their time period of attendance. Since this work is wide in scope, it takes more than two days to get a good idea as to the variety of activities. In addition, the students came at 9:00a.m. after the morning work had been completed and left before the afternoon chores really began. This situation illustrates the necessity for variable lengths and hours of exploration depending on the individual learning site.

It should be obvious from this case study that even though Evelyn graduated from the $(CE)_2$ program, at times she was very lazy and difficult to motivate. It was hoped that job sites and the reality of work would be enough stimulus to overcome this problem. Unfortunately, as her mother stated, "the program could not perform miracles."

Evelyn has an obvious handicap which she still must overcome. Admittedly, she does not like to read and her reading comprehension is still at the elementary school level. In addition, she appears shy and reticent. However some strides have been made in her speaking ability this year.

Evelyn was the only $(CE)_2$ student who did not participate on a learning level activity this year. The $(CE)_2$ staff felt that she needed exposure to a larger number of different people and sites more than extensive interaction with one site. However, interviews with her indicated that she now only superficially understands the requirements and responsibilities of a veterinarian assistant, even though she explored this career at two different sites.

A final observation concerns the progress which Evelyn made during the year. By the end of April she was performing far below the levels of acceptability. Only by giving her an ultimatum to produce or get out did she finally begin working. Up until that time she had done quality work (according to the staff), but little of it. She completed just five exploration packages of the 18 explorations she had scheduled. During the last six weeks of the school year she was then able to complete over 45 percent of the total year's work. Evelyn used very little of her potential ability unless she was dramatically motivated.

Cheryl

Background. On the evening of the orientation for prospective students and their parents, Cheryl had the flu and was unable to attend. However,

her mother attended the meeting and was so enthusiastic about the program, that she encouraged Cheryl to apply. Cheryl did apply even though her friends thought of $(CE)_2$ as a dropout program.

Cheryl was not selected from the applicant pool of students, but entered the program as one of the first alternates in the beginning weeks of the school year. Cheryl said, "I don't know if I thought $(CE)_2$ was going to be easier or not, I just thought it was something different that I would be able to use more after I got out of high school than the regular classes I was taking then, because I didn't want to take them....so I thought that....this is really going to help me....I can control what I want to do and....push myself to my limits, if there are any."

Although only a junior, Cheryl has a "goal of travelling around the United States after (she) graduates...." She wanted to obtain skills which would give her a start for the future and might also be applicable during her travels. Through $(CE)_2$ she said she has been able to further these travel plans through talks with her learning manager and her friends.

Cheryl had little previous work experience, consisting only of babysitting and strawberry picking in order to earn spending money. However, she felt that learning about careers and preparing for a job were extremely important factors in her decision to join $(CE)_2$. She was especially interested in exploring the work of a physical therapist.

On the Comprehensive Test of Basic Skills, Cheryl performed about average on the arithmetic subtests and slightly above average on the reading comprehension and study skills subtests. She rated above the $(CE)_2$ average on the identity and self-reliance subscales of a maturity inventory. Her attitude towards "decision making" was also above average. These scores reflect Cheryl's self-confidence in her abilities. All of her other scores were at the average level of the $(CE)_2$ students.

While at the high school Cheryl had participated in the American Field Service Club and the band. She had intended to pursue her band interest further this year while in $(CE)_2$, but did not since band was a middle-of-the-day activity at the high school and might have interfered with her $(CE)_2$ activities. However, she stated that she could have participated if she really had wanted to.

Cheryl and $(CE)_2$, First Semester. By mid-year Cheryl had completed two competencies, three projects and two explorations (see Table 21). She was also working on a learning level and two additional projects. Cheryl comes from a very religious family and completed one of her projects in connection with her attendance at a convocation over a religious holiday.

For four of her projects, Cheryl took it upon herself to incorporate some additional mathematics work. She had not planned on taking any math this year and has not had a math course since the ninth grade. However, through $(CE)_2$ and her community involvement she saw the necessity for acquiring additional mathematics skills.

Cheryl completed exploration packages for a disc jockey at a radio station and a flower shop worker. When first observed, she was into the tenth week

Table 21

TIME CHART OF CHERYL'S ACTIVITIES IN $(CE)_2$

Projects		Sept Oct Nov Dec Jan Feb Mar Apr May Jun
Critical Thinking	1	$(CE)_2$ For You
	2	What's it Like to Be Blind
Functional Citizenship	1	Where Do I Fit In?
Personal/Social Development	1	Insight Into the Bible
	2	What Can I Do About Me
Creative Development	1	Petals and Thorns
	2	Don't Just Stand There Do Something
Science	1	Working with Adult Mentally Retarded
	2	I Was a Teenage Scientist
ILA Math		ILA Math
Employer Sites		
Exploration	1	Florist
	2	Radio station disc jockey
	3	Elementary school EMR aide
	4	Junior high school psychologically disturbed aide
	5	Activity Center TMR aide
	6	Junior High School EMR and TMR aide
	7	
	8	
Learning Level	1	Florist
	2	Activity Center teacher of handicapped
	3	
Competencies		
Credit	1	X
Checking Account	2	X
Insurance	3	X
Income Tax	4	X
Budgeting	5	X
Physical Health	6	
Emergencies	7	
Electoral Process	8	
Government	9	X
Individual Rights	10	X
Public Agencies	11	
Employment	12	X
Automobile	13	

of her learning level at the flower shop. At the flower shop she made flower arrangements--mostly small ones such as corsages--and cleaned, watered and otherwise took care of the cut flowers. She also did small errands, folded boxes, did some sweeping and liked to observe the flower arrangers, although her employer instructor preferred her in an active role. She was also able to incorporate one of her creative development projects, "Petals and Thorns," into her experience at the flower shop, although her employer instructor stated during an interview that she was not aware of the project.

In Student Performance Reviews by her employer instructor, Cheryl received mostly commendable and excellent ratings. She received "excellent" ratings for her courteousness and cooperativeness, poise and self-confidence and "progressively requiring less supervision." Employer instructor ratings indicated that she improved her observance of employer rules, understanding and accepting responsibility, completion of assigned tasks, using initiative and seeking opportunities to learn, and used increased judgment. At the same time her employer instructor rated her lower on the second rating on adherance to established schedules and demonstration of appropriate dress/grooming.

Her employer instructor also felt that Cheryl has sufficient basic skills to enter this occupation with some additional experience, but did not discuss this possibility or Cheryl's future educational or career plans with her. Cheryl showed interest in the career and some enthusiasm and self-confidence according to her employer instructor. She also understands and communicates very effectively with adults, is able to work by herself, asks questions and uses employees to get information, thinks about what she is doing before acting and is fairly mature. However, her employer instructor felt that Cheryl needs to be more alert and does not have a realistic understanding of what it is like to be a florist.

Cheryl felt that her employer instructor was quite demanding and sometimes impatient. However, she enjoyed this learning level and felt that she made good use of her time. She felt that she learned everything about the job site that she wanted to learn and can use the site as a future reference. Cheryl was able to decide what she wanted to do at the site although her learning manager wrote up the activities.

Cheryl felt that she was treated like a visitor at first, but later more like a worker. When observed, Cheryl appeared to get along very well with her co-workers. She values learning how a real business is run and learning about the flower business although she is unsure about whether she wants to set up her own floral business some day. Cheryl has also learned that customers must be treated extra special.

Cheryl said, "I have figured out that I am going to have to discover... alternative types of jobs so that I can figure out the one that is best suited for me so that I can really enjoy my work better because if I am not happy I won't do the job." She feels she probably would not work until she is out of high school and then only until she had married or started a family. Although she had not really thought about work before entering (CE), she has since had several discussions with her learning manager about work values. At this time she viewed work only as an end to earn money for purchases.

The $(CE)_2$ staff noted Cheryl's cheerfulness, creativity, enthusiasm, reliability and high quality work. She recognizes her weaknesses and works to improve them according to their comments.

Cheryl and $(CE)_2$, Second Semester. During the second half of the year, Cheryl completed three additional explorations, six more competencies and seven additional projects. She has also partially completed three of the remaining five competencies which she must complete as a senior next year.

The additional explorations were as an aide with an educable mentally retarded class, counselor and teacher of trainable mental retardates and as a special education teacher. Her interest in this area grew out of a project on blindness and encouragement from the student coordinator, who "pushes special education." It eventually led to an extended learning level as a special education teacher at a work activity center for trainable mentally retarded (TMR) adults.

Two observations were made of Cheryl at that site. The first observation was made during the third day of her placement following an exploration at the same site. Cheryl was the assistant for a group leader in a classroom of 12 students. After some initial discussion and demonstration on how to thread an embroidery needle, Cheryl began working with the four students at one of the tables. She had already learned their names and worked individually with students showing them how to measure and cut thread, thread a needle and then tie the thread into a knot.

Cheryl spent extensive time working individually with the students. One student failed to understand the concept of "twice" when instructed by the group leader, but neither the group leader nor Cheryl explained that it means two times. Students were then instructed as to how to cut their own 4x4 inch piece of material, with Cheryl again giving much individual attention. The activity closed with a clean-up period.

The next class consisted of only two extremely retarded students. Cheryl began working with an individual student, explaining a scissors and its use. With sufficient prompting, Cheryl was able to get her to say "scissors." Cheryl then explained the structure of the needle with its eye and introduced thread and how to measure it. As the observation ended, the student had cut her thread and had begun to thread the needle.

Even though Cheryl had only been on this learning level for three days her employer instructor felt that she understood the activities required by the job and what it feels like to work at the center. This feeling was probably based on her four previous explorations in the field of special education, including one at this site. The employer instructor also felt that Cheryl has the empathy and interest to work with this type of student. Cheryl wanted to look at individual differences in mentally retarded students by working with all three levels of students on one particular project. Her primary responsibility was to implement an individualized program in basic life skills based on the group leader's instruction.

Cheryl's employer instructor stated that she has an unusual willingness to be cooperative and displayed self-confidence and initiative. She exhibited her interest in the area of special education through the generation of good ideas for projects and her desire to come to the job site even though she was already busy on another project.

By the end of February she had a good idea of what field she wanted to work in. It should be a useful job--and that is how she feels about special education. She had been encouraged to further her experiences and education in special education by personnel at the four previous exploration sites.

Cheryl felt that while at this site she was being treated "basically like a volunteer, although sometimes like a staff member." She likes to work with other people, but admits that since she only works a five-hour day, she hasn't fully appreciated what the "real" job is like. She finds the work can be quite exhausting when working with "kids who are spaced out," but feels she is doing something worthwhile.

Cheryl felt that she really had not known what the $(CE)_2$ program was all about earlier in the year. By mid-year she was able to state that she could confide in practically all of the $(CE)_2$ staff members, but in prior years had not had any similar relationships with members of the high school faculty. Further, she stated that "students are to learn at (the high school) and are treated that way; here to learn at $(CE)_2$, but also aware of problems of becoming an adult and make you feel wanted.... learning is fun this way and learning was a pain at the high school... learning is something you had to do there and you have to do here, but here it really doesn't seem like it."

At the second observation at the work activity center there was a noticeable difference in Cheryl's role. She had assumed much additional responsibility. The original group leader had left the center and a college student replacement had been secured on a less than full-time basis. Cheryl now had more experience with the students than the new group leader. In fact, the new group leader was ill on the day of the second observation and Cheryl conducted the classes by herself.

The class which was observed met in the regular classroom, but was taken outside by Cheryl. They were then seated around a picnic table on the rear porch of the activity center.

A female student had a magazine with her which she continued to look at and would not put away when Cheryl requested. Another student then tried to take the magazine and Cheryl responded by verbally reprimanding the student. A male student continued to stand through the magazine episode and would not sit down at the table. Cheryl then told the rest of the class to ignore these students, but told these students they could join the activity when they were ready.

The lesson for the day first concerned a review of the basic food groups and nutrition. Although students often tried to take off on their own diversions, Cheryl did a good job of keeping them on the right track.

The second activity was a paper and pencil basic writing activity. By this time all of the students were becoming involved. One student requested that they be allowed to listen to the radio and Cheryl agreed. Each student was given a card containing his name and some other items to use as a guide for the writing activity. Cheryl helped individual students print their name, praising students where appropriate. After about fifteen minutes Cheryl changed the radio station. One student objected, but finally agreed to the change for awhile. Cheryl instructed one student as to the correct way to wear his watch, and wound the watch of another student who said his had stopped. The activity was concluded by the return of supplies. Cheryl put the supplies away leaving the students unattended temporarily, but returned quickly.

The employer instructor noted that Cheryl had been supervising groups of educable mentally retarded students independently at the center and assisting in the teaching of academic skills such as number recognition, writing skills, money skills (including the use of money), food survival skills (including menu planning, nutrition and purchasing), shopping skills, cooking skills such as tools, measuring and food preparation, laundry skills and clothing care, personal hygiene, sewing skills, clean-up skills, etiquette, and some work training. In addition, Cheryl completed a project comparing the ability levels of students.

On employer instructor ratings Cheryl gained or increased several specific job-related skills from this learning level experience including taking and following directions and supervisory skills. She exhibited a definite willingness to pick up these skills. Although Cheryl has the attributes necessary for this job, she would probably need a degree in special education before she could be hired. However, the center would hire her immediately for a position as a summer aide if the funds were available.

There are several general career skills which Cheryl obtained or improved by working with trained staff personnnel and by working in a practical situation. These include her dependability, promptness, flexibility, conscientiousness and value of commitment. She was commended by her employer instructor for her empathy for the problems of others, her good judgment and her ability to seek clarification when she was uncertain. She demonstrated her initiative by developing a laundry program by herself to eliminate some of the smell from clothes and towels. Cheryl is extremely mature and watches the well-being of her students. Very few of these skills could have been learned in a conventional classroom according to her employer instructor.

All of her Student Performance Review ratings were either "commendable" or "excellent." The final review also included these comments. "(Cheryl) was never late or in the wrong place at the wrong time. Also, always called in if any change in schedule...always willing to do any task with cheerful attitude...has really utilized time allotted for her learning... does super job of all tasks; congenial and well-liked by all staff...has unusually mature capability to maintain proper rapport between her staff, clients and employer contact."

Her employer instructor further said that she is able to work cooperatively with other people towards a common goal, question the right people when

she has a question, do her project work independently, ask for printed resources to secure additional information and make notes about what she is doing. She showed a real interest in the site by doing an exploration, asking to finish the year there on a learning level and asking related questions beyond those necessary to complete her projects.

According to her employer instructor Cheryl found the work to be demanding. It held nonmeasurable rewards and slow gains were very important. These understandings reflect the real world with the mentally retarded.

According to her employer instructor, Cheryl made gains in both oral and written communication skills while at the job site and showed a willingness to apply these skills. She worked with numbers whenever given the chance and rewrote one paper completely when the first draft was not very lucid. Although she frequently blushed and had difficulty formulating questions early in the learning level, she is now much more verbal and not as quiet and hesitant.

At the end of the learning level, Cheryl felt that the tasks at this site had been very challenging and she had used her time to the best advantage. She had been treated like a regular volunteer or employee and was always busy doing something. She was able to do what she wanted to do with the employer instructor's cooperation. She completed four projects while on this learning level and received help from the site staff.

Cheryl felt that the most important things she learned at this site were: communicating with and reacting to mentally retarded students; coping with special problems; acquiring some teaching and learning skills, including how to get a point across; understanding the feelings and emotions of physically and emotionally handicapped persons; controlling her own emotions; and, coping with the mental strain. She felt that she was able to learn all that she wanted to learn and got a good feeling of what the field is like, especially when she substituted for staff members who were absent.

Cheryl believes she has the personality to work with the mentally retarded and knows that she will need at least two years of college, although she has not definitely committed herself to the additional education. However, she still wants to travel, but "would go into special education if (she) went into any career."

Reflections by Cheryl. Recognizing her deficiencies, Cheryl has worked to improve them. She has attempted to incorporate mathematics into each of her projects and completed one project on ILA math. At the high school and at the beginning of the year, she had difficulty getting into her work, but feels that she is better at it. She now better programs her work allowing enough time to get her work done. She said, "The time zones that we have (here in $(CE)_2$) are closer together than they are at the high school and you have to get...in a way you have to get more things done...and if you don't have them done you get in conflict."

In the past, Cheryl really had not thought much about the world of work. Since she has been in $(CE)_2$ she has been doing some thinking and has decided on some things she does not want to do. She "decided that (she)

just didn't want a job in a factory or...assembly line...but needs to have something that she can get (her) personal satisfaction out of and think that (she's) done something." Knowing that "...in this age you can't get away from work to survive...." Cheryl needs to know that she has "...done something that is really worthwhile." These values have been influenced by her experiences at work sites while at $(CE)_2$. She said "...when you are looking for a job site...first of all you have to think whether or not you are going to like it at all and that is kind of comes naturally...you decide if you're going to like it by your own values and if you don't have any values it's going to be pretty hard to figure out whether you are going to like it or not."

Although Cheryl did not have difficulty talking to people she really knew, she found it beneficial "...learning to go out to a job site and just all of a sudden seeing somebody and you have to learn what they're doing... you have to become more aggressive...or else you really won't get much out of it." Going to the job sites also give Cheryl a realization of just how tiring and exhausting it is to go to work, which in turn gave her some insights into how her parents feel at the end of a working day.

As far as future plans two years from now, Cheryl is considering two alternatives. She could have earned enough money to go travelling around in Europe and the United States or she could be getting an education going to college, hopefully in the area of special education. However, she has not discussed these plans with anyone lately and they are presently indefinite since she still has one year of high school remaining.

Cheryl feels that the $(CE)_2$ program and staff have helped her basic overall growth. The outgoing nature of the staff, the cadres (group student meetings) and the job sites have helped her make new friends, increased her ability to talk to people and enabled her to get to know adults better. She has also learned that the staff and employer instructors can and will give help when it is needed.

The Views of Her Parents. Cheryl's parents had mixed reactions initially about the $(CE)_2$ program. Her father was somewhat apprehensive at first, fearing that Cheryl would be missing out on some associations at the high school. However, her mother knew that Cheryl was bored at the high school and $(CE)_2$ looked like a chance for her to do more things and some things she wasn't getting a chance to do. When interviewed in March they both stated that Cheryl was getting something valuable in the way of learning experiences at $(CE)_2$ and nonmeaningful things were not being forced on her. They both feel it is valuable to get some of the practical, physical things.

Her parents feel that they are being kept more informed of Cheryl's progress in $(CE)_2$ than when she was at the high school. They would not feel hesitant to call $(CE)_2$ staff members and feel they have the opportunity to make their opinions known. However, most communication has been initiated by the $(CE)_2$ staff including what Cheryl is doing and accomplishing, her attitude and, particularly, her mathematics progress. They would have liked to receive additional information concerning what happened on employer sites and what skills she was developing. They like the reporting method of showing program expectations and progress.

According to her parents, Cheryl has been real excited about her experiences, but may have not known enough about a particular exploration site to make a decision. Thus far, Cheryl has had no real problems. She talked about her experiences several times a week including her experiences with the mentally retarded students, other students at $(CE)_2$, the student coordinator and employer instructors. She has even brought some of her work (a corsage from the florist shop) home with her. The only thing she really ever talked about at the high school was band.

Cheryl has always been looking on the horizon as far as careers are concerned, but nothing has really crystallized. Since entering $(CE)_2$ she has developed good working associations with people and has discussed her travel plans with her parents. She does not want to be tied down doing one thing all of the time and her parents have encouraged her to be open-minded about the future.

Most of the changes in Cheryl noted by her parents since entering $(CE)_2$ have been minor. She is now more entnusiastic about schooling and people have more of an effect on her. She is a little more independent and socially interactive and is competent to get around by herself. Her parents feel that $(CE)_2$ has not adequately helped her associations with peers and her social life, but Cheryl says that she has more good friends at $(CE)_2$ than she had at the high school.

The $(CE)_2$ program is meeting Cheryl's needs in the Basic Skills, especially oral communications, and in the development of knowledge about careers according to her parents. However, the development of job skills is one of the biggest values of the $(CE)_2$ program and helps students become "capable of being involved in society."

Two weaknesses of the $(CE)_2$ program were identified by Cheryl's parents. First, they would have liked to have seen more learning level activities as Cheryl had only had two learning levels this year. Second, her father feels that it might have been better if students had put in more effort and had more consultation before going out on job sites. However, her mother feels that the present structure of the program helps the students decide which job sites to attend.

Cheryl's parents feel that $(CE)_2$ has helped Cheryl very much in the areas of "thinking through and solving problems" and "becoming more mature." The program has also been beneficial in helping her in "communicating with others in a mature way" and "assuring responsibility for self." Although no definite decisions have been made her parents also feel that Cheryl "has much more direction for the future than she had before entering $(CE)_2$" in the areas of "preparing for college or future education" and "preparing for work."

Cheryl's Views of $(CE)_2$. At the beginning of the program Cheryl didn't have any negative feelings toward the program and has become even more positive toward it since September. She enjoys the freedom and likes the lack of homework at $(CE)_2$, even though she feels she has had to work harder than at the high school. She found her $(CE)_2$ experiences "very helpful" in helping her to solve problems logically, get along with others, learn how her interests and abilities fit into potential careers, learn what to look at in considering a job, improve her math skills,

communicate comfortably with adults, take responsibility for her own actions and become more open to ideas and values different from her own. She also rated her $(CE)_2$ experiences to be somewhat helpful in seven other areas.

Cheryl found the $(CE)_2$ program to be "of little or no help" in helping her to improve her reading skills and communication skills (speaking and writing). She also rated the program as providing only minimal help in learning how to find and keep a job. This lack of career knowledge was reflected in a ten item instrument on career planning where Cheryl only had five correct.

Cheryl rated the $(CE)_2$ program as providing "much more" opportunity than the regular high school in providing for learning about occupations and motivation to learn, with "more" opportunity than the regular high school in providing for general learning. She rated the overall quality of the $(CE)_2$ program as "good" (4 on a five-point scale) and definitely would decide again to participate in $(CE)_2$. The program also allowed her to progress at her own rate.

In an open-ended question Cheryl stated that the greatest strengths of the $(CE)_2$ program are "the closeness of the staff and students...the rapport of staff and students...the understanding of staff members (and) their ability to help with problems."

Test Progress Measures on Cheryl. Several differences were noted in Cheryl's scores on testing instruments between pretest time and posttesting. Cheryl made a significant gain in reading comprehension going off the upper end of the conversion chart. She also increased 1.6 grade levels in arithmetic concepts, 0.6 grade levels in arithmetic applications and 2.1 grade levels in study skills using references. She was at or above the $(CE)_2$ mean on all scales at posttest time.

A semantic differential showed a significant gain on the concepts of "community resources" and "school" with little change in her other scores. There were few significant changes in her scores on the Psychosocial Maturity Scale but her posttest scores were significantly above the $(CE)_2$ posttest mean on all scales except for self-reliance and change. These posttest scores were quite different from those for most $(CE)_2$ students for the overall means either declined or showed little difference on each scale. Cheryl's scores on the Self-Directed Search for the top three areas were the same, but her social and enterprising areas were scored much stronger and both surpassed the artistic area which greatly decreased in strength.

The $(CE)_2$ student coordinator and the appropriate learning manager rated each student in November and again in April. Cheryl was one standard deviation above the $(CE)_2$ average on four of the scales and two standard deviations above the $(CE)_2$ average on the other three scales at pretest time. However, at posttest time she was one standard deviation above the $(CE)_2$ posttest average on only two of the scales ("assumes responsibility for carrying out tasks" and "understands another person's message and feelings") and showed a significant decline on two scales ("knows his/her own aptitudes, interests and abilities" and "initiates

program-related behaviors--a self-starter"). These scores do not reflect Cheryl's overall behaviors in the program. While at the learning center towards the end of the year, Cheryl tended to just sit around a table talking with her friends and loafing. Since the ratings were completed by staff members who were basically in the learning center, these ratings reflect only that behavior which occurred in the learning center. However, her employer relations specialist stated that her work while at the job sites was "outstanding." Apparently, all of Cheryl's time and efforts went into her job site activities (including projects) and she coasted while at the learning center.

Evaluator's Reflections. The flexibility of the $(CE)_2$ staff to meet individual student needs is reflected in their interaction with Cheryl and her philosophy of work and future career plans. Cheryl was not forced to adopt someone else's philosophy of work, but instead her philosophy has been allowed to evolve out of her experiences in the real world.

Cheryl's career plan has also evolved out of her $(CE)_2$ experiences. In the beginning of the year she only wanted to travel and her only career interest was physical therapy. As the year progressed she was able to focus her career interests into special education. Although she still has some plans for travel, her work and career interests have increased over the year.

It was very interesting to observe the conflicting behaviors between job site and learning center which occurred towards the end of the year. Cheryl was very focused and purposeful while on the job site, but aimless and lackadaisical at the learning center. These differences in behavior may be illustrating a preference for experiential learning over learning center participation.

Case Studies Conclusions

Although generalizations based on seven case studies (four detailed above and three detailed in Appendix G) must remain tentative, some conclusions are offered below:

1. $(CE)_2$ appeals to a wide range of students.

Contrary to some prevailing notions that career education programs appeal only to students with blue collar career expectations or to students from the lowest end of the academic spectrum, the case studies present evidence that students with a wide range of vocational aspirations (professional, musician, dentist, "powderman," etc.) and varying degrees of success in school make up the $(CE)_2$ student population. It is also interesting to observe the variety of reasons why students select $(CE)_2$ as an alternative. Fred was "getting A's" in the high school but not learning anything. He joined $(CE)_2$ in the hopes of finding "less regimentation." Bob joined when his high school grade point average dropped from 3.5 to 1.6 and he felt himself on the road to becoming a dropout. Evelyn joined in order to force herself out into the community and find out about the variety of careers that might interest her. There are other examples.

2. Parents support the $(CE)_2$ program.

Although some parents initially were skeptical of the program, fearing it might hinder their son or daughter's chances of getting into college, all parents were very positive in their feelings about the program by the second semester. They expressed positive appreciation of the program's experiential and practical orientation. They also reported positive changes in their son or daughter's behavior. Evelyn's parents, for example, reported that she is more considerate and responsible as a result of the program. Fred's writing ability has improved, according to his parents, and $(CE)_2$ has inspired and "self-propelled" him.

The parents found the $(CE)_2$ staff to be very open and willing to discuss students' progress and difficulties with the parents.

3. Work values are being realized, developed and changed as a result of $(CE)_2$.

Interaction with working adults in the community and first-hand (and often first time) experience with work itself have helped students realize and develop their own work values. Cheryl began the program with no work experience and no strong feelings about working. By mid-year, she expressed a view that work was only a means to earning money for purchases. By the end of her first year in the program, Cheryl expressed that a job for her "must be something (she) can get (her) personal satisfaction out of and think that (she's) done sometning."

George rejected photography as a career because of the "uncertainty" of it as an income producer. He expressed a number of reasons for wanted to go into dentistry including: "The independence of the work, the money, the type of work itself, the need that it meets, the personal satisfaction it gives, the geographic area (he) could work in, and the job security."

Fred's lifelong ambition to become a professional musician is still his career goal, but is is tempered by a knowledge of the economic realities, the need for a "backup career" and the possibility of compromises that may need to be made.

4. Employer instructors (EI) participate in EBCE at different levels of involvement.

One of the aspects of EBCE that makes it different from other career education programs is the shift of the control of the learning process from a professional educator to a community member, the employer instructor. Based on the experiences of the case study students, it can be concluded that EI's perceive and operationalize this learning-facilitation role in widely different ways.

One of Mike's EI's took a personal interest in him, encouraged him, and helped develop both a better self-image and more reliable work habits. George's EI at the photo lab on the other hand was often

late or didn't show up and had not taken the time to inquire about George's interest in photography as a potential career. Cheryl's EI at the work activity center encouraged her to accept adult tasks normally asked of professionals.

Apparently, some EI's see their role as that of a resource from which students can obtain career information and job skills, while others take a more active role in helping the total student grow. Upon reflection, variations in expectations and performance may not differ substantially from the variation within the teaching profession.

5. Students utilize community sites with different levels of involvement.

To describe what students "do" at employer sites with a single general statement is no more accurate than a single description of employer involvement. Some students work and accept major responsibility at the employer site (e.g., Cheryl at the work activity center) while others play an observer's role (e.g., Fred at the police department). Not all use of employer sites can be described as positive however. Bob described being "bumped around" and "bored to death" at some job sites.

6. Few $(CE)_2$ students have made a lifetime career choice.

To assume that students have made a career choice by junior or senior year in high school and can work to prepare themselves for that career is in contradiction to the evidence presented in the case studies. Two of the seven case study students (Mike and Fred) retained the same career goal with slight modifications over the course of the year. All the other students fluctuated in their career goals, with some changing dramatically. Evelyn's goals changed from being a dental assistant to being a veterinarian's assistant. Bob expressed an interest in auto repair, operation of a food cooperative, and finally the occupation of "powderman." George found his interest swing from professional photography to dentistry. This information seems to support the hypothesis that many high school students are not yet ready to make an informed (and relatively permanent) career choice.

7. Students learn from direct experience.

One of the tenets of the EBCE program is that experiential learning will benefit students in unique and practical ways. The effects of experiential learning are very difficult to measure and document, but can be seen anecdotally in the case studies. Evelyn relates very graphically how her first-hand experience with "green teeth" made her decide that dentistry was not for her. Bob found that the dirt and pressure of the production line was more than he could handle. Fred's experience with the police department was a "hands on" lesson in interpersonal relations and Greg attributes his increased sense of responsibility to $(CE)_2$ experiences which made him see the results of his actions.

8. The $(CE)_2$ program is an individualized, integrated, community-based program which emphasizes experiential learning.

One of the purposes of the case study was to help provide an empirical definition of the $(CE)_2$ program. An inspection of the activities and comments of the case study students supports the program's self-description as an individualized, integrated, community-based program and that experiential learning is it's prime focus.

CHAPTER IV. EVALUATION OF IMPLEMENTATION ACTIVITIES

This section of the report summarizes the evaluation data collected on the implementation activities at NWREL. Included in this section are: (a) an external evaluation of Project TOTAL (an EBCE program based on $(CE)_2$ and operational for one year in Hillsboro, Oregon): (b) a summary of reactions and perceptions of sites which used selected EBCE materials this year, (c) an evaluation of implementation training workshops, and (d) evaluation data on the overall implementation strategies and planning.

Section A. External Evaluation Of TOTAL OPPORTUNITIES THROUGH ACTION LEARNING (TOTAL)

Introduction

This section summarizes the evaluation of the Total Opportunities Through Action Learning (TOTAL) program by the evaluation staff of the Experience-Based Career Education (EBCE) program, Northwest Regional Educational Laboratory (NWREL), Portland, Oregon. The NWREL evaluators were retained as external evaluators to (a) verify cost data on the TOTAL program, (b) verify student change data and (c) provide alternative interpretations to TOTAL'S own internal evaluation data.

Audiences for this evaluation include the staff of the TOTAL program, Hillsboro school district personnel and members of the community at large interested in the EBCE concept.

Program Description

TOTAL is a pilot alternative education program which was developed to help students who have not succeeded and progressed in the regular school programs. TOTAL was partly funded by special vocational education money for disadvantaged students and partly by the Hillsboro Union High School District.

The first year of the TOTAL program was spent developing and testing an individual learning management system with emphasis on vocational and life skills. A special learning management team consisting of a learning manager, community coordinator, student coordinator and peer aides helped each student select and complete those learning objectives and activities which were best suited to the interest and ability of each student in the program. During the first year the primary goal was to develop the learning management system and therefore the enrollment was limited to a maximum of thirty (30) students.

As an alternative education program TOTAL focuses on learning through real occupational experiences in the working community. Reading, writing, communicating, computing, coping, choosing and working skills are acquired through experiences in a wide variety of occupational situations. The outcome is up to the student. He or she may utilize these learning opportunities primarily to identify and prepare for an occupational area of his/her choice or additionally to acquire basic learning skills and the important personal and social skills needed in today's society.

During its first several years of development and trial, TOTAL will serve those students who have become disadvantaged to the extent that they are not able to ultimately succeed in the regular school programs. Eventually, however, the TOTAL program with its individualized learning management, comunity-based learning by doing, and competency goals may become an alternative avenue for learning available to any interested student.

The TOTAL program is based primarily on the EBCE concept piloted by four regional educational research laboratories under the auspices and funding of the National Institute of Education (NIE). Most of the materials and strategies employed in the TOTAL program were adopted or adapted from the Community Experiences for Career Education, $(CE)_2$, as developed and directed in Tigard, Oregon by NWREL. The $(CE)_2$ program is intended for juniors and seniors in high school while TOTAL enrolled primarily ninth and tenth graders.

The TOTAL program reflects the basic characteristics of EBCE:

- The Community is the Classroom

  Learning is not confined to the classroom. Rather, it takes place at a variety of sites in the community, including school. The emphasis is on Life Careers Education utilizing employer-based activities in the greater Hillsboro area.

- Instruction is Individualized

  Instead of offering the same learning experiences for all students, instruction is tailor-made to the needs, interests and learning styles of each student. Initially, individual learning goals are designed for each student through a process of negotiation involving the student, the community coordinator and the learning manager with parental approval. As the student begins a learning experience at each employer site, his field instructor at the site also identifies areas in which growth for the student can and should occur, and an individualized program is written for him or her. However, the concept of individualized instruction does not preclude group learning activities.

- Students Learn by Doing

  Students learn actively rather than passively. While participating on employer sites, they have an opportunity to relate academic concepts to world of work activities, gain valuable experience in a variety of occupations and careers, and develop some entry level job skills.

- The Curriculum is Performance Based

  Students are required to demonstrate competencies appropriate to their individual programs in a variety of skill and knowledge areas. Criteria for measurement of learning growth are derived primarily from realistic community standards and self-set student goals.

- Learning is Interrelated

  Instruction is not compartmentalized into "subjects" that are learned separately. Instead, the student's learning program is designed to allow him to gain knowledge in a variety of

disciplines at one time. For example, a student assigned to an employer site may gain learning credit in math as applied to tools, measurements and estimations; English necessary for writing required reports; critical thinking as part of solving job-related problems; science necessary for understanding basic principles of electricity; communications skills while interacting as a member of a work team; and specific electrician's skills in order to help install conduit at the plant.

Evaluation Design

Three different strategies were employed in the external evaluation of the TOTAL program.

A cost verification of the fiscal records of the program was conducted by a NWREL evaluator who met with the TOTAL director and reviewed the 1974-75 budget and record of expenditures. A summary of the review is included in this report.

Program effects on students were documented by an analysis of measures of student ability and student attitudes. Data were collected by the TOTAL staff and scored and analyzed by NWREL evaluators. Student baseline data are reported here and limited data on student change are discussed. No data were collected from control or comparison group students, although comparisons of some baseline data were made with data from the evaluation of the Community Experiences for Career Education, $(CE)_2$, program operated through NWREL in the Tigard School District.

Student, staff and employer perceptions were collected by the NWREL evaluators by means of staff questionnaires and interviews and by means of questionnaires and an interview with a random sample of students. Staff questionnaires focused on a description of how the TOTAL program operated this year and served as a first step in the development of the interview. The interview focused on staff perceptions of program effectiveness and the effectiveness of various learning strategies. It also elicited from the staff their perceptions of what factors facilitated or hindered the startup of the TOTAL program. Student questionnaires focused on their perceptions of various learning strategies and the employer questionnaire dealt with the usefulness of the Learning Site Analysis Form.

Results

Cost Study Verifications. On July 3, 1975, the external evaluator met with the project director of TOTAL to review the 1974-75 budget and record of expenditures. Support records examined were those from the state grant of $17,000 shown as Fund 20 and local district funds for the project consisting of $26,473 shown as Fund 1. Adequate documentation was on file in the director's binder for all expenditures recorded except for the extended contracts of two teachers prior to the beginning of the school year. Since some expenses occurred after May 30, which was the date of the last budget printout by the district, it is not possible at this time to state what the actual total operating costs were for project TOTAL this year, but the project director estimated it would be close to the budgeted amount. The project director indicated that the district

will be starting a modified PPBS accounting system for next year which, he felt, would make his budget accounting more efficient.

Student Outcome Analysis. Pretest assessment of all incoming TOTAL students was conducted on each student as he/she entered the program. Since students entered the program in increments throughout the year, pretest data were collected at six different time points. The data summarized here are from: (a) the Comprehensive Test of Basic Skills (CTBS), which measures student achievement in Reading, Language Skills, Arithmetic and Study Skills; (b) the Psychosocial Maturity Scale (PSM), which measures student development on nine psychosocial scales of maturity utilizing self-report; and (c) a semantic differential type of instrument which measures student attitudes toward seven concepts deemed important for a young adult entering the world of work.

Baseline Data

Only the CTBS scores of those students who entered the program prior to the start of the second semester were to be included in the pre-post analysis. It was reasoned that to attempt to measure change in Basic Skills over a less than one semester time interval would not be meaningful. For this reason, Basic Skills baseline data are presented for only those students who entered TOTAL prior to the start of the second semester.

Displayed in Table 22 is a summary of the pretest Basic Skills data for students in the TOTAL program.

Table 22

SUMMARY OF CTBS BASELINE DATA
FOR STUDENTS IN PROJECT TOTAL

(N=27)

Score	Subtest			
	Reading	Language	Arithmetic	Study Skills
Mean Standard Score	541.0	557.3	383.8*	562.3
Standard Deviation	109.7	86.3	80.6	108.3
Grade Equivalent	8.2	8.7	4.3	8.7

*N=16

As can be seen, the average grade equivalent score for Reading, Language and Study Skills is between 8.2 and 8.7. The Arithmetic score on the other hand is quite low (4.3). Part of this difference (between Arithmetic and other scores) may be attributed to sampling error. The Arithmetic subtest of the CTBS was not administered to students when the other subtests were administered but was completed at a later date. Consequently, some students (eleven) were not tested in Arithmetic and the score reported here represents only a subset of the TOTAL population.

Baseline data from the PSM are displayed in Table 23. Again, only data from those students who entered the program prior to the second semester are summarized. Also displayed in Table 23 is a pretest summary of PSM data from students in the $(CE)_2$ program. These comparative data are included to provide a norm against which to interpret the TOTAL scores, rather than to compare the TOTAL program with the $(CE)_2$ program (they are dealing with students from different populations and age groups.

The scores of students in TOTAL are very similar to those of students in the $(CE)_2$ program on all subscales except Change. On the Change scale TOTAL students on the average scored 4.4 points lower indicating a lower degree of openness to change.

Table 23

SUMMARY OF PSM BASELINE DATA FOR TOTAL AND $(CE)_2$ STUDENTS

Group		PSM SCALES									
		Work	Self-Reliance	Identity	Communication	Role	Trust	Social Commitment	Tolerance	Change	Social Desirability
TOTAL (n=25)	$\bar{X}$	26.0	28.7	26.0	23.0	31.8	25.5	31.5	35.1	30.7	20.5
	S*	5.18	5.23	4.61	5.49	4.14	6.23	5.17	4.39	4.09	3.04
$(CE)_2$ (n=50)	$\bar{X}$	29.2	31.0	29.6	26.2	32.5	28.5	34.7	37.0	35.1	21.0
	S	5.09	5.05	5.46	5.98	3.94	4.70	4.90	4.72	4.68	3.45

* $\bar{X}$ is a symbol denoting the arithmetic mean, S is a symbol denoting the standard deviation

The semantic differential pretest data are displayed in Table 24. Data from the $(CE)_2$ program in Tigard have also been displayed.

TOTAL students appear to have a more negative attitude toward "school" upon entering the program than did the $(CE)_2$ students. Other differences appear negligable. Both groups had relatively positive attitudes toward "learning" and "work."

TABLE 24

SUMMARY OF THE SEMANTIC DIFFERENTIAL DATA FOR TOTAL AND $(CE)_2$ STUDENTS

Group		Scale						
		Me	School	Adults	Learning	Work	Decision Making	Community Resources
TOTAL (n=26)	$\bar{X}$	51.9	38.3	47.7	52.5	57.7	47.0	48.5
	S	6.84	12.7	9.0	12.2	8.4	7.8	10.7
$(CE)_2$ (n=50)	$\bar{X}$	55.1	45.5	51.9	56.9	57.6	51.9	51.5
	S	9.90	13.0	10.6	8.7	9.5	10.8	10.6

Previous high school grade point averages and attendance data available on the seventeen students enrolled prior to December 9, 1974, indicate an average grade point average of 1.14. The average percent of time in attendance at school prior to entering TOTAL was 35.7 percent.

Change Data

The CTBS, PSM and semantic differential were administered to students in the TOTAL program at the end of the first program year. Posttest data were not available on all students however. Many students did not attend the testing session, and some tests that were completed were invalid due to obviously systematically recorded answers. Thus the pre-post data are from a small subset of the TOTAL population and all conclusions based on them would be tentative at best.

Because of the paucity of posttest scores, and because some of the scores that are available are so different from pretest scores as to suggest random guessing, no pre-post nalysis was performed. Complete pre-post CTBS data were available on only eight students, PSM data on ten students and semantic differential data on five students. The evaluators reason that the dangers of misinterpretation of these data far outweigh the benefits of presenting them and thus these data are not presented.

Attendance data collected during the first semester and reported in the TOTAL Interim Evaluation report indicate that the average percent attendance during the first semester was 85.9 percent. During the second semester the average attendance was 89.0 percent.

Staff, Student and Employer Perceptions

Staff Interviews. A semistructured interview was prepared and conducted by a NWREL evaluator with each of the four staff members of project TOTAL on June 4, 1975, as part of an external evaluation of the project. Each interview took approximately an hour. Questions on the interview covered the following areas: (a) staff perceptions on the extent to which TOTAL met its program goals and student learning goals, (b) the perceived

effectiveness of the various learning strategies used, (c) factors that facilitated or hindered the start up and implementation of TOTAL, (d) technical support desired and/or received from NWREL, (e) activities in program/materials development, (f) the utilization of employer sites and (g) plans for the coming year. In addition to questions in these areas, the interviewer reviewed staff responses on several recently completed questionaires dealing with the staff's use of the EBCE handbooks and the use of selected EBCE materials such as the student Exploration Package. He then asked some followup questions to clarify some of these written questionnaire responses.

Because TOTAL staff members each have special areas of responsibility in the project, specific interview questions were directed primarily to the staff member considered to be the most familiar with that area. Broader questions were addressed to all staff.

Interview questions and paraphrased combined responses of the TOTAL staff are as follows:

1. To what extent do you feel TOTAL was able to meet its program goals of providing an interdisciplinary, individualized, experience-based program of learning utilizing the community as a primary learning resource?

   a. Interdisciplinary

      The integration of basic reading and mathematics activities with projects has begun this year but much more work in this area is needed next year. Other subject areas have not yet been well integrated into the TOTAL program.

   b. Individualized

      The job site experiences of students in the project have been highly individualized and we have gotten off to a pretty good start in individualizing activities at the learning center. Our instructional practices are individualized but we could do a better job if we had better materials for individualizing Basic Skills.

   c. Experience-based

      This is the strongest part of the program. The employers have been particularly cooperative in providing learning experiences at their sites (one staff member recommended this aspect of the program for all ninth and tenth grade high school students).

   d. Community-centered

      This aspect of EBCE is working well but it is still being expanded. The staff are not only involving the employers and competency certifiers but are also working with the 20-30 Club in Hillsboro in developing an extra-curricular program for weekend activities for certain students from broken homes

to keep them off the street and give them interesting things to do. At the school district board meeting in May at which the continued funding of project TOTAL was discussed, a number of parents and employers attended to speak on behalf of the project. The employer relations specialist indicated that she would like to have had more help with clerical tasks so as to have been able to visit employer sites more frequently.

2a. Which student learning goals do you feel the TOTAL program was most effective in reaching?

At the beginning of the year we had no idea how far the students would go. They seem to have made good progress in improving in their self-concept and self-confidence. Their experiences at job sites have helped in these two areas. Gains perceived by other staff members included improvement in Basic Skills for some students, in dress and in relating to their peers.

2b. In what student learning goal areas do you feel the TOTAL program was less successful than you had hoped?

We need to get the basic skills objectives and materials better organized. The competencies and student accountability zones need to be refined. Students need help in becoming more self-directed. Some of the students don't always behave that well or show up at employer sites when expected.

3. How effective do you feel the following learning strategies were this year in helping TOTAL students? Please feel free to comment on any of these strategies.

a. Competencies certification

Not many competencies were certified this year, but those completed were highly useful and generally popular with students. The Newspaper and Checking Account competencies were very good. Others such as Driver Education and You and the Law are still under development. Some of the high school department staff have been helping in the development of some competencies. The community resource people have been very willing to certify the competencies.

b. Journals

The journals were required daily of all students toward the beginning of the school year and did not work well because students tended to merely report their job site schedules. Later in the year the journals were intended to be more open in content and required only twice a week. This worked okay for awhile but gradually dropped off because the staff lacked time in teaching students values clarification ideas and how to express feelings in writing. This area will be attended to next year. Later in the year journals became optional and four or five students decided to use them to communicate their

feelings to the student coordinator.

c. Exploration package

This has been highly useful but needs further development for next year. Students are required to complete them within a week in order to receive credit. Only 4 of 116 were not completed. Changes desired in the Exploration Package would make them more into a checklist fashion for students who are very poor in reading and writing. Also the guide for the student interview of an employer will have to become more structured to work with some students. The staff will also be encouraging students to complete the exploration packages while actually on site rather than completing them at the learning center.

d. Basic Skills program

The Noonan-Spradley Diagnostic Program of Computational Skills was used very effectively for diagnosis and prescription. The learning manager developed work problems for individual students. This was time consuming and he would like to consider using the ILA materials next year if money is available for purchasing them.

e. Employer led seminars

Not used.

f. Individual projects

This was highly useful to students and got them moving.

g. Preprepared projects

These were not used this year but will be next year. They will be used to: (a) to help insure that students achieve the Life Skills objectives, (b) to give students the opportunity to have a more specific structure to begin the year and (c) to lessen the demand for the learning manager's time in helping to plan and negotiate each individual project. The directions for the preprepared projects and for competencies may be tape recorded to help students.

h. Tutors

Four of the five paid high school student tutors worked very well with TOTAL students. The fifth did clerical work well. Several have volunteered to return next year as Basic Skills tutors even though they will not receive pay.

i. Student maintained record file

This was not implemented this year. Next year it is hoped that

this will be developed as part of the overall student accountability system.

4. What were the primary difficulcies, if any, in starting project TOTAL in Hillsboro?

The normal channels for starting up a new program--someone gets an idea and writes a proposal, obtaining approval of the school curriculum committee, followed by approval of the district curriculum committee, the superintendent and board--were not followed. Instead, the district's coordinator of career education attended a meeting of the district's vice principals during which they complained about what to do with problem students. The career education coordinator suggested an EBCE type alternative program. The principals liked the idea and asked the coordinator to put together a proposal. The district board finally approved the proposal after it had been approved by the state for funding.

Some counselors who referred problem students to the project didn't have an adequate understanding of the purposes of the project. The TOTAL staff have continually explained the program to the administration, counselors and teachers to help them see the program as more than a "last resort." This spring the counselors have gone to teachers to help recruit a wider variety of students into TOTAL for next year. As a result, it is felt that the project is changing its image from that of serving only students who are in trouble or those not succeeding in school to one of providing a more practical and less academic approach to learning.

5a. What types of technical support from NWREL were used in implementing TOTAL this year?

Informal training was given by the replication team. The evaluation unit has helped with the evaluation design, provided instruments and assisted in the data processing. They also provided help in writing the evaluation report. The handbooks were also helpful although they were read and used primarily when the staff came across problems. The $(CE)_2$ project director provided some information and support in one problem encountered with a union. Visiting the $(CE)_2$ project and getting information and forms from the employer relations specialist at $(CE)_2$ were helpful.

5b. Is there any type of NWREL help you would like to have for next year? If yes, what type?

Yes, training on how to interpret the Self Directed Search scores and the use of other data such as CTBS scores; an opportunity to visit $(CE)_2$ while they are working with students; help in exploring new staffing patterns; access to materials including a copy of the $(CE)_2$ student portfolio, the new handbooks and copies of brochures or other literature given to employers by $(CE)_2$ or other replication sites; and information about career guidance and counseling.

6a. Approximately what proportion of your time and energy was spent on program/materials development since the beginning of the school year?

Project director--0, community resources coordinator--30-35 percent, student coordinator--10-15 percent, learning manager--20-25 percent.

6b. Did this time spent on development interfere with your work with students?

All three staff spending time on development said yes.

6c. What materials/activities were especially time consuming to develop?

Student progress report forms, the revised exploration package, translation of student experiences into school credit, letters and materials to employers, employer certificates, certificates of company participation, bus scheduling forms, forms to record student data, Basic Skills materials.

6d. Will less time be spent on development next year?

All three staff said yes.

7. What factors, if any, have you seen this year that contributed in a major way to the success of the TOTAL program?

The staff are interested in studerts and enjoy their jobs. There is good cooperation among the staff, even under stress, and a good exchange of ideas. There is respect for the project director. The community and school support has helped. The availability of the EBCE design from which to adapt has been an important factor.

8. What obstacles, if any, have you seen this year that have limited the success of the program?

One staff member saw no obstacles and felt the project had a lot of freedom in its operation. The other staff cited the following obstacles: inadequate bus transportation for students, a lack of money for materials such as the ILA Basic Skills materials, the lack of adequate secretarial support for the staff, the large proportion of problem students in the program which has taken a large amount of staff time and the lack of adequate time for the community coordinator to visit employer sites.

The following questions were asked of only a single TOTAL staff member, usually the one perceived by the interviewer to being most directly involved with the content of the question.

9. Approximately how many students are expected in the program next year and what are the criteria being used in selecting these students?

Approximately 60 students will be in the program next year. The staff are interested in changing the image of the program from that

of being a dropout program to that of being a comprehensive career education program that could benefit a variety of students including those who may be average or above average in ability but are not achieving their full potential in the regular school program. The staff are interested in trying to attract a few students who would be in the project on a half-time basis and who would spend the remaining time in the regular high school program.

10. If you were to predict ways in which, four years from now, students who had graduated from TOTAL would be different from a control group of similar students who did not participate in TOTAL, how would the TOTAL students be different?

TOTAL students would probably have greater career planning skills, be more self-confident in their career choices and be better at self-management (of their time and priorities).

11. Do you have any plans for modifying staff roles for next year? If yes, what changes do you plan?

We will be operating with the same staff with the addition of a full-time aide. High school tutors will not be paid but we hope to use volunteers.

12. Do you feel that the number and variety of employer sites has been adequate for student placement this year? If no, what changes would you like to make?

TOTAL used 110 employer instructors at 54 employer sites this year. The community coordinator would like to double that number for next year. District bus transportation limited the sites usually to those in the Hillsboro District. The number and variety of employer sites seemed adequate this year and the only occupational exploration requests by a student this year that couldn't be met was the career of modeling.

13. What types of activities were carried on this year to develop and maintain effective employer sites?

Informal visits to employer sites were made by the community coordinator and brochures and humorous posters given to them. Much of the contact with employers was by phone. Information about the present activities of students who had visited an employer site previously was given to the employers when the community coordinator talked with them. Thank you notes and lunches were also used to maintain the employers' spirits. During the entire year, only two students were asked by their employer instructors not to return and five students were cancelled at employer sites by the community coordinator usually for failure to show up at the sites.

Student Perceptions

Questionnaires to measure student perceptions of the student journal as a learning tool were administered to a sample of eight TOTAL students. Student opinions about the usefulness of the journal were very mixed. They liked most the opportunity the journal afforded to express themselves and "say anything you want to." The most disliked aspect of writing the journal involved the tedium and reported boredom of much writing.

Ten students were asked to respond to a questionnaire on the use of the Exploration Package as a learning tool. As with the response to the journal questionnaire, student responses to the usefulness of the Exploration Package were mixed. The chief complaint about the package involved the time and energy required to complete this additional paper work.

A structured interview was prepared and administered by a NWREL evaluator to a random sample of six of the project TOTAL students who had been in the program since at least January 1975. The interviews were held on May 21 and lasted approximately 25 minutes each. Students interviewed were assured that the individual identification of their responses would be kept confidential and that only a summary of responses from all six students would be reported. Questions on the interviews covered the following areas: (a) program individualization and student choice; (b) resources used by students; (c) estimated time spent on the learning center and at employer sites; (d) degree of student involvement in activities at the employer sites; (e) perceived response of students, parents and employers toward the program; (f) comparison of the project with the regular high school program; and (h) the influence of the program on career decision making. Of the six students interviewed, four were boys and two were girls. Three of the students were ninth graders, two were tenth graders and one was a senior.

The purposes for the student interviews were: (a) to verify student questionnaire findings and (b) to obtain insights into some additional areas of student opinion about TOTAL that were considered relevant by the external evaluator. In line with the first purpose identified, many of the interview questions are similar to those reported on the student questionnaire.

Each of the students interviewed felt that the project staff knew of their interests and the students were able to cite some TOTAL activities that were of personal interest to them. Only two of the six students felt that they had been asked to do activities sometimes that were too easy for them and none felt the activities were too difficult for them. All six students felt that they had a choice in selecting activities in the TOTAL project.

At employer sites all six students felt they were getting adequate feedback on their performance and five of the six felt that the amount of feedback from the TOTAL staff was adequate. Learning resources used by students included the school library, materials at the employer sites and help from employers and staff. The nature of student activities at employer sites was one of direct participation rather than merely observing others at work.

In the perception of the students, the TOTAL project was being viewed favorably by both the participating employers and by their parents. If they had to do it over again, five of the six students said they would definitely have joined TOTAL and the sixth student was not sure. Among the strengths of the project most frequently mentioned by the students were: (a) the helpfulness of the staff, (b) the more relaxed atmosphere, (c) the freedom to learn what you want and at your own speed, and (d) the opportunity to learn about jobs. The only weakness cited by more than one student was insufficient transportation to employer sites outside of the Hillsboro area.

Two of the six students felt that TOTAL had helped them to select a career that they wished to follow and the remaining four found it useful in exploring jobs to be able to identify certain occupations that were definitely not for them.

The findings from this interview of a random sample of TOTAL students are considered by the external evaluator as highly consistent with the findings of the student questionnaire which was designed, administered and analyzed by project staff.

Employer Perceptions

Ten participating employers were asked to fill out a questionnaire on the use and effectiveness of the Learning Site Analysis Form (LSAF). All ten of the respondents reported that the information recorded by the LSAF coincided with their perceptions of the learning potential of their site. Two employers reported that the LSAF helped them become more aware of the learning potential of their site. Only one employer reported that the LSAF had no effect on his/her business. Effects of the LSAF reported included:

"It has changed the way I deal with students."
"It has changed employee training and education efforts."
"It has changed the company's self-image as a community learning resource."
"It has suggested changes in the company's hiring practices."

Summary

Program Characteristics. The TOTAL program can be characterized as a true experience-based career education program. Although its focus during the first year of operation was not on a cross-section of students, the program did provide an individualized, integrated educational experience based primarily on "hands on" experiences in the community and the "real world" of work.

The program was initiated by the district director of career education and was implemented without undue difficulty. Staff members report having spent from 10 to 33 percent of their time during the first year on program development activities but expect to spend much more time on operations next year. Some difficulties were encountered in getting away from the "last resort" image apparently held by some high school personnel, but relationships with employer and the community at large appear to be quite good.

Student baseline data indicate somewhat below average achievement by entering TOTAL students on basic skills and grade point averages. Affective measures indicate that the attitudes of entering TOTAL students are very similar to students entering the $(CE)_2$ program.

Student Outcomes. Attempts to measure program effects on students with pre-post measures were unsuccessful due to the phase in of new students at different times throughout the year and to poor attendance and student attitude at the posttesting session. Very sparse posttest data were collected and no attempts were made to estimate overall student change on either the cognitive or affective dimensions.

A very dramatic change which could be attributed to the TOTAL program is the change in student attendance. During the 1973-74 school year the average attendance was 35.7 percent. During the first and second semester in TOTAL, it jumped to 87.5 percent.

Program Strengths. The staff of the TOTAL program appear to the evaluators to be interested in the students and to enjoy their work. The students of TOTAL share this perception and report that the freedom to learn what they are interested in without the pressures associated with the regular high school program are additional strengths. Good community and school support were also reported by the program staff.

The evaluators have observed, and interview data appear to confirm, a very positive attitude toward TOTAL on the part of students, staff and employers. This attitude may be both a factor in the program's success and an outcome of that success.

Program Weaknesses. Two of six students interviewed and one staff member reported that inadequate bus transportation was an obstacle which limited the success of the TOTAL program. Another weakness cited by a staff member and confirmed by at least one student involved the lack of staff time due to the extra attention demanded by this particular student group and by the paucity of clerical help. More staff time is also needed to adequately visit and maintain employer sites.

Recommendations

Based on the information collected by the NWREL evaluators and reported here, the following recommendations are offered:

1. A more reliable testing program should be initiated. By pretesting all entering students early in the fall and by scheduling the posttest before "spring fever" has rendered students unwilling to participate, program effects might be documented. It is also recommended that students be reminded of the importance of the testing in the evaluation of the program as this may increase their willingness to cooperate.

2. The TOTAL staff are encouraged to follow through on their plans to tape record directions for each competency in order to clarify directions for students who are poor readers. This would be beneficial to those students who reported difficulty understanding what is expected of them.

3. We encourage TOTAL to go ahead with plans to use the preprepared projects next year to increase the likelihood that students will achieve the life skills objectives and to help reduce the workload on the staff. We feel the latter will be a necessity, especially with the enrollment of additional students next year.

4. Finally, we recommend the continued support of the TOTAL program by the Hillsboro School District and by the Hillsboro community.

Section B. Evaluation of Sites Using Selected EBCE Materials

Questionnaires were sent to project directors in five school districts in the Pacific Northwest which had used selected EBCE materials in FY 75. Four of the five returned all the questionnaires. A tabulation of the responses is included in Appendix N. Summarized below are user reactions to EBCE materials.

EBCE User Handbooks

Staff members at the four sites reported that the Handbooks were complete and easy to use. One respondent commented that in some areas the language borders on jargon while another expressed the need for a short concise overview. All respondents felt they understood the EBCE philosophy.

Exploration Package

Three of the four sites used the Exploration Package as it was developed at $(CE)_2$. The fourth district is in the process of revising it to accommodate poor readers. Staff members described as positive the effect of the Exploration Package as a vehicle to get students to pinpoint their interests and think about their values. Students described the positive aspects of the Exploration Package in terms of its assistance in helping them explore different aspects of careers and as a record of their experiences. They expressed a dislike for the amount of time and writing activity demanded by this process.

Student Journal

The Student Journal was used by two sites. Staff from one site regarded the Journal as an effective tool to establish trust and caring between staff and students. Staff members from the other site were more reserved in their praise, indicating only that the Journal had a positive effect on those students who used it as a communication device. Both sites plan to use the Journal again next year. Students liked the opportunity to express themselves to the staff, but as with the Exploration Package, reported that it required too much time and writing.

Learning Site Analysis Form (LSAF)

The Learning Site Analysis Form was utilized by three school districts to analyze approximately 50 community sites for their learning potential. One site revised the LSAF to make it more easily understood by employers. All employers surveyed felt they understood the purpose of the LSAF and that the information collected by it coincided with their perceptions of the learning potential of their site. They report that the LSAF has both changed the way they deal with students and has changed their employee training/education efforts.

Section C. Evaluation Of Implementation Training Workshops

In March, 1975, the first week long EBCE training workshop was held in Tigard. Eight participants, representing four districts planning for the implementation of EBCE in the fall of 1975, attended the workshop. Topics discussed at the workshop included: the philosophy of EBCE, implementation issues, and the use of the various EBCE assessment and learning strategies.

A questionnaire was administered to all participants at the close of the workshop asking for their perceptions of the workshop and a self-rating of their knowledge of $(CE)_2$ and of their ability to take steps to set up an EBCE program. A tabulation of responses to this questionnaire is contained in Appendix K.

The workshop participants contributed many worthwhile suggestions which can be used to modify future workshops. Even with their diverse backgrounds and previous understanding of $(CE)_2$, they rated the workshop high. These participants felt they were well prepared to represent the $(CE)_2$ program to students, parents and employers; were able to complete the preliminary implementation planning phase; and, were able to complete the program start-up planning strategies. These participants also rated their understanding of $(CE)_2$ concepts quite highly ranging from a low mean of 4.00 (on a 5-point scale) for a good understanding of both the career assessment procedures and application of the LSAF to a high mean rating of 4.88 for a very good understanding of both the basic EBCE philosophy and the importance of the student negotiating process.

In summary the workshop appears to have been well planned and executed and appears to have accomplished its purpose.

Section D. Evaluation Of Implementation Strategies And Planning

Introduction

In order to synthesize the insights and knowledge gained from the EBCE replication experiences this year, a set of questions was developed by the evaluation unit in June to focus the findings. The first draft of questions was reviewed and critiqued by the project director and coordinator of the implementation unit. Additional questions were added, others changed or omitted, and a priority of importance was established within the revised questions. Based upon this list of revised questions an evaluation design was constructed that indicated the sources of data to be used in answering each question and procedures for obtaining and analyzing such data. The results of implementing this evaluation design are contained in this section of the evaluation report. Each question is stated together with a summary of findings. Although it is felt that this section of the report contains information of special interest to potential EBCE adoptors, several limitations should be kept in mind. First, the implementation questions listed here were generated at the end of the school year rather than at the start of the implementation activities and thus adequate time was not available for collecting extensive data. Second, some of the answers provided to these questions are based on the opinions and experiences of only several persons involved in NWREL's implementation efforts. Third, some of the questions covered in this section of the report can only be answered adequately during the coming year after more experiences have occurred at various pilot sites. Despite these limitations, the experiences gained from the first year of implementation activities needs to be documented and communicated to others in a timely manner.

1. What are the characteristics of EBCE pilot sites for FY 76?

   Data describing EBCE related activities at pilot sites in FY 75, plans for FY 76 and NWREL staff observations were organized by the EBCE implementation team at NWREL. These data are presented in Appendix M for Billings, Montana; Colville, Washington; Hillsboro, Oregon; Kennewick, Washington; and Kodiak, Alaska. Data are organized by 1974-75 actions, 1975-76 plans and observations by the NWREL EBCE implementation staff.

2. What uses and modifications have been made of EBCE materials or procedures this year by implementation sites?

   A description of the use and modification of EBCE materials reported previously in Section B of this chapter. Tabulated responses to evaluation questionnaires regarding the use of materials is displayed in Appendix N.

3. What are the important steps and sequences needed in introducing and implementing EBCE in a school district?

An "ideal" timeline was developed by the EBCE implementation team in conjunction with the USOE Vocational Education Act, Part D demonstration activities. This timeline is based in part on USOE requirements and deadlines for proposal submission, but is based primarily on replication experiences in FY 75. A chart of this timeline, together with a description of USOE, LEA and NWREL events is reproduced on the next page.

4. What are the advantages and disadvantages of a district using an EBCE implementation strategy that starts with the use of selected EBCE materials and then proceeds to move into the total model?

An interview with two members of the EBCE implementation unit revealed two important advantages to this approach. First, it bypasses the many decisions and approvals necessary to adopt a new program in a school district. Because of this, materials can be "added onto" or substituted for existing curriculum materials and strategies with a minimum amount of strain on the system. Second, and related to the first reason, incremented change is easier to bring about than radical change. Given an opportunity to try new materials and strategies in a small way, people are then informed to make a decision about more full-scale adoption.

The only disadvantage cited by the implementation unit members involved a possible loss of time in producing change by going via this less direct route.

5. What configurations of EBCE materials or strategies are most frequently requested?

To date, only five replication sites have actually used EBCE materials and learning strategies. No patterns of use or popularity of learning strategies are noted across these sites. More conclusive information on this question will be available as more sites request EBCE materials in FY 76.

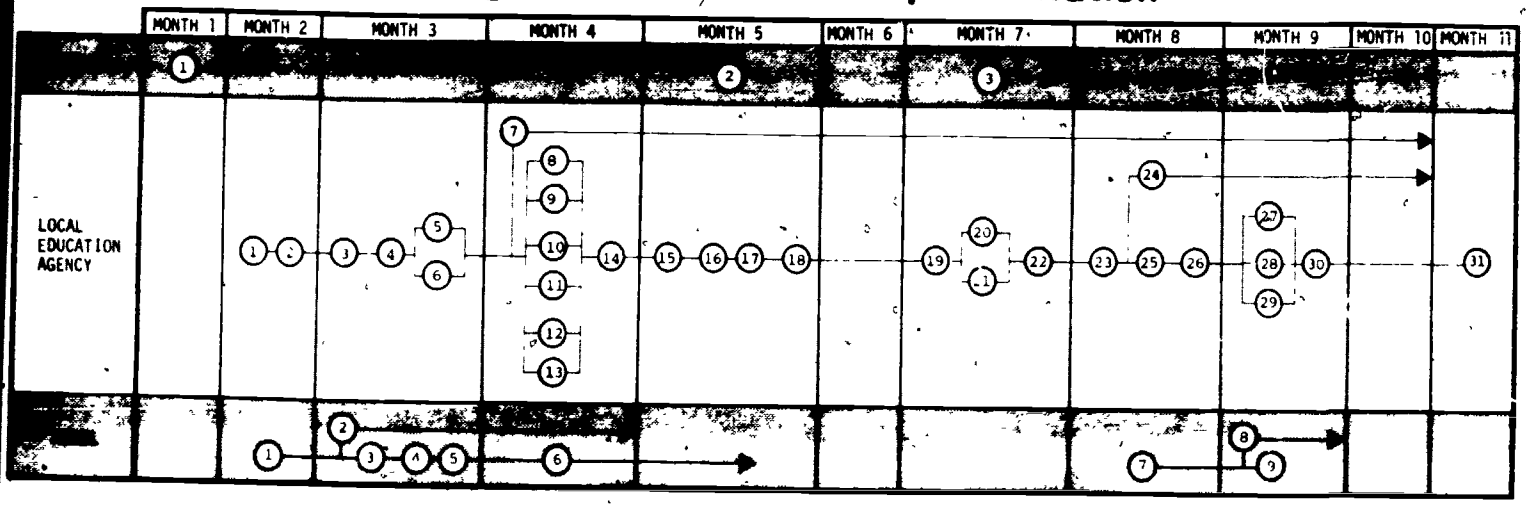
6. What are the anticipated costs of operating EBCE in full model sites?

Since cost is an inevitable consideration in the implementation of any new educational program, it follows that districts are interested in the cost of implementing NWREL's version of EBCE.*

During the past year, NWREL has worked with several districts which have developed program budgets for EBCE implementation in the fall of 1975. Table 25 summarizes projected costs for five of these proposed EBCE programs.

* Cost data presented here were collected and analyzed by the EBCE implementation unit and were supplied by Robert Gourley, coordinator of the cost study effort.

Planning for NWREL EBCE Implementation



USOE ACTIVITIES

1. Award EBCE planning grants
2. Receive local implementation proposals
3. Award grants for implementation

This implementation timeline lists key activities in preparing to operate an EBCE program. Nine months of "lead time" is suggested as the minimum time period necessary to set up an EBCE program. Details on activities can be found in the user handbooks developed by NWREL. Information about training sessions is also available from NWREL.

LOCAL EDUCATION AGENCY ACTIVITIES

1. Attend EBCE awareness presentations
2. Prepare EBCE information materials
3. Select and orient planning group
4. Attend NWREL training session
5. Conduct survey of community interest
6. Prepare first draft budget and staffing plan
7. Begin presentations to key groups
8. Secure initial employer commitments
9. Designate support system needs
10. Prepare curriculum design
11. Design student recruitment procedures
12. Prepare evaluation design
13. Prepare overall management plan
14. Prepare final budget and staffing plan
15. Secure planning group approval of total plan
16. Secure school board approval
17. Secure state agency approval
18. Submit proposal to USOE
19. Establish formal advisory group
20. Select staff
21. Select students
22. Select EBCE facility
23. Orient new staff
24. Begin signup for specific employer sites
25. Occupy EBCE facility
26. Attend NWREL training session
27. Finalize curriculum delivery system
28. Establish student services system
29. Finalize management system
30. Obtain/print supplies, materials, forms
31. Begin program

NWREL ACTIVITIES

1. Conduct regional awareness sessions
2. Operate telephone assistance network
3. Conduct planning training session (3 days)
4. Conduct planning training session (3 days)
5. Conduct planning training session (3 days)
6. Provide local agency technical assistance
7. Conduct implementation training session (5 days)
8. Provide local agency technical assistance
9. Conduct implementation training session (5 days)

Table 25

EBCE PROGRAM BUDGET SUMMARY FOR FIVE REPLICATION SITES FOR FY 76

Description	District 1	District 2	District 3	District 4	District 5
Salaries	23,400	40,600	49,100	25,500	130,900
Personnel Benefits	2,300	4,100	4,900	2,500	13,100
Consultants	-	-	-	-	-
Other Personnel	-	-	-	-	-
Travel, Staff	500	-	350	1,500	2,500
Travel, Consultants	-	-	-	-	-
Travel, Students	-	-	4,900	1,000	4,000
Transportation of Materials	-	-	100	-	500
Facility Rental	-	2,000	-	-	9,000
Equipment Rental	-	-	-	-	1,000
Telephone	-	-	270	-	300
Utilities	-	-	-	-	1,200
Duplication	-	500	200	1,000	1,000
Data Processing	-	-	-	-	-
Subcontracts and Agreements *	-	-	3,200	500	-
Conference Expenses	-	-	-	-	-
Other Services	-	500	-	-	-
Office Supplies	500	800	590	400	500
Printed Materials	1,000	500	690	800	3,000
Other Materials	800	-	-	-	-
Program Equipment	1,500	3,500	1,700	1,000	2,000
Office Equipment	-	-	-	-	1,000
TOTAL	30,000	52,500	66,000	34,200	170,000

* Insurance, van lease, etc.

Table 26

EBCE PROJECTED 1975-76 BUDGETS

District	Projected Annual Budget	Projected No. of Students	Projected Annual Cost/Student
1	$ 30,000	30	$1,000
2	52,500	50	1,050
3	66,000	60	1,100
4	34,000	25	1,370
5	170,000	100	1,700

NWREL is satisfied that all of these programs, if implemented, would adhere to the basic tenants of EBCE. How does one account for the differences in per pupil costs? What follows is an attempt to answer that question.

On the preceding page there appears a detailed budget for each of the five programs (Table 25). Below is an analysis of the variety of factors which influence per pupil costs.

Since salaries account for a significant portion of program costs in each of the five programs, salary allocation seem the logical point of analysis. Table 27 displays the total (professional and non-professional) staff salary cost per student.

Table 27

TOTAL STAFF SALARY PER STUDENT

District	Total Staff Salary	Number of Students	Staff Salary Per Student
1	$ 23,400	30	$ 780
2	$ 40,600	50	$ 812
3	$ 49,100	60	$ 818
4	$ 25,500	25	$1,020
5	$130,900	100	$1,309

There is a very high correlation between staff salaries and per student costs. Other cost factors such as facility rental, transportation costs, insurance costs and equipment costs have varied impact on total student costs. For example, while District 5 budgeted $90 per student for facility rental, it only budgeted $10 per student for duplication. While District 4 budgeted nothing for facility rental, it budgeted $40 per student for duplication.

7. What have been the effects of the perceived high costs of EBCE?

The perceived high costs of EBCE have caused potential adopters to thoroughly examine the anticipated costs, according to the EBCE implementation staff, but have not prevented districts, even those in rather severe financial difficulties, from planning to adopt EBCE. The fact that one district in the Pacific Northwest operationalized an EBCE program based on $(CE)_2$ in FY 75 and that other districts have firm plans (see the above question on proposed budgets) that can fit into a school district's budget without undue difficulty seems to have reassured most potential adopters.

8. What were the most frequent questions asked about EBCE by various groups in districts considering the adoption of EBCE?

According to the EBCE implementation staff at NWREL, most adoptors' questions can be classified into eight areas. These include questions dealing with:

a. Legal problems in setting up EBCE program

b. Insurance--Workmen's Compensation

c. Costs

d. Recruitment, selection and training of staff

e. Recruitment and maintenance of employers

f. Potential conflict of EBCE with existing programs

g. Problems of developing an alternative program that might serve only a segment of the student population

h. Student selection, recruitment and outcomes

9. In the opinion of the EBCE implementation staff, where are the EBCE resources the strongest in supporting the adoption process? Where are they the weakest?

According to two members of the EBCE implementation staff, EBCE implementation resources are strongest in the following areas:

a. Materials--Program Overview, user handbooks, training packets and the EBCE slide tape

b. Technical Assistance--Availability of training and problem solving assistance, implementation timelines and budget information

c. Open relationship with the program directors of the new EBCE programs.

Weaknesses involve a failure to develop "turn-key" operations for the EBCE implementation process and include:

a. Absence of an implementation training manual (to be developed in the fall of 1975)

b. Weak communication links with State Departments of Education (being improved with the initiation of Part D, Vocational Education Act activities).

10. What are the types of NWREL technical assistance requested by adopters of EBCE?

The following question was presented to eight participants at the end of an EBCE implementation training workshop held in March. Responses are listed below the question. Numbers following the statements refer to the number of respondents giving each statement, if more than one.

What additional information or technical assistance, if any, would you like to receive from NWREL EBCE during the next several months?

--any new ideas and material updates (2)
--examples of different projects with names blocked out
--help with answering specific questions as we develop our program and staff are identified (2)
--help in setting up an evaluation system
--visual showing all the elements of the $(CE)_2$ program
--visual showing the "flow" of activities in the Basic Skills area, Life Skills area and in the Career Development area
--need latest edition of Employer/Community Resources

In addition, NWREL EBCE technical assistance has been requested in developing student assessment and program evaluation strategies, in reviewing district-developed materials and in clarifying how to use materials.

11. Are there certain critical events that occur in a district's decision-making process regarding adoption of EBCE that need a specific period of time to "ferment"?

Critical events do exist (see implementation timeline, question 3 above) and adopting districts need time to reflect, consider and discuss the adoption before the decision can be made. The implementation staff interviewed are reluctant at this time to identify which events specifically need time to "ferment."

12. What methods were used in recruiting staff, community and employer sites, and students for EBCE? How effective did the local district's feel those methods were?

Data on recruitment methods are incomplete. Students at the various sites were recruited through student assemblies, parent-student meetings, school bulletins, community newspapers and radio announcements, and letters to parents.

In many sites, employers from existing networks (e.g., Work-Study Program) were utilized, while in others presentations were made at meetings of key groups (e.g., Chamber of Commerce).

No data on recruitment of staff are readily available nor have systematic data on the effectiveness of various techniques been assembled.

13. What proportion of students who express an interest in EBCE actually complete application procedures? Why do other students decide not to join EBCE?

Twenty-eight percent of the 224 students who requested an application actually returned the completed forms to the $(CE)_2$ staff. One-hundred and sixty questionnaires were mailed to the homes of those Tigard High School students who asked for an application to $(CE)_2$ during recruitment but who failed to return it. The questionnaire was designed to find out why students did not return their application, what their future plans included and what further recruitment information was needed.

Sixty-two questionnaires were returned in the self-addressed stamped envelopes yielding a return rate of 39 percent. No followup activities were initiated since the school year had already terminated. A copy of the questionnaire containing the tabulated responses is included in Appendix L.

Thirty-one percent of the respondents did not apply for $(CE)_2$ because they preferred the type of education given at Tigard High School. Other factors and major concerns in the decision not to apply for $(CE)_2$ included:

> "I was not really sure what I would be required to do in $(CE)_2$." (28 percent)
>
> "I am concerned that $(CE)_2$ might not properly prepare me for college." (25 percent)
>
> "I did not want to leave my friends at Tigard High School." (24 percent)

Parental reactions to students' interest in $(CE)_2$ were mixed. Seventeen percent encouraged the student to join $(CE)_2$ while 13 percent were opposed to the idea. A larger number, 38 percent, were neutral on the subject.

When asked about future plans, the largest proportion of these nonapplicants, 35 percent, said they plan to attend a four-year college after high school. Thirty-two percent plan to attend a vocational or community college. As a further indication of the intent to pursue formal education, only 10 percent of these students plan to be working full time following graduation.

Seventy-two percent of the students felt the information presented about $(CE)_2$ was adequate to answer their questions. The most common information need cited by the remaining students involved information on specifically what the student would be required to do at $(CE)_2$.

When asked if they would be interested in joining $(CE)_2$ during their senior year, sophomores were split in their response. Thirteen percent responded with a definite "yes" and four percent with a definite "no." Seventy-nine percent expressed varying degrees of uncertainty.

14. What were the reactions of districts to the EBCE user handbooks? Were they read? How were they used? What sections were found most and least useful? What changes have been suggested for improving the handbooks?

To date, formal feedback on the use of the EBCE user handbooks has been received only from four sites using selected EBCE materials. Staff members at these sites received prototype versions of the handbooks, but, because they were using only selected EBCE materials, did not have the opportunity to assess the usefulness of the total handbook system.

Informal feedback from sites planning to adopt the full EBCE model and from the EBCE implementation unit suggest that the handbooks are viewed as useful and will be utilized. Further data on this question will be collected in FY 76.

15. What role have the Statewide Education Agencies (SEA) played in the implementation of EBCE?

NWREL began its formal replication efforts with a series of information sharing meetings through the states in its region. Personnel from each of the SEA's involved were informed of, and participated in, these sessions which were held in May of 1974. Shortly after these initial sessions, an NWREL/EBCE advisory group composed of representatives of the state boards of education of Alaska, Idaho, Montana, Oregon and Washington was formed. An initial meeting of this body was held in Tigard on September 20, 1974. This group advised NWREL staff on criteria for selection of the final sites for field model replication and field testing EBCE prototype materials and participated in applying the criteria to select NWREL's pilot sites. This group continued to function in an advisory capacity to NWREL's implementation efforts. One SEA (Alaska) has funded both the basic costs of the initial pilot site in that state and the travel and per diem costs of NWREL technical assistance.

With the initiation of Part D activities in July 1975, the role of SEA's in the implementation process will expand greatly. LEA awareness of EBCE will be expanded through the SEA and the SEA will play a coordinating role in the implementation process. A more detailed study of the SEA roles should be conducted during the coming year.

16. Have LEAs raised questions about the differences in the four EBCE programs operated by the laboratories? If yes, what differences?

Prior to the dissemination efforts undertaken through Part D, which emphasize the differences between the four versions and encourage adoptors to make a choice, local districts, while aware of the existence of four versions, did not inquire further into differences. Further research on Part D activities could provide data on what differences local districts see as important.

17. Have there been any requests upon the $(CE)_2$ demonstration site that have been unable to be filled this year? Have there been requests to visit additional EBCE sites?

According to the coordinator of the implementation unit, most requests to visit the $(CE)_2$ demonstration site in FY 75 were filled. A few requests were not made with enough lead time to coordinate a visit with the $(CE)_2$ operations staff. A very limited number of potential adoptors requested visits to other EBCE sites and were directed to Project TOTAL in Hillsboro.

The demands for a demonstration site are not very consistent. Some potential adoptors are not interested in a "walkthrough" even when it is encouraged, while others insist on seeing "real staff and students." It is anticipated that in FY 76 $(CE)_2$ will play a somewhat limited demonstration role in making potential adoptors aware of EBCE, but will be an integral part of the implementation training.

18. What influence has EBCE had on other types of career/vocational education programs in the local school districts?

Conversations with the instructor in the Diversified Occupation class of the Cooperative Work Experience (CWE) Program at Tigard High School and an inspection of enrollment trends in the Coop program indicate that EBCE may have had an adverse effect on enrollment in the Diversified Occupations class which gives students an opportunity to explore various careers. Enrollment in other Coop classes that emphasize job skill training in a specific career area (e.g., office work, medical technology, etc.) have remained the same or increased since the inception of EBCE. These limited data may indicate that students at Tigard view EBCE as a viable alternative for career awareness and exploration but see other career education programs as more appropriate for in depth job training in a specific career area. The potential influence that $(CE)_2$ enrollment may have had on the Diversified Occupations cluster of CWE appears lower, however, since the CWE program normally enrolls only seniors. During student case study interviews this year the four $(CE)_2$ seniors interviewed indicated that they had never considered the possibility of joining CWE at the time they decided to join $(CE)_2$.

The program director of Project TOTAL reports that their EBCE program has had no impact on enrollment in other career/vocational education programs in the Hillsboro district but that student screening and selection procedures may prevent such impact.

Programs both in Tigard and Hillsboro have reported EBCE impact on the way they present educational services to students. In Tigard the EBCE Learning Site Analysis Form and the Competencies were adapted as integral parts of an Alternative Futures Program at the high school. The $(CE)_2$ counseling concept has also been adapted by the staff at a Tigard Junior High School and the Cooperative Work Experience Program has adopted employer seminars based on those developed by $(CE)_2$. In Hillsboro, the employer network and procedures for student use of community sites are being adapted for use by existing work experience programs.

19. What appear to be the most critical factors in determining whether a district will adopt EBCE?

Listed below (not necessarily in order of importance) are the critical factors as seen by the EBCE implementation staff:

a. The availability of money is of course a factor. The emphasis is not on a large amount of money, but on whether the money is available (i.e., can be used) for EBCE.

b. A commitment on the part of the administration and staff to provide alternatives to students, and especially a commitment to the EBCE concept.

c. A willingness to let nonprofessional community members educate and certify learning.

d. A strong and determined leader who is committed to the EBCE concept and who takes responsibility for making others aware of it.

e. Enough lead time to inform the variety of audiences about EBCE and to clarify their role in it. This "systems" approach is very much a part of EBCE.

20. If the implementation unit had the opportunity to redo this past year's implementation activities, what would be done differently?

Both members of the implementation unit interviewed expressed satisfaction with the conduct of events over the past year. The one area that both mentioned as an area that needed improvement was contact with state departments of education. More work with state departments would have facilitated the handling of credentialing questions and other issues that arise (e.g., Workmens Compensation) and would have started building the needed "turnkey" function.

CHAPTER V. SUMMARY AND DISCUSSION OF FINDINGS

Introduction

This chapter of the evaluation report contains a summary and discussion of the major evaluation findings for the 1974-75 school year, first regarding the $(CE)_2$ project and second regarding EBCE implementation activities.

The $(CE)_2$ summary contains (a) the results derived from a comparison of $(CE)_2$ experimental students with control group students, (b) results pertaining to all $(CE)_2$ students, (c) findings from the seven student case studies, and (d) program evaluation findings. Information to have been provided by Educational Testing Service (ETS), the external evaluator, was not received in time to be included in this report. A separate ETS report scheduled for December 1975 will probably contain: an anthropological study of $(CE)_2$; results of their survey of employers, parents and former $(CE)_2$ students; and an analysis of an indepth interview with a random sample of 20 $(CE)_2$ experimental students and the control group students. A separately bound volume of appendices provides more detailed data in support of data presented in this report.

Summary, $(CE)_2$ Evaluation Findings

Comparison of $(CE)_2$ Experimental and Control Group Students. In order to assess with validity the effects of $(CE)_2$ on participating students a true experimental design was used as part of the total evaluation (p. 9).* From the total list of sophomores and juniors at Tigard High School applying for $(CE)_2$ in the spring of 1974, 31 students were selected randomly as $(CE)_2$ experimental students for 1974-75 with the remainder designated as control group students who would remain at Tigard High School and not participate in $(CE)_2$. Of the 31 $(CE)_2$ experimental students who were pretested only one dropped out of the program during the school year. During this same period, 13 of the 25 control group students who were pretested left or dropped out of Tigard High School. This differential attrition may be explained by the ETS findings based upon interviews with those dropouts, due after this report.

Students in the experimental and in the control group were tested using a number of evaluation instruments at the beginning and end of the school year (p. 17). These instruments covered the areas of Basic Skills, Life Skills and Career Development--the three focal areas of the $(CE)_2$ curriculum. It was hypothesized that the $(CE)_2$ experimental students would do as well as the control group students in terms of gains in Basic Skills, while exceeding the control group in Life Skills and Career Development skills. On the Comprehensive Test of Basic Skills there were no statistically significant differences between the $(CE)_2$ experimental group and the high school control group in reading, arithmetic, or

* Throughout this summary chapter cross references to other sections of this report are provided where the reader may obtain more detailed information.

study skills.*

Questionnaires administered to both experimental and control group students at the beginning and end of the school year included items to assess student reading habits. Marginally significant differences* were found favoring the experimental group over the control group in increased reading during the year. These differences were due mainly to increases in the amount of reading of pamphlets and newspapers (p. 55).

Because the Life Skills curriculum component of $(CE)_2$ does not have a direct parallel in the regular high school program, only indirect measures of these skills were assessed on a comparative basis. Two attitudinal instruments, the Psychosocial Maturity Scale (PSM) and the semantic differential were used to compare the experimental and control groups in the Life Skills area of Personal-Social Development (p. 47). The PSM was used to assess growth in the goal-related behaviors of self-reliance, work, identity, communication, role, tolerance, trust, openness to change and social commitment, while the semantic differential was used as a measure of growth in attitudes toward the concepts of "one," "learning," "work" and "community resources." No significant differences were found between the two groups on any of these scales except the work scale of the PSM where the control group demonstrated significantly higher growth than the experimental group. On both of these instruments the $(CE)_2$ experimental group showed a decrease over the year on the work scale. Built into the PSM instrument is an internal validity scale which measures the respondents' willingness to be frank in their self-reports. Judging by this scale, the $(CE)_2$ experimental students became significantly more honest in their responses at posttest time than at pretest time. Based on these findings the evaluators' insights gained from intensive student case studies this year, and a discussion with the author of the PSM, it is likely that the $(CE)_2$ students' decrease in scores on the work scales of these two instruments is an indication that the $(CE)_2$ experiences at job sites have helped students become less idealistic in their concept of work and more critical in their self-assessment of their own personal work habits. The decrease in the work scores may also indicate that students are being influenced in their work values at employer sites in ways that some educators would view as less positive. For example, at the beginning of the school year only 8 percent of the $(CE)_2$ experimental group agreed with the statement that "It is more important for a job to pay well than for it to be interesting" while at the end of the year 23 percent of the $(CE)_2$ experimental group agreed with that statement.

* Due to considerable attrition in the control group, those control students who dropped out of school had higher pretest scores on arithmetic applications than the control students who remained in school, making the final control group somewhat lower than the experimental group on arithmetic applications at present time. In order to statistically adjust for initial pretest differences between the experimental and control group a multivariate analysis of covariance computer program was used. Here and in other analyses in this report, a p level of .05 was used to identify significant differences. A marginally significant difference is defined in the report as $.05<p<.10$.

The Self Directed Search (SDS) was administered to the experimental and control group on a pre- and posttest basis to learn what changes might result from an experimental program such as $(CE)_2$ (p. 51). No significant differences were found between the two groups in the consistency of their career choices with Holland's model* nor in their ability to discriminate between various career interests that they liked or disliked. Some $(CE)_2$ students became more consistent in their career choices while others became less consistent. This seems to reflect the variety of experiences open to students in this program. Some tend to explore a wide variety of careers while others prefer to gain indepth experiences in one or two career areas.

The extent to which students could match their career preferences with their personal interests and ability was measured by comparing the congruency between students' projected careers as stated on the End of Year Questionnaire and their three digit SDS codes, based upon Holland's model and the Occupations Finder developed by him (p. 52). No significant differences were found between the experimental and control groups in ability to match careers with personal interests. In each group, 80 percent or more of the students demonstrated this congruence for both their first and second career choices.

Students in the experimental and control groups were also compared on their knowledge of information related to the world of work. The student End of Year Questionnaire contained items developed by D. J. Prediger of the American College Testing Program. Responses for these items were reported for a national sample of 9,307 eleventh grade students.** The difference in performance between the experimental and control groups of students was statistically significant in favor of the $(CE)_2$ students. In comparison with the national sample of eleventh graders, $(CE)_2$ students scored the same or higher than the national sample on eight out of nine items (p. 55).

Also on the student End of Year Questionnaire, the experimental and control group students were asked to list their top two career choices. No significant differences were found in the level of career choices between the two groups or in the amount of education they planned to pursue after high school. Significantly more of the $(CE)_2$ students reported having observed or worked in the careers of their choice than did control group students (p. 54).

Significantly more experimental students than control students felt they would be able to complete the necessary steps for entering a career of

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* For an excellent description of this model and the research supporting it, the reader is referred to John L. Holland, Making Vocational Choices: A Theory of Careers; Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973.

** Prediger, D. J., Roth, J. D., and Noeth, R. V.; Nationwide Survey of Student Career Development: Summary of Results; (ACT Research Report No. 61); Iowa City, Iowa: The American College Testing Program, 1973.

their choice. No significant differences were observed between experimental and control groups in the sources of information used to eliminate potential careers nor were there differences in the proportions of students able to list jobs that they had ruled out as career choices during the year (p. 55).

Since one of the hypothesized effects of community based experimental learning is the increased use of public resources and participation in community activities, the evaluators asked students on the End of Year Questionnaire to indica the number of times they used various community resources. Experimenta nts reported significantly more use of public resources, especially public libraries and greater attendance at public meetings, than did the control group (p. 55).

Both $(CE)_2$ and control group students were asked, on the student End of Year Questionnaire, to rate how well they felt their educational program this year helped them attain 21 educational goals. These goals were based on $(CE)_2$ program objectives and covered the areas of Basic Skills Life Skills and Career Development. The experimental group gave $(CE)_2$ significantly higher ratings in 14 of the 21 goals. For the remaining 7 goals, all differences were nonsignificant and except for one, were in favor of $(CE)_2$. In rating the perceived overall effectiveness of their education the $(CE)_2$ students again gave significantly higher ratings (p. 55).

Noncomparative $(CE)_2$ Student Outcomes. Information in the previous section discussed the comparative outcomes of 30 $(CE)_2$ experimental group students and 12 control group students at Tigard High School. Additional data were collected and analyzed for all students participating in $(CE)_2$. This total group of 52 $(CE)_2$ students pre- and posttest includes 10 students who were in $(CE)_2$ as juniors in 1973-74 and returned to complete their senior year in $(CE)_2$ during 1974-75. Eight other $(CE)_2$ returning seniors left the program during the school year. Also included in the total $(CE)_2$ group are students who were preselected and guaranteed admission into $(CE)_2$ (p. 9).

During the 1972-73 school year no statistically significant changes were exhibited on the Comprehensive Test of Basic Skills by the initial 25 students participating in $(CE)_2$. During 1973-74, students made statistically significant gains in all areas of the CTBS except language mechanics. This year, $(CE)_2$ students showed a significant gain in reading comprehension, arithmetic concepts and arithmetic application, but not in study skills (p. 20).

The gains made on the CTBS this year did not differ significantly between the 12 preselected students, the 10 returning seniors and the 30 experimental group students despite the fact that the preselected students began the year with higher CTBS scores than the other two groups (p. 47).

Results of the semantic differential instrument for all $(CE)_2$ students as a group indicated a significant increase on the seven concepts, especially the concepts of "me," "community resources," "adults,"

"learning," and "school," and a significant decrease on the concept of "work." During the prior year, $(CE)_2$ students' rating of the concept "work" also decreased somewhat between the middle and end of the school year. This decrease in ratings on the concept of "work" has already been discussed in the prior section. The concept of "school" was generally interpreted by new $(CE)_2$ students to mean the regular high school program at pretest time and the $(CE)_2$ program specifically by posttest time. During the 1973-74 school year, $(CE)_2$ students demonstrated a significant increase on their ratings of the concepts "me" and "school" thus supporting a tendency observed in the previous year for $(CE)_2$ students to feel more positive toward themselves and toward their educational experiences after being in $(CE)_2$ for a year or more (p. 50).

The $(CE)_2$ students as a whole showed significant growth on the PSM scales measuring trust and openness to change, a significant decline on the social desirability scale and a marginal decline on the tolerance scale. The decline on the social desirability scale suggests a willingness to be more frank with their answers at posttest time than at pretest time (p. 48). Three basic attitudes characterize "enlightened" (credible) trust: General belief in the acceptability of reliance or dependency on others, rejection of simplistic views of the "goodness" or "badness" of human nature, and recognition of individual and situational factors that limit trustworthiness. (Example: "If people are picked in a fair way to be on a trial jury, they are sure to reach a fair decision")* The change variable includes general openness to socio-political change and recognition of the costs of both the status quo and change. (Example: "If everyone is to be really equal, some people will have fewer advantages than they have now.") Tolerance involves the person's willingness to interact with individuals and groups who differ from the norm and an ability to be sensitive to their rights. It also involves an awareness of the costs and benefits of tolerance. (Example: "If I had a choice, I would prefer a blood transfusion from a person of the same skin color as mine.")

The case studies conducted this year suggest that the increase in trust and openness to change were probably influenced by the supportive atmosphere of the $(CE)_2$ staff observed at the learning center and by the interactive experiences that $(CE)_2$ students encounter with a diversity of employers and community adults. The evaluators have no suggested explanation for the marginal decline in the tolerance scale. A comparison of the three $(CE)_2$ subgroups on the total PSM revealed no significant trends in growth among the three groups (p. 48). Scores for this year's $(CE)_2$ students on eight of the nine PSM scales were higher at pretest time this year than they were at the posttest for FY 74. This factor is likely to have tempered the amount of upward growth registered by $(CE)_2$ students this year in comparison with the more dramatic growth registered by the $(CE)_2$ students the prior year (p. 48).

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* Greenberger, E., et al; The Measurement and Structure of Psychosocial Maturity; The Johns Hopkins University, Center for Social Organization of Schools; Report No. 170; March 6, 1974; p. 33.

In terms of student evaluation of $(CE)_2$, all but one of the $(CE)_2$ students indicated on the student End of Year Questionnaire that they did not regret their decision to enter the program. Comparing $(CE)_2$ to the regular high school program, 96 percent of the students reported that $(CE)_2$ provided more opportunity to learn about occupations and 70 percent reported that it provided more opportunity for general learning. Ninety percent of the $(CE)_2$ students reported that they were more motiviated to learn in $(CE)_2$ than in the regular high school (p. 56).

When asked what they perceived to be the greatest strengths of the $(CE)_2$ program, 33 percent of $(CE)_2$ students identified the opportunities for "hands on" learning, 33 percent identified the empathetic and helpful staff, and the rest mentioned a variety of things including the opportunity to learn about careers and the freedom and responsibility given students (p. 56).

The most commonly mentioned weakness of the program (mentioned by 15 percent of the students) involved difficulty or inconvenience in securing a desired employer site. Other problems mentioned included transportation problems (6 percent) and too much work (6 percent) (p. 56).

$(CE)_2$ students were rated by staff members in November and again in May on seven areas of student behavior. The $(CE)_2$ students showed a significant growth in all areas except "Conducts conversation with an adult that reveals his/her self-confidence." However, when conditioned for the first five scales, this scale does become significant. A multivariate analysis of variance indicated a high correlation among these seven areas suggesting that they could be reduced to three scales: "Capability to apply learned behaviors and to assume responsibility," "Understands another person's messages and feelings," and "Conducts conversation with an adult that reveals self-confidence" (p. 53).

Documentation of weekly discussions by the $(CE)_2$ staff regarding observable behaviors in each student have revealed that many students have grown substantially in assuming responsibility for their actions and in cooperating with program staff and employer instructors. Growth has been noted also by the staff in students' ability to communicate effectively with adults and with fellow students. These areas of growth were also reported by the staff on a May questionnaire (p. 57).

In the area of career development, approximately 250 occupational skills were recorded by employers as having been acquired or practiced by $(CE)_2$ students while at employer sites this year.* Skills in all occupational areas of the Occupational Outlook Handbook, except the transportation industry and social sciences, are represented. Those areas with the highest number of skills learned are office occupations; service occupations; mechanics and repairmen; health occupations; and art, design, and communications. These occupations reflect the significant gain in rating the realistic scale of the Self Directed Search from pretest to posttest (p. 52).

* The reader may wish to examine Appendix I of the evaluation report to observe the types of jobs explored by $(CE)_2$ students.

Student Case Studies. Intensive case studies* of seven $(CE)_2$ students were prepared as a major part of the total evaluation this year. The primary purpose of the case studies was to give the reader insights into a student's activities in the $(CE)_2$ program that could not be gleaned from quantitative group data.

A draft copy of each student's case study was given to him or her in July. Students were asked to read them and verify their accuracy. A final interview with the students was then conducted to fill in any possible gaps in information and to obtain their reactions to the report. Each case study included a description of the background of the student, why he or she entered the $(CE)_2$ program, activities and progress while in the program during both semesters this year, student reactions to $(CE)_2$, and parental reactions to the program and to the progress of their son or daughter.

Multiple data collection strategies were used in this study to allow the evaluators to obtain a cross validation of information about each of the students. These methods included (a) observations of case study students at employer sites three times during the year, (b) interviews three times a year with the student's employer instructor at the time of observation, (c) parent interviews in March, (d) indepth student interviews four times a year, (e) informal discussions with program staff and (f) a review of student projects and other documents. A total of 23 records were also identified as secondary sources of data for each student and a set of guide questions was prepared for analyzing or reviewing each source. These records included employer evaluations of students, student products, test scores and staff evaluations.

The case studies show the anxieties, struggles, frustrations and personal growth of these seven young people as they progressed through $(CE)_2$. The case studies have also provided direct evidence leading the evaluators to conclude that:

- $(CE)_2$ appeals to a wide range of students
- Parents support the $(CE)_2$ program
- Work values are being realized, developed and changed as a result of $(CE)_2$
- Employer instructors participate in EBCE at different levels of involvement
- Students utilize community sites at different levels of involvement

* For the complete case study write-up, see Chapter III, Section E and Appendix G.

- Few high school students have made a single lifetime career choice

- Students learn from direct experience

Parents of the case study students were interviewed this year regarding their views of $(CE)_2$ and of their son's or daughter's progress in the program. The greatest gains these parents observed were growth in interpersonal relations skills, knowledge about different vocations, and interest in education.

Program Evaluation Findings. While the previous findings in this summary chapter have dealt with student outcomes, this section contains evaluation findings regarding the $(CE)_2$ program operation, the student goals and learning strategies.

At the end of the school year, $(CE)_2$ experimental students and control students from the high school were asked to complete a questionnaire containting items related to their feelings about their year's educational experience. Students were asked to rate, on a scale ranging from 1 (of little or no help) to 5 (very helpful) how they felt $(CE)_2$ or school (depending upon which program the student was in) experiences had been to them this year in attaining education goals. The $(CE)_2$ students rated 20 of these 21 goals higher than did the control group. On the remaining items, there were no significant differences between the two groups. The $(CE)_2$ experimental group rated their educational experiences as significantly more helpful to them than did the control group students in the following 14 goals:

1. Solving problems logically.

2. Understanding the role of science in our society.

3. Understanding more about self.

4. Developing creativity.

5. Learning how interests and abilities fit into potential careers.

6. Learning what to look at in considering a job.

7. Learning the Basic Skills necessary for careers of interest.

8. Improving math skills.

9. Helping know what level of Basic Skills proficiency is required in jobs of interest.

10. Becoming acquainted with a broad range of resources to use in gathering information for work and decision making.

11. Communicating comfortably with adults.

12. Taking responsibility for own actions.

13. Using information obtained through direct experiences in making decisions.

14. Helping to feel prepared to accept adult responsibilities.

On two separate questionnaire items measuring the overall quality of the program and the opportunity to progress at one's own rate, the $(CE)_2$ experimental students rated their program significantly higher than did the control group (p. 55).

In the Life Skills area students completed most of their learning through work on individual projects. Eighty-five projects were completed in critical thinking, 115 in science, 81 in creative development. Students this year completed an average of 7.3 projects as compared with an average of 5.5 projects completed by last year's students. Each of these projects had individual objectives and criteria that were applied by the learning managers in evlauating the project. All students in $(CE)_2$ are expected to engage in activities to improve themselves in critical thinking, science, creative development, functional citizenship and personal-social development. While an opportunity to do this may be available in a regular high school, not all students there are expected to interact with each of these Life Skills areas (p. 23ff).

Students enrolled in $(CE)_2$ for two years are also required to complete 13 competencies (such as maintaining a checking account in good order) to graduate from the program. The percentage of all $(CE)_2$ students who were certified on competencies ranged from 43 percent of the students completing a competency requiring them to maintain the best physical health and make appropriate use of leisure time to 98 percent of the students completing the competency on transacting business on a credit basis. Many more competencies were completed by students this year (488) than last year(289). Students completed an average of 9.4 competencies this year while they completed only an average of 5.6 competencies last year and an average of 3.0 competencies two years ago. This increase over the three-year period reflects a clarification of work required to complete each competency as well as an improved student accountability system that helped students realize what work was expected of them and encouraged them to complete those tasks before graduation (p. 31).

$(CE)_2$ staff members were asked to rate the importance and, separately, the effectiveness of the program in utilizing 15 student learning strategies.* The average rating by the staff on <u>importance</u> of each of these learning strategies was four or higher (on a five-point scale), except for employer seminars and student group actitivites. The learning strategies considered most important were: the student accountability system, student negotiation, individual projects, the learning level process and the competencies. Each of these learning strategies was also

* For a description of the various learning strategies the reader may wish to refer to pages 203 to 336 of the EBCE <u>Curriculum and Instruction</u> handbook developed by NWREL.

given an average rating of 3.5 or higher on effectiveness, except for student orientation, employer seminars and group activities. The learning strategies judged most effective by the staff were: the student accountability system, student negotiation, individual projects, journals, competencies, Exploration Packages and the ILA Basic Skills materials* (p.56).

Two factors mentioned most often on an open-ended question by staff members as contributing in a major way to the success of the $(CE)_2$ program this past year were (a) intra-staff and staff-student cooperation and rapport and (b) the wide range or mix of student abilities. There was no consensus on what factors limited the success of the program, although uncertainty about the future direction of the funding agency (NIE) was mentioned by two staff members as a constraint (p. 57). This year's $(CE)_2$ students saw program strength primarily in its provision of many opportunities to explore various careers, to learn some meaningful skills and to be in an environment that is friendly and supportive. They indicated no problem in locating and obtaining necessary resource materials. Parents, employers, students and visitors all remarked that the $(CE)_2$ staff's competence, enthusiasm and concern have been major factors contributing to the program's success (p.).

Student recruitment procedures in April and May for the 1975-76 school year were highly successful in terms of recruitment objectives. An attempt was made to recruit a large number of students with a wide range of abilities and aspirations to accurately represent a cross-section of students from Tigard High School. The large number of applicants for $(CE)_2$ required random sampling of participant and alternate students for next year. The baseline data collected on the newly admitted $(CE)_2$ students for 1975-76 indicate that they are a representative cross-section of students with a wide range of abilities.

Of the seniors in $(CE)_2$ in May 1975, 21 graduated, 3 dropped out of the program and 2 plan to return next year to complete program requirements. Three of the 21 graduating seniors completed program requirement early and three graduated before the normal Tigard High School graduation time. The fact that not all students enrolled in $(CE)_2$ automatically graduate but instead are held accountable for successfully completing the program's learning requirements is perhaps the greatest proof of the competency-based nature of the program.

Evaluation of EBCE Implementation Activities

Various EBCE implementation activities for the year were evaluated including the planning phase at four total model replication sites and the operations phase at a site in Hillsboro, Oregon called Total Opportunities Through Action Learning (TOTAL). Questionnaires were sent to five school districts in the Pacific Northwest who utilized one or more of the following NWREL EBCE materials in FY 75: user handbooks;

* ILA is the Individualized Learning for Adults program available from Research for Better Schools, Philadelphia.

Exploration Package, Student Journal and Learning Site Analysis Form. A replication training workshop was also evaluated, as were selected implementation strategies.

Planning at Full Model Replication Sites. Orientation, training and technical assistance were provided to districts in the Northwest interested in implementing EBCE. The TOTAL program in Hillsboro, Oregon elected to begin operation during the 1974-75 school year. Four other districts--Billings, Montana; Colville, Washington, Kennewick, Washington; and Kodiak, Alaska--chose to use 1974-75 as a planning year and to begin operation of EBCE during the 1975-76 school year. Several other districts participated in EBCE planning during 1974-75 but were unable to begin operations during the 1975-76 year because of budgetary constraints.

Information on each of the four pilot sites that will begin EBCE operations in 1975 was collected and organized into the following categories: advisory board, school staff, number and characteristics of students, employer recruitment, physical facilities, funding, parent involvement, school board action, and EBCE materials received and used (Appendix M).

Project TOTAL. The NWREL EBCE evaluators were requested by the director of Project TOTAL to provide an independent assessment of that project. TOTAL is a pilot alternative education program, using the $(CE)_2$ version of EBCE to help students who have not progressed satisfactorily in the regular school program. Project TOTAL operated in the Hillsboro Union High School District during 1974-75 with a maximum of 30 students from grades 9 to 12. Small groups of students were added to the project at various times throughout the year to work with a staff of three full-time members and a part-time director.

The evaluation of TOTAL by the NWREL evaluators consisted primarily of an analysis and independent interpretation of their data, supplemented by an interview with each of their staff members and with a random sample of six students. Change data from student test scores are not contained in this report since various students began the program at six time periods throughout the year; some students failed to complete the posttests accurately and others failed to take the posttests at all.

A comparison of baseline data between students in TOTAL and those in $(CE)_2$ indicated that the TOTAL students were at the eighth grade level in reading and study skills on the CTBS and substantially lower than that in arithmetic. However, on the semantic differential scores and the Psychosocial Maturity Scale scores, the TOTAL students had approximately the same scores as those in $(CE)_2$ (p. 111).

Perhaps the most significant data regarding TOTAL students were found in their attendance records. During the year prior to entering TOTAL these students had an average school attendance of 36 percent. During the first and second semesters in Project TOTAL, however, these same students averaged an 86 percent attendance rate (p. 111).

1. Program Strengths

The staff of the TOTAL program appear to be interested in the students and to enjoy their work. The students of TOTAL share this perception and report that the freedom to learn what they are interested in without the pressures associated with the regular high school program are additional strengths. Good community and school support were also reported by the program staff.

2. Program Weaknesses

Two of six students interviewed and one staff member reported that inadequate bus transportation was an obstacle which limited the success of the TOTAL program. Other weaknesses cited by a staff member and confirmed by at least one student involved the lack of staff time due to the extra attention demanded by this particular student group and the need for clerical help. More staff time is also necessary to adequately monitor employer sites.

Evaluation of EBCE Materials. Questionnaire results were obtained from four of five school districts in the Pacific Northwest where selected EBCE materials had been used. Separate questionnaires were used to obtain reactions to the EBCE user handbooks, Exploration Package, Student Journal and the Learning Site Analysis Form. Staff members who had used each of these materials provided feedback. In addition, separate questionnaires were used with students to obtain their reactions to the Exploration Package and to the Student Journal. Employers involved with the Learning Site Analysis Form were surveyed. The general reaction to all of these materials was favorable (p. 124).

Staff members at the four sites providing feedback on the EBCE user handbooks reported the handbooks were complete and easy to use. One respondent commented that in some areas the language bordered on jargon while another respondent expressed the need for a short concise review. Because of their length and detail, the EBCE user handbooks were seldom read in total but were generally skimmed and consulted as problems arose. Three of the four sites used the Exploration Package as it was developed at $(CE)_2$. The fourth district is in the process of revising it to accommodate poor readers. Staff members liked the Exploration Package as a way to help students pinpoint their interests and think about their values. Students liked the package as a guide for exploring different aspects of careers and as a record of their experiences. Some disliked the amount of time and writing activity demanded by the process.

The Student Journal was used by two sites. Staff from one site regarded the Journal as an effective tool to establish trust and caring between staff and students. Staff members from the other site were more reserved in their praise, indicating only that the Journal had a positive effect on those students who used it as a communication device. Both sites plan to use the Journal again next year. Students liked the opportunity to express themselves to the staff, but as with the Exploration Package, reported that it required too much time and writing.

The Learning Site Analysis Form was utilized by three school districts to analyze approximately 50 community sites for their learning potential. One site revised the LSAF to make it more understandable by employers. All employers surveyed felt they understood the purpose of the LSAF and that the information collected by it coincided with their perceptions of the learning potential of their site. They report that the LSAF has both changed the way they deal with students and has changed their employee training/education efforts (p. 124).

Workshop Evaluation. A self-rating questionnaire was employed in assessing a one-week EBCE training workshop held in Tigard in March 1975. Eight participants, representing four districts planning for the implementation of EBCE in the fall of 1975, attended the workshop. Topics discussed at the workshop included: the philosophy of EBCE, implementation issues and the use of various EBCE assessment and learning strategies.

The workshop participants contributed many worthwhile suggestions which could be used to modify future workshops. Even with their diverse backgrounds and previous understanding of $(CE)_2$, they rated the workshop high. These participants felt they were well prepared to represent the $(CE)_2$ program to students, parents and employers and were able to complete program start-up planning strategies. These participants also gave high ratings to their understanding of $(CE)_2$ concepts (p. 125).

Evaluation of Replication Activities. In order to synthesize the insights and knowledge gained from the EBCE replication experiences this year, a set of 18 questions was developed by the evaluation unit in June to focus the findings. Questions used included:

--"What are the important steps and sequences needed in introducing and implementing EBCE in a school district?"

--"What are the anticipated costs of operating EBCE in full-model sites?"

--What were the most frequent questions asked about EBCE by various groups in districts considering the adoption of EBCE?"

--"What appear to be the most critical factors in determing whether a district will adopt EBCE?"

Answers were provided in this report to such questions and, although not given in final and unequivocal terms, should prove useful to persons considering the adoption of EBCE in their districts (p. 126). More conclusive answers to these implementation questions will appear in the coming year as more districts gain experience with EBCE.

The clearest criterion in evaluating the effects of the NWREL EBCE implementation unit this past year is the willingness and ability of school districts to implement EBCE in their schools during 1975-76 using local funds. Five school districts in the Northwest will be doing that in September after receiving planning help, support and staff training from NWREL. A more detailed evaluation of EBCE implementation activities will occur in 1975-76.

CHAPTER VI. EVALUATORS' CONCLUSIONS AND RECOMMENDATIONS

This final chapter of the evaluation report presents conclusions and recommendations regarding: (a) a synthesis of $(CE)_2$ evaluation findings, (b) evaluation issues, and (c) future research needs.

$(CE)_2$ Student Findings

This evaluation report has examined a number of complex and interrelated outcomes of student participation in EBCE that cover Basic Skills, Life Skills and Career Development. The need to synthesize the vast quantity of data has presented the evaluators with a difficult challenge. Findings regarding 21 $(CE)_2$ student goals have been described in Chapter III and summarized in Chapter V. An important question is whether there is a common thread that helps tie together the separate findings and describe the major impact EBCE has had on students. In the evaluators' judgment, the central outcome of EBCE that has emerged during the last two years is that EBCE is a viable alternative for students who, for one reason or another, do not feel they are making the best use of their time at the high school. In particular, EBCE has been able to increase for many students their sense of personal worth and self-confidence.

Dr. William Glasser, author of Reality Therapy and a respected psychiatrist, has made two fundamental statements about this sense of personal worth.* He believes that true and realistic self-esteem is the basic element in the health of any human personality and that a person's self-image is a major determing factor of behavior. A similar statement has been made by another psychiatrist, Abraham Maslow, who wrote that "a child cannot reach self-actualization until his needs for security, belongingness, dignity, love, respect and esteem are all satisfied.**

The $(CE)_2$ staff has stimulated growth in these areas in a number of ways. They assisted students to understand and express their feelings, interests, abilities and vocational preferences. They provided, and encouraged, employer instructors to provide realistic feedback to students. They helped students plan, carry out and evaluate individual learning experiences centered around their interests and abilities. Students were given an opportunity to explore new areas, try out new behavior styles and occasionally experience failure in an environment where they could profit from mistakes without serious harm.

An interesting question arises regarding the extent to which change in student self-esteem was a function of the EBCE program or merely a result of the personalities of the seven $(CE)_2$ staff members. One of the most

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* Glasser, William Reality Therapy, New York: Harper and Row, Published 1965.

** Maslow, Abraham H. The Farther Reaches of Human Nature, New York: The Viking Press, 1971, p. 190.

frequent compliments heard from visitors to $(CE)_2$ is the enthusiasm, warmth and empathy demonstrated by the $(CE)_2$ staff. In reality it is impossible to divorce the EBCE program from the $(CE)_2$ staff since the program is as much an alternative selected by the staff as it is an alternative for students. Nevertheless, the structure and organization of $(CE)_2$ in itself appears to facilitate a growth in self-esteem for the students who select this program to a larger degree than that provided by the regular high school program. In $(CE)_2$ students and staff are not governed by the bell or a regimen. Students are constantly required to make decisions regarding their own learning experiences and are held individually accountable for following through on commitments. Other factors that allow the $(CE)_2$ staff to relate with students as individual persons are the lower student-teacher ratio and the differentiations of staff roles. $(CE)_2$ staff are not required to be subject matter specialists or to communicate a given set of concepts to students. Instead, the staff function as learning facilitators and each staff member participates in student guidance relationships. In addition to the influence made on students by the $(CE)_2$ staff, students have also been reinforced and influenced by participating employers and community resource persons. This influence touches not only on career decisions but on other areas of the students' lives as well.

In addition to growth in self-esteem, $(CE)_2$ students have also increased in their self-confidence. Student case studies conducted this year have provided many examples of this increase as demonstrated by students becoming more willing to explore new learning sites, feeling at ease in communicating with individual employers, overcoming shyness in talking to groups of adults, and becoming more willing to take responsibility for their own actions.

Many, although not all, of the test scores have supported the increase in student self-confidence and self-esteem. The semantic differential scores involving students' ratings of the concepts of "adults" and "community resources" have shown statistically significant growth over the year, while the concepts of "me," "school" and "learning" have shown statistically significant growth over each of the last two years.

This increase in self-understanding and self-esteem may be one of the most generalizable outcomes of experiential learning such as that involved in EBCE. This learning can help a young person to make career and life choices that are more satisfying, to become a more involved family member and citizen, and to become open to self-actualization as a human being.

Although the case studies conducted this year demonstrate increases in student self-esteem, the studies were not developed with that outcome as a primary focus. It is suggested for next year that pilot sites intending to employ case study methodology consider using change in student self-esteem as a major focus for such reporting. This would involve the development of some indepth student interview questions and identification of behaviorally observable events that could indicate increase in self-esteem.

Evaluation Issues

Because of the individualized, experiential nature of EBCE, students enter with diverse backgrounds and interests, engage in many unique experiences and achieve many different outcomes as a result of participation. For this reason it has not seemed appropriate to the evaluators to try to impose tightly written behavioral objectives as might be appropriate, for example, in a traditional high school algebra class when all students are expected to accomplish the same goals specified by the teacher within a fixed number of weeks. A possible exception to this approach has been in the verification of competencies and the learning managers' assessments of preprepared projects. In both cases, prespecified criteria have been employed although even in these cases individual student negotiation has been allowed.

As a result of attempting to develop a philosophy of evaluation that is consistent with that of the project, very few specific outcomes have been expected of all students. The evaluation instruments and methodologies employed have related to the student outcome goals but not highly specific curriculum content. Thus broadly-gauged measures like the Comprehensive Test of Basic Skills, the Psychosocial Maturity Scale and the semantic differential have been used. Other instruments such as the student End of Year Questionnaire have attempted to measure perceptions of processes such as the extent to which students felt they understood how to go about entering a career of their choice. The use of case study methodologies involving observations of students at various times throughout the year at employer sites; personal interviews with the students, their employer instructors and parents; interviews with $(CE)_2$ staff and analysis of records; analysis of numerous student monitoring documents; and independent ratings by an outside reviewer of student projects and products--all were essential tools in providing a description and evaluation of how individual students interacted with $(CE)_2$ and what they gained from their participation in the program.

The findings resulting from the case study approach and from the group testing were usually consistent. In some areas which were difficult to measure or observe in a reliable way, such as student trust of others, there were insufficient results to make strong conclusions. In general, the written tests facilitated a comparison between the $(CE)_2$ students and the control group students since they were easily translated into quantitative units. The case studies, however, were much more useful in providing the qualitative information needed in describing the $(CE)_2$ processes and outcomes as they varied from one student to another. Both approaches--together with the use of monitoring data available on all students; survey data from students, parents, employers and staff; and follow-up data on $(CE)_2$ graduates--were needed to provide an integrated, comprehensive evaluation. Unfortunately, the data and analyses from parent and employer surveys and the follow-up interviews of former $(CE)_2$ students conducted by Educational Testing Service (ETS), the external evaluation contractor, were not received in time to be used in this report but will be available by December 1975. The evaluators therefore recommend that time be set aside in December by the EBCE key staff and interested outside parties to review the ETS evaluation report, the anthropological report of $(CE)_2$ prepared by Edward Durgin and this evaluation report by the

NWREL EBCE evaluators. At that time, the major outcomes of these reports could be discussed in light of the Coleman report* and other such documents describing the transition of youth to adulthood. The results of such an evaluation conference should be written into a nontechnical article for use by potential adoptors of EBCE.

The use of an experimental design, involving the random assignment of applicants for $(CE)_2$ into program participants and into a control group which remained in the regular high school program for the year, was a time consuming and complex process. Chapter III of this report describes the problems of the differential attrition between the two groups. Despite an excellent job of student recruiting by the $(CE)_2$ staff, the use of financial rewards to encourage partitipation by the control group in the testing, and the intensive efforts by the NWREL evaluators and ETS representative to locate students, complete pre- and posttest data were collected on only 12 control group students. Although the cost of using a control group was high and the number for whom data were obtained was small, the evaluators feel that the benefit gained from employing an experimental design during 1974-75 outweighed the costs. Without the control group it would have been impossible to determine what student outcomes could be attributed to participation in $(CE)_2$ as compared with alternative explanations. The evaluators, however, do not recommend the use of control groups in future EBCE sites during the first year of program development.** Nor is the use of a control group recommended in the future for the $(CE)_2$ site in Tigard, Oregon, since the majority of evaluation questions for that site have been adequately answered this year.

Based on the evaluators' experiences, a number of specific changes are recommended in evaluation instruments and procedures that were used this year in $(CE)_2$. These recommendations, together with a rationale for each, will be incorporated in the EBCE Evaluation Package to be developed in FY 76 by the NWREL EBCE evaluation unit.

Future Research Needs

The EBCE research and evaluation staff at NWREL over the past three years has identified a number of research issues that need further investigation. In assessing the priorities of each issue, the evaluators have selected three as most critical at this time. These three issues deal with:

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* Coleman, James S., et al. Youth: Transition to Adulthood, Report of the Panel on Youth of the President's Science Advisory Committee. Chicago: University of Chicago Press, 1973.

** The evaluators would, however, recommend that student case studies be considered an essential part of comprehensive evaluation efforts of individualized programs such as EBCE. Without student case studies the evaluator would have great difficulty in attributing significant differences in favor of an experimental group to specific treatments in a program and would also lack information regarding diversity and variation of treatments among program participants.

(a) a study of the strategies used to successfully implement a large scale program such as EBCE in local school districts, (b) developing techniques to assess career decision-making strategies of students, and (c) a study of students' changing personal and work values influenced by experiential learning at community and employer sites. Each of these topics addresses real world issues and would have payoffs for educational practitioners and researchers alike.

1. Research conducted on strategies for successfully implementing a large scale program such as EBCE could address questions such as:

   a. What impact does the use of federal funds have on the planning and implementation of innovations such as EBCE?

   b. What factors are most influential in leading a school district to favor the adoption of one particular model of an innovation over other models?

   c. What are the factors perceived by administrators, teachers, students, parents and employers as facilitating or hindering the implementation of EBCE?

   d. What roles do state educational agencies and educational laboratories play in the implementation of EBCE?

   With the anticipated heavy investment of funds from Part D of the Vocational Education Act into the national implementation of EBCE it becomes increasingly important to answer these types of questions.

2. Many systems and techniques currently exist which attempt to match occupational career areas with personal preferences, competencies and attitudes. However, most of these techniques are system dependent. Little emphasis is placed on encouraging the respondent to seek out information about occupations, weigh this information based on personal characteristics and then formulate a personal career decision. Instead, information areas and preferential selections are forced on the respondent and the final occupational selections are forced by the system. Removed from the system, the respondent may be unable to "choose" those occupations for which he is best suited.

   An approach which would maximize career decision making would be one where the respondent is forced to ask the questions, weigh the information obtained and make the final career decisions independently. Such a strategy would be valid in assessing career decision making gains attributed to programs like EBCE. The decision-making strategy would be examined to estimate facility for asking the most important questions which maximally impact the final career decision. In addition, one could examine the fidelity of personal preferences, competencies and attitudes with those exhibited by characteristic members of the chosen occupation.

Some of the questions which could be answered by this research include:

a. What career decision-making strategies do EBCE students bring with them to the program?

b. What are the types of patterns of career decision making?

c. Which characteristics of persons and occupations maximally discriminate in career decision making?

d. What changes in career decision-making strategies occur as a result of participation in the EBCE program?

e. What components of the EBCE program have the maximum effect on changes in career decision-making strategies?

f. What is the permanence of learned decision-making strategies?

g. What alternative techniques can be utilized to analyze career decision-making strategies?

3. Data collected this year from the Psychosocial Maturity Scale indicate that $(CE)_2$ students have made a number of shifts in their personal and vocational attitudes. Some of these newer attitudes apparently involve a less idealistic concept of work obtained from experiences at various employer and community sites. The effects of changes in student attitude influenced by participation in EBCE may be more important than specific skills gained by students while in the program. Research is needed to answer questions such as the following:

a. Is there a set of personal and vocational values that are commonly shared by EBCE students, staff and employers participating in the program?

b. Are the values of students and employers selecting not to participate in EBCE significantly different from those who choose to participate?

c. Do students' values become more aligned with staff and participating employers' values as a result of participating in EBCE for one or more years?

d. Can the values of a new student, staff or participating employer be used to predict that individuals' degree of acceptance and participation in EBCE?