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ABSTRACT

In its second year of operation, Project PROBE (Professions Oriented Bilingual Education) experienced difficulty in meeting some of its instructional objectives. The project had sought to provide instructional and supportive services to 200 Spanish-speaking students from Latin America at Louis D. Brandeis High School (Manhattan, New York) and to 100 Vietnamese-born, Chinese-speaking students at Sheepshead Bay High School (Brooklyn, New York). PROBE's goal was to increase career awareness among students of limited English proficiency (LEP) through English as a second language (ESL) and native language arts instruction and through bilingual instruction in content-area subjects. This assessment reports the following findings: (1) students were successful in achieving the proposed English-language achievement objectives; (2) objective mastery in native language arts in Chinese and Spanish could not be assessed as proposed; (3) the project could not achieve its content-area passing rate objective; (4) the attendance rate of project students was significantly higher than the schoolwide rate; (5) the career awareness component was not being implemented at either site; (6) staff development and curriculum development activities were few; and (7) parental involvement in school functions could not be assessed because of missing data. (PS)

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PROJECT PROBE

1985-1986

OEA Evaluation Report

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Grant Number: G00-820-2293

PROJECT PROBE

1985~1986

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Angelo Gatto

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A SUMMARY OF THE REPORT

The Professions Oriented Bilingual Education (PROBE) project, in its second year of Title VI funding, sought to provide instructional and supportive assistance to two different populations of recent immigrants: 200 Spanish-speaking students at Louis D. Brandeis High School in Manhattan; and 100 Vietnamese-born Chinese-speaking students at Sheepshead Bay High School in Brooklyn.

The proposed Title VII staff included a project director and a coordinator located at the central office, a resource teacher and a paraprofessional at each school, and hourly staff for the parental involvement and the curriculum development components of the project.

PROBE students at both sites received English as a second language (E.S.L.) and native language arts instruction. Students at Brandeis also received bilingual content-area instruction through that school's tax-levy program. At Sheepshead Bay, PROBE students received content-area instruction in English in the school's mainstream program. At both sites, PROBE staff members conducted regular tutoring sessions for students who needed it.

Staff development activities were limited to Brandeis High School and included attendance at monthly meetings of the foreign language department, a Board of Education conference for personnel involved in centrally-run Title VII bilingual programs, and a university course in computer science. Other non-instructional activities included the development of computer software for remedial math, and the recruitment of parents for E.S.L. classes at Brandeis and for participation in parents' advisory groups at both schools.

Project objectives were assessed in English language development (Criterion Referenced English Syntax Test [CREST]); mastery of the native language (teacher-made tests); mathematics, science, and social studies (teacher-made examinations); and attendance (school and program records). Quantitative analysis of student achievement data indicates that:

- Students achieved the program objective for English language achievement by mastering an average of 1.8 CREST objectives per month in the fall and 2.1 CREST objectives per month in the spring.
- Data were not provided to assess students' gains on La Prueba de Lectura. However, students attending Spanish language courses attained high passing rates (89 percent in the fall and 80 percent in the spring) compared to standards of other Title VII high school programs.
- The proposed objective for students taking Chinese language courses could not be assessed as proposed. However, the reported passing rates in Mandarin language classes for these students were found to be very high (100 percent both semesters).

- Students' passing rates in content-area courses did not attain the 75 percent passing rate set as an objective; hence the program objective was not met. This might have resulted from the use of a passing criterion much higher than that used in other New York City Title VII high school programs.
- The attendance rate of program students at each site was significantly ($p < .01$) higher than the schoolwide attendance rate, thus meeting the objective.

The following recommendations are aimed at improving the overall effectiveness of the program:

- developing the project's computer literacy component;
- revising the project's content-area objective by setting a realistic criterion based on the performances of E.S.L. high school students citywide;
- reformulating the project's native language arts objective to conform to the standard passing score of 65 percent as the criterion for test performance;
- expanding staff and curriculum development activities to all sites; and
- fully implementing the project's career awareness component.

ACKNOWLEDGEMENTS

The production of this report, as of all Office of Educational Assessment/Bilingual Education Evaluation Unit reports, is the result of a cooperative effort of regular staff and consultants. In addition to those whose names appear on the cover, Arthur Lopatin has edited the reports following the O.E.A. style guide and has written report summaries. Joseph Rivera, Marcia Gilbert, Bruce Roach, Gladys Rosa, and Martin Zurla have worked intensively as word processors to produce and correct reports. Without their able and faithful participation, the unit could not have handled such a large volume of work and still produced quality evaluation reports.

TABLE OF CONTENTS

	<u>PAGE</u>
I. OVERVIEW	1
II. STUDENT CHARACTERISTICS	4
III. FINDINGS	9
IV. CONCLUSIONS AND RECOMMENDATIONS	20
V. APPENDICES	22

LIST OF TABLES

	<u>PAGE</u>
TABLE 1: Number and Percent of Program Students by Language and Country of Birth.	5
TABLE 2: Number and Percent of Program Students by Sex and Grade.	6
TABLE 3: Number of Program Students by Age and Grade.	7
TABLE 4: Number of Students Leaving the Program.	8
TABLE 5: Results of the <u>Criterion Referenced English Syntax Test</u> .	12
TABLE 6: Passing Rates in Content-Area Courses.	16

PROJECT PROBE

Central Office Location: 1171 65th Street
Brooklyn, New York 11219

Participating Schools: Louis D. Brandeis High School
145 W. 84th Street
New York, New York 10024

Sheepshead Bay High School
3000 Avenue X
Brooklyn, New York 11235

Year of Operation: 1985-86, Second Year of Funding

Target Languages: Spanish and Chinese

Number of Participants: 260 students reported

Project Director: Angelo Gatto

I. OVERVIEW

In its second year of funding, Project PROBE proposed to provide instructional and supportive services to 200 Spanish-speaking students from Latin America at Louis D. Brandeis High School, in Manhattan, and to 100 Vietnamese-born, Chinese-speaking students at Sheepshead Bay High School, in Brooklyn.

The project's basic goal was to increase career awareness among students of limited English proficiency (LEP) through English as a second language (E.S.L.) and native language arts instruction, and through bilingual instruction in content-area subjects. These courses were to have been supplemented by career-oriented enrichment activities and services, including a resource/computer center in each school (containing computers, software, and audiovisual materials on content-area subjects and career education) and personal guidance and career counseling. The project also proposed E.S.L./Americanization classes for students' parents. Classroom

instruction was to be provided by each school, and the enrichment activities were to be provided by PROBE.

The program was administered by a project director and coordinator, who were also in charge of several other Title VII multi-site programs and were located at a central office. PROBE's proposed on-site staff consisted of a resource teacher and a paraprofessional at each of the two participating schools, and hourly staff for the project's parental involvement and curriculum development components.

During its first year of funding, the project had not been implemented at Sheepshead Bay, primarily because of hiring difficulties. The E.S.L./foreign language department at this site identified potential participants, while the project director actively recruited Chinese-speaking personnel to start work at the beginning of the 1985-86 school year. According to the project director, 150 students were identified for possible program participation in the fall of 1985.

At Brandeis, PROBE functioned as a supplement to the tax-levy bilingual program for Spanish-speaking LEP students. The project's resource teacher and paraprofessional, hired in February 1985, worked with 200 LEP students, the majority of whom were from the Dominican Republic. The project's activities during its first year consisted of lunchtime seminars. The project also sponsored a trip to La Guardia Community College and held a meeting for parents to discuss college costs and entrance requirements.

During PROBE's first year, computers were purchased and each school made plans for the location and design of the project's computer resource room. Classes for parents had not begun at either school.

In the project's second year, Chinese-speaking personnel were hired for Sheepshead Bay, and a new resource teacher was hired for Brandeis (the original teacher died over the summer).

Students at both sites received E.S.L. and native language arts instruction. PROBE students at Brandeis participated in bilingual content-area classes with the school's other Spanish-speaking students. PROBE students at Sheepshead Bay received content-area instruction in English in the school's mainstream.

II. STUDENT CHARACTERISTICS

During PROBE's second year, data were provided for 190 Spanish-speaking LEP students participating in the project at Brandeis; 70 LEP students were reported at Sheepshead Bay. Of the students for whom information was provided, 76 percent were from Latin America (see Table 1).

All the PROBE students were recent immigrants and spoke their native languages at home. All were reading below grade level and were eligible for free lunch. The majority of the students were female (see Table 2). Fifty-three percent of PROBE students were overage for their grade placement: many of the students came from countries where the educational systems do not parallel our own, or where educational opportunities were limited (see Table 3).

At the end of the academic year, 55 students left the program: most were twelfth graders who graduated or were mainstreamed (see Table 4).

TABLE 1
 Number and Percent of Program
 Students by Language and Country of Birth

Language	Country of Birth	Number	Percent
Spanish	Dominican Republic	132	53
	Ecuador	14	6
	Puerto Rico	6	2
	Central and South America (country unspecified)	37	15
	United States	1	less than 1
Cantonese	People's Republic of China	23	9
	Hong Kong	17	6
	Other Asian	3	1
Mandarin	People's Republic of China	10	4
	Taiwan	6	2
	Other Asian	1	less than 1
Other Chinese	People's Republic of China	1	less than 1
TOTAL		251*	100

*Data were missing for nine students.

- The majority (76 percent) of project students were native speakers of Spanish. The largest number of students in this group were born in the Dominican Republic; the second-largest number were from various Central and South American countries.
- Sixteen percent of the project's students were Cantonese speakers. They were born in the People's Republic of China, Hong Kong, and other Asian countries.
- Approximately six percent of the students were native Mandarin speakers. Most of the students in this group were born in the People's Republic of China or Taiwan.

TABLE 2
 Number and Percent of Program Students
 by Sex and Grade

Grade	<u>Louis D. Brandeis</u>		<u>Sheepshead Bay</u>		<u>All Students</u>		Total
	Male	Female	Male	Female	Male	Female	
9	11	12	14	6	25	18	43
10	30	55	12	7	42	62	104
11	17	31	6	13	23	44	67
12	13	21	4	8	17	29	46
Total Number	71	119	36	34	107	153	260
Percent By Sex	37	63	51	49	41	59	

- Fifty-nine percent of the project students were female.
- The majority of students were in the tenth and eleventh grades.

TABLE 3

Number of Program Students by Age and Grade

Age	Grade 9	Grade 10	Grade 11	Grade 12	Total
13	1	0	0	0	1
14	8	1	0	0	9
15	10	10	2	0	22
16	10	35	6	1	52
17	5	26	24	7	62
18	4	21	21	16	62
19	3	11	8	8	30
20	0	0	3	7	10
21	0	1	2	4	7
TOTAL	41	105	66	43	255

Overage Program Students

Number	22	59	34	19	134
Percent	54	56	52	44	53

Brandeis High School

Number	12	52	27	17	108
Percent	52	60	57	50	57

Sheepshead Bay High School

Number	10	7	7	2	26
Percent	56	37	37	22	40

Note: Shaded boxes indicate expected age range for grade.

- Fifty-three percent of the project's students were overage for their grade.
- The highest percentage of overage students occurred in grade ten (56 percent).
- The higher percentage of overage students occurred at Brandeis (57 percent).

TABLE 4
Number of Students Leaving the Program

Reason For Leaving	Grade 9	Grade 10	Grade 11	Grade 12	Total
Fully Mainstreamed	0	3	8	25	36
Graduated	0	0	0	7	7
Returned to native country	0	1	0	0	1
Dropped out	3	4	4	0	11
TOTAL	3	8	12	32	55

- Thirty-six students leaving the program (65 percent) were fully mainstreamed.
- An additional seven students (13 percent) graduated, and eleven (20 percent) dropped out.

III. FINDINGS

The findings in this section are presented by objective according to the requirements of the evaluation design that was included in the Project PROBE proposal. They include the results of students' performance on standardized and teacher-made tests, of an examination of program materials and records, of on-site visits, and of interviews with project personnel.

OBJECTIVE 1 -- As a result of participating in the program, students will demonstrate an appropriate increase in English-language proficiency.

PROBE students at both sites received E.S.L. instruction with the schools' other LEP students. PROBE staff members conducted regularly scheduled tutoring sessions on a pull-out basis for students in need.

A member of the evaluation team observed an E.S.L. level 1 class at Sheepshead Bay, and two E.S.L. classes (levels 3 and 4) at Brandeis. The 19 students present in the level 1 class were of Chinese, Korean, Haitian, Hispanic, and Turkish backgrounds. The lesson, on the names of kitchen and bathroom items, was conducted entirely in English. A paraprofessional was present to provide individualized assistance.

In the level 3 class, observed at Brandeis, the 27 students who were present were learning to write persuasive essays like those required by the Regents Competency Test. This class was also conducted entirely in English with a paraprofessional present to provide assistance when needed. Although it was a large group, all the students were attentive to the teacher's explanations and eagerly began their assignment: to write a composition telling their parent or guardian why they should be allowed to buy a stereo system.

Sixteen students were present in the E.S.L. 4 class, which was studying the use of prepositions. The number of students who participated was high, and they quickly and frequently volunteered answers to their teacher's questions. English was used throughout the lesson. No paraprofessional was present.

Student Achievement in E.S.L.

The Criterion Referenced English Syntax Test (CREST)* was used to measure the growth of students' knowledge of English syntax. Mean differences between pretest and posttest scores were computed to represent the gain score. The number of objectives mastered per month was computed by dividing the gain by the months of treatment.

The CREST was administered at the beginning and at the end of the fall and the spring semesters. Table 5 presents the test results for students who were pretested and posttested at the same test level during each semester. Complete data were available for 190 students in the fall and 177 students in the spring. (A breakdown of CREST performance by school is presented in Appendix A.)

The program objective calls for an "appropriate" increase in English-language proficiency. Because Chapter I programs consider an average of

*The Criterion Referenced English Syntax Test (CREST) was developed by the Board of Education of the City of New York to measure mastery of instructional objectives of the E.S.L. curricula, and thus was constructed to maximize content validity. The test contains four items per curricular objective, and mastery of an objective is achieved when three of these items are answered correctly. The test measures mastery of 25 objectives at Levels 1 and 2, and 15 objectives at Level 3. The Kuder-Richardson reliability estimates for pretest and posttest administrations of the three levels of the CREST are:

Level 1 -- pretest (.91)/posttest (.96)
Level 2 -- pretest (.94)/posttest (.95)
Level 3 -- pretest (.91)/posttest (.91).

one CREST objective per month as an appropriate level of achievement, this criterion was used to measure the achievement of Project PROBE students.

Examination of Table 5 reveals that the objective was met. Students mastered an average of 1.8 CREST objectives per month in the fall and an average of 2.1 CREST objectives per month in the spring. Eighty percent of the students made gains. Students tested at Level 3 had lower performance rates than those tested at lower levels, partly because fewer skills are tested at that level, and partly because mastery of objectives takes longer at that level.

TABLE 5

Results of the Criterion Referenced English Syntax Test

Test Level	Number of Students	<u>PRETEST</u>		<u>POSTTEST</u>		<u>MASTERY</u>		Mean Mastery Per Month
		Mean	S.D.	Mean	S.D.	Mean	S.D.	
<u>FALL</u>								
1	52	9.4	6.4	15.4	6.6	6.0	4.1	2.1
2	83	11.4	6.1	18.0	5.5	6.6	4.1	2.3
3	56	9.9	3.1	12.1	2.6	2.2	2.0	0.8
TOTAL	<u>190</u>	<u>10.4</u>	<u>5.5</u>	<u>15.6</u>	<u>5.7</u>	<u>5.2</u>	<u>4.1</u>	<u>1.8</u>
<u>SPRING</u>								
1	23	12.6	6.9	17.4	6.4	4.8	6.4	2.2
2	80	11.2	6.3	16.3	5.7	5.1	5.7	2.8
3	74	10.4	3.0	13.0	2.1	2.6	2.1	1.3
TOTAL	<u>177</u>	<u>11.0</u>	<u>5.3</u>	<u>15.1</u>	<u>5.0</u>	<u>4.1</u>	<u>5.0</u>	<u>2.1</u>

- Overall, students mastered an average of 1.8 and 2.1 CREST objectives per month in the fall and spring, thus meeting the project's objective.

OBJECTIVE 2 -- As a result of participating in the program, 80 percent of the students will demonstrate a significant increase in native language achievement.

The Spanish language arts sequence at Brandeis ranged from beginning to advanced levels. All courses were taught by certified teachers and fulfilled state foreign-language requirements.

A member of the evaluation team observed a Spanish language arts class with 13 students in attendance. The class was discussing part of the text Tres Horas, in particular the life of San Martin and his crusade to liberate Chile and Peru. Students participated in the lesson actively making many comments on the material under discussion. All teacher-student exchanges were in Spanish.

At Sheepshead Bay, PROBE students attended one native language arts class in Mandarin each day. According to the N.L.A. teacher, most of the Vietnamese students had good backgrounds in Chinese, having spent time in the People's Republic of China, Taiwan, or Hong Kong. Her aims were to reinforce what the students had already learned and to help them further their understanding and appreciation of the language. In her classes, she taught both the regular Chinese characters (used in Taiwan) and the simplified characters (used in the People's Republic) to enable the students to read all Chinese publications.

Twenty-four students were present in the class that was observed. The students were learning new vocabulary words, and a few had been asked to write sentences using the new words on the blackboard. All the students participated in the lesson, volunteering to read each other's responses, and making corrections when necessary. During the lesson, the paraprofessional helped a few students who were seated in the back of the room.

Student Achievement in Native Language Arts

The proposed objective called for a teacher-made instrument to measure whether students made significant gains in Chinese-language achievement. The data analysis procedure prescribed to determine significance is a correlated t-test, which requires pre and post measures. Since teacher-made tests are usually administered on a posttest basis, the objective could not be assessed as proposed. A widely-used alternative for determining achievement in native language arts courses is to propose that 70 percent of the students will score at or above the 65 percent passing criterion. The passing rates for the 16 students reported enrolled in Mandarin and Cantonese courses were 100 percent both semesters.

The proposed objective called for La Prueba de Lectura* to be used to measure students' gains in Spanish. However, no such data were provided to evaluate the objective. Instead, the passing rates of students enrolled in Spanish-language courses were examined and were found to be 89 percent in the fall and 80 percent in the spring. This is a high achievement rate in comparison with students in other high school bilingual programs.

*The Interamerican Series, La Prueba de Lectura is part of the Interamerican Series of Tests published by the Guidance Testing Associates. The purpose of this series is to measure reading achievement in Spanish for Spanish-speaking students from the western hemisphere. The norms for the test were based on a sample of students from Puerto Rico. However, as these norms may not be appropriate for students studying in other countries, the publishers recommend that local norms be developed for the test. As of this date, local norms are not available. The test has alternate form reliability coefficients ranging from .87 to .90, and validity studies indicate that the test has correlations greater than .80 with other standardized tests of reading, and correlations of about .50 with teacher grades, thus indicating construct validity.

OBJECTIVE 3 -- Eighty percent of all target students will demonstrate an improvement in attitude toward their cultural heritage as indicated by results on an appropriate Cultural Heritage Scale.

No data were provided to evaluate the proposed objective in this area.

OBJECTIVE 4 -- As a result of participating in the program, 80 percent of the students will achieve a passing rate of 75 percent or better in the areas of mathematics, science, social studies, business, health, and careers.

PROBE students at Brandeis received bilingual instruction in mathematics, science, and social studies in the school's tax-levy bilingual program. PROBE staff members were available for tutoring in these subject areas in the project office for three periods per day.

At Sheepshead Bay, PROBE students received content-area instruction in English in the school's mainstream.

Student Achievement in Content-Area Subjects

Table 6 presents the number of students attending content-area courses and the percentage achieving grades of at least 75 percent. It also presents the number of students achieving the standard passing score of 65 percent. Examination of Table 6 reveals that the objective was not met. The proportion of students achieving a grade of 75 percent ranged from 35 to 58; however the proportion who passed these courses with a 65 percent ranged from 72 to 88. The high passing rates at the standard passing score of 65 percent indicate that the objective might be unrealistic and should perhaps be changed to reflect the 65 percent criterion generally used by Title VII high school programs.

TABLE 6
 Passing Rates in Content-Area Courses

Content Area	FALL			SPRING		
	Number of Students	Percent Passing at 75%	Percent Passing at 65%	Number of Students	Percent Passing at 75%	Percent Passing at 65%
Math	228	46	75	216	50	78
Science	203	45	87	176	35	72
Social Studies	220	54	83	232	39	72
Business/ Vocational	83	58	88	135	54	78

- The program objective of 80 percent of the students achieving a 75 percent grade was not met either semester.

OBJECTIVE 5 -- Students will demonstrate an improvement in attitude toward school and professional career plans as indicated by results on a five-point inventory scale.

As part of its career education component, the project proposed to maintain a bilingual, computerized, professions-oriented resource room at each high school. Although the resource rooms had been set up and the computers installed, as of the evaluation visits in May, no formal program for student use of this equipment had been implemented at either site. Reportedly, this was because software in the students' native languages was unavailable and staff members needed to be trained.

To help address these problems, the Brandeis resource teacher had enrolled in a computer course at a local university and had developed computer software in remedial math.

No data were provided to evaluate the proposed objective in this area.

OBJECTIVE 6 -- As a result of participation in the program, the attendance rate of program students will be greater than that of mainstream students.

The statistical significance of the difference between program attendance rates and overall attendance rates at the two schools was determined through the use of a z-test for the significance of a proportion.* This procedure tests whether the difference between two comparable proportions is greater than can be expected from chance variation.

The overall attendance rate for program students at Brandeis was 92 percent, approximately 13 percentage points above the schoolwide attendance rate (79 percent). The z-test results ($z=4.27$) indicate that the difference in attendance rates is significant. The attendance rate for program

*Bruning, J.L. and Kintz, B.L.; Computational Handbook of Statistics; Scott, Foresman and Company, 1968.

students at Sheepshead Bay was 95 percent, or 12 percentage points above the schoolwide attendance rate (83 percent). The z-test results ($z=2.66$) indicate that the difference in attendance rates is also significant in this case. Thus the program objective was met.

OBJECTIVE 7 -- As a result of participation in the program, 85 percent of the staff will demonstrate an increase in awareness of pupil needs, problems, and professional goals as indicated by a five-point inventory of problems and needs.

Data were not available to assess this objective.

OBJECTIVE 8 -- Ninety percent of program staff will demonstrate professional growth by completing courses of study as indicated by college transcripts and certificates.

In the 1985-86 academic year, staff development activities were limited to Brandeis High School. The PROBE staff at this site attended the monthly meetings of the foreign language department as well as a Board of Education conference for personnel involved with centrally-run Title VII bilingual programs. It was also reported that one teacher at this site was taking a computer course at a local university. Because this falls below the proposed 90 percent criterion, the objective in this area was not met.

OBJECTIVE 9 -- As a result of the program, the parents in the program will demonstrate more parental involvement than parents of mainstream students, by demonstrating a higher attendance at school functions.

Project PROBE proposed to offer E.S.L./Americanization classes for students' parents. The E.S.L. class was organized at Brandeis in April, but staff members were still recruiting parents for participation at the time of the evaluation visit in May. During that same period, project staff at Brandeis also organized an advisory group of 18 parents of PROBE

students. According to the resource teacher, eight parents attended the first meeting held that semester.

At Sheepshead Bay, PROBE staff were able to recruit 11 parents to join the advisory group at that site.

However, since attendance data at school functions were not provided for either the program or mainstream group, the achievement of proposed objective could not be assessed.

SECOND-YEAR OBJECTIVE

- Curricula will be developed in the following areas: applied E.S.L. (three levels); native language arts skills; career-related experiences in literature, social studies, and science. New York City Board of Education curricula will be translated into Spanish and Chinese in the following areas: business/secretarial science skills, and computer science. Finally, computer programs will also be developed in targeted subject areas.

According to the resource teacher at Brandeis, computer software was developed in remedial math. No other curriculum development activities were reported; the proposed objective was thus not achieved.

V. CONCLUSIONS AND RECOMMENDATIONS

In its second year of operation, Project PROBE appears to be experiencing some difficulty in meeting some of its instructional objectives. Although students were successful in achieving the proposed objective in English-language achievement, objective for mastery in native language arts in Chinese and Spanish could not be assessed as proposed. However, students' passing rates in Chinese courses were found to be 100 percent both semesters and in Spanish-language courses, passing rates (89 percent in the fall and 80 percent in the spring) were high compared to citywide standards. The lack of data to assess the objectives as proposed suggests that they should be reformulated to reflect the generally-used passing score of 65 percent in coursework as the criterion for performance.

In addition, the project could not achieve its 75 percent content-area passing rate objective. However, students demonstrated high passing rates at the standard passing criterion of 65 percent. These results suggest that the criterion set by the objective is unrealistic and, thus, might be revised. Finally, the attendance rate of project students was significantly higher than the schoolwide rate.

In the non-instructional area, the project proposal's unique feature, its career awareness component, was not being implemented at either site. Staff development and curriculum development activities were few and limited to Brandeis High School. Parental involvement in school functions could not be assessed because of missing data.

It is recommended that, for the project's final year of operation, its computer literacy/career awareness component be implemented without delay. Support and direction in this area should be provided by the central

office. A structured program for the use of the computer equipment and software should be part of the project's curriculum at each school. The resource teacher at Brandeis appears to have expertise in this area that might be tapped to benefit staff members at both sites. Finally, the coordinator must more closely supervise all data-gathering to ensure that objectives can be adequately evaluated.

V. APPENDICES

APPENDIX A

Results of the Criterion Referenced English Syntax Test
at Louis D. Brandeis High School

Test Level	Number of Students	<u>PRETEST</u>		<u>POSTTEST</u>		<u>MASTERY</u>		Mean Mastery Per Month
		Mean	S.D.	Mean	S.D.	Mean	S.D.	
<u>FALL</u>								
1	43	9.3	5.1	15.9	5.7	6.6	4.0	2.4
2	68	10.3	5.7	17.3	5.5	7.0	4.2	2.4
3	39	10.2	2.8	12.1	2.6	1.9	1.8	0.7
TOTAL	<u>150</u>	<u>10.0</u>	<u>4.9</u>	<u>15.5</u>	<u>5.4</u>	<u>5.5</u>	<u>4.2</u>	<u>1.9</u>
<u>SPRING</u>								
1	11	12.5	5.0	18.3	4.5	5.8	2.9	3.4
2	71	10.2	5.7	15.6	5.5	5.4	3.3	3.2
3	50	9.5	2.9	12.5	2.3	3.0	1.9	1.9
TOTAL	<u>132</u>	<u>10.2</u>	<u>4.8</u>	<u>14.6</u>	<u>4.8</u>	<u>4.4</u>	<u>3.0</u>	<u>1.8</u>

Results of the Criterion Referenced English Syntax Test
at Sheepshead Bay High School

Test Level	Number of Students	<u>PRETEST</u>		<u>POSTTEST</u>		<u>MASTERY</u>		Mean Mastery Per Month
		Mean	S.D.	Mean	S.D.	Mean	S.D.	
<u>FALL</u>								
1	8	9.8	11.4	13.1	10.2	3.3	3.9	1.2
2	15	16.1	5.8	21.6	3.4	5.5	3.4	2.0
3	17	9.2	3.9	12.4	2.5	3.2	2.3	1.2
TOTAL	<u>40</u>	<u>11.9</u>	<u>7.2</u>	<u>16.0</u>	<u>6.7</u>	<u>4.1</u>	<u>3.2</u>	<u>1.5</u>
<u>SPRING</u>								
1	12	12.6	8.5	16.7	8.0	4.1	2.6	1.5
2	9	19.1	5.7	22.1	3.6	3.0	2.8	1.1
3	24	12.2	2.3	13.9	1.4	1.7	1.8	0.6
TOTAL	<u>45</u>	<u>13.7</u>	<u>5.8</u>	<u>16.3</u>	<u>5.4</u>	<u>2.6</u>	<u>2.4</u>	<u>1.0</u>