Project HAITI STARS (now in its fourth year) was designed to provide Haitian-, Spanish-, and Chinese-speaking high school students of limited English proficiency (who scored at or below the 40th percentile on the Language Assessment Battery) in three schools in Brooklyn and Queens, New York with instruction in the beginning through transitional levels of English-as-a-Second-Language (ESL) and native language arts (NLA) as well as bilingual instruction in the content areas. The project was also to offer computer science classes, personal and career guidance, curriculum and staff development, and parental involvement activities. Of the 413 students who enrolled in the project, 336 participated in both semesters. The project was fully implemented and met its objectives for career counseling, staff and parental involvement, and NLA. The project also supplied data to evaluate objectives for grade retention/referral to special education or curriculum development. The project did not meet its objective for ESL nor did it provide data to evaluate objectives for gifted and talented programs and enrollment in postsecondary education institutions. Recommendations based on the projects' findings are included and data collection and analysis methods and instructional materials are appended. (JP)
OREA Report

Higher Achievement and Improvement
Through Instruction with Computers and Scholarly
Transition and Resource Systems Program
(Project HAITI STARS)
Transitional Bilingual Education Grant T003A80178
1991-92

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7/7/92

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ACKNOWLEDGMENTS

This report has been prepared by the Bilingual, Multicultural, and Early Childhood Evaluation Unit of the Office of Research, Evaluation, and Assessment. Thanks are due to Marc Augustin for collecting the data and writing the report.

Additional copies of this report are available from:

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Office of Research, Evaluation, and Assessment
New York City Board of Education
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Brooklyn, NY 11201
(718) 935-3790  FAX (718) 935-5490
FOREWORD

The body of this report is preceded by an Extract which presents an overview of salient points of the project: funding cycle; enrollment figures; background of students served; admission criteria; and programming features, strengths, and limitations, including the outcome of all objectives. The extract also presents the conclusions drawn by the Office of Research, Evaluation, and Assessment (OREA) about the program and its recommendations for program improvement.

The extract is followed by the body of the report, titled Program Assessment. This includes such information as staffing, program implementation, and outcome and implementation objectives. Instructional objectives are presented first, followed by noninstructional objectives. The report then addresses those aspects of programming mandated by Title VII regulations that do not have specifically stated objectives. This may be information on attendance and dropout rate, grade retention, mainstreaming, referrals out of the program to meet special needs of the students, and withdrawals. A case history concludes the report.

Data for this profile were collected and analyzed using a variety of procedures, which are described in Appendix A following the text.
Higher Achievement and Improvement Through Instruction with Computers and Scholarly Transition and Resource Systems Program (Project HAITI STARS)

Transitional Bilingual Education Grant T003A80178
1991-92

EXTRACT

PROJECT DIRECTOR: Ms. Joelle Dufresne

FUNDING CYCLE: Year 4 of 5

SITES

<table>
<thead>
<tr>
<th>School</th>
<th>Borough</th>
<th>Grade Levels</th>
<th>Enrollment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheepshead Bay High School</td>
<td>Brooklyn</td>
<td>9-12</td>
<td>(fall) 120  (spring) 123</td>
</tr>
<tr>
<td>Andrew Jackson High School</td>
<td>Queens</td>
<td>9-12</td>
<td>118</td>
</tr>
<tr>
<td>Far Rockaway High School</td>
<td>Queens</td>
<td>9-12</td>
<td>101</td>
</tr>
</tbody>
</table>

*The project enrolled 413 students (21 fewer than in the previous year), 336 of whom participated both semesters. Male students numbered 181, female students 199; gender was not stated for 33.

STUDENT BACKGROUND

<table>
<thead>
<tr>
<th>Native Language</th>
<th>Number of Students</th>
<th>Country of Origin</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haitian</td>
<td>136</td>
<td>Haiti</td>
<td>136</td>
</tr>
<tr>
<td>Spanish</td>
<td>130</td>
<td>China</td>
<td>89</td>
</tr>
<tr>
<td>Chinese</td>
<td>126</td>
<td>El Salvador</td>
<td>55</td>
</tr>
<tr>
<td>Hindi</td>
<td>5</td>
<td>Hong Kong</td>
<td>31</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>Dominican Republic</td>
<td>26</td>
</tr>
<tr>
<td>Unreported</td>
<td>9</td>
<td>Puerto Rico</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>India</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guatemala</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Honduras</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unreported</td>
<td>6</td>
</tr>
</tbody>
</table>

Median Years of Education in Native Country: 9.0; in the United States: 2.0

Percentage of Students Eligible for Free Lunch Program: 89.3

ADMISSION CRITERIA

The project admitted students who scored at or below the 40th percentile on the Language Assessment Battery (LAB) and were recommended by the project's bilingual counselor. Teacher and parent requests were acknowledged. Criterion-Referenced English Syntax Test (CREST) results were used for placement.
PROGRAMMING

Design Features

Project HAITI STARS was designed to provide Haitian-, Spanish-, and Chinese-speaking students of limited English proficiency (LEP) with instruction in the beginning through transitional levels of English as a Second Language (E.S.L.) and Native Language Arts (N.L.A.) as well as bilingual instruction in the content areas. The project also was to offer computer science classes, personal and career guidance, curriculum and staff development, and parental involvement activities.

Capacity building. At the end of the project's Title VII funding, the three schools involved intend to continue the project.

Strengths and Limitations

Project HAITI STARS provided individual attention that allowed students to work at their own pace.

Resource specialists at two sites reported that more staff was needed.

CONCLUSIONS AND RECOMMENDATIONS

Project HAITI STARS was fully implemented. As it had done last year, the project met its objectives for career counseling, staff development, and parental involvement. While it had not met the objective last year, this year the project met its objective for Native Language Arts (N.L.A.). Last year Project HAITI STARS had not supplied data to evaluate objectives for grade retention/referral to special education or curriculum development; this year the project met objectives in those areas. The project met its objective for remedial programs. As it had done last year, the project partially met its objectives for content area subjects and dropout prevention. Last year it fully met its computer science instruction and attendance objectives; this year it partially met them. The project did not meet its objective for E.S.L. although it had met it last year. As had occurred last year, due to lack of sufficient data, OREA could not evaluate objectives for gifted and talented programs/enrollment in post-secondary education institutions. While the project met its objective for staff awareness of pupil needs and problems last year, this year it did not provide the data to evaluate it.

The conclusions, based on the findings of this evaluation, lead to the following recommendations:

• Provide OREA with the necessary data to evaluate all objectives.

• Explore ways of increasing the number of students who have increased their proficiency in English, possibly by offering more individualized instruction.

• Intensify efforts to increase learning in the computer science course.
PROGRAM ASSESSMENT

STAFFING

Title VII Staff (Total 8)

<table>
<thead>
<tr>
<th>Title</th>
<th>Degree</th>
<th>Language Competencies</th>
<th>Title VII Funding</th>
<th>Other Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Director</td>
<td>M.S.</td>
<td>Haitian, French</td>
<td>Full time</td>
<td></td>
</tr>
<tr>
<td>Resource Specialist</td>
<td>M.S.</td>
<td>Haitian, French</td>
<td>Full time</td>
<td></td>
</tr>
<tr>
<td>Guidance Counselor</td>
<td>M.S.</td>
<td>Spanish</td>
<td>Part-time</td>
<td>P.C.E.N.</td>
</tr>
<tr>
<td>Resource Specialist</td>
<td>M.A.</td>
<td>Chinese</td>
<td>Full time</td>
<td></td>
</tr>
<tr>
<td>Resource Teacher</td>
<td>M.A.</td>
<td>Chinese</td>
<td>Full time</td>
<td></td>
</tr>
<tr>
<td>Paraprofessional</td>
<td>B.A.</td>
<td>Chinese</td>
<td>Full time</td>
<td></td>
</tr>
<tr>
<td>Paraprofessional</td>
<td>A.A.</td>
<td>Spanish</td>
<td>Full time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H.S.</td>
<td>Haitian, French</td>
<td>Full time</td>
<td></td>
</tr>
</tbody>
</table>

Other Staff Working With Project Students (Total 26)

<table>
<thead>
<tr>
<th>Title</th>
<th>Degrees</th>
<th>Certification</th>
<th>Language Competencies and Teaching/Learning Proficiencies (TP/CP)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>25 P.D.</td>
<td>1 E.S.L</td>
<td>Spanish TP 7, French TP 1, CP 1, Chinese TP 1</td>
</tr>
<tr>
<td>Unreported</td>
<td>1 Ph.D.</td>
<td>1 Spanish</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17 M.A.</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 M.S.</td>
<td>Unreported</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 B.A.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IMPLEMENTATION AND OUTCOMES (Objectives prefaced by •)

English as a Second Language (E.S.L.)

E.S.L. CLASSES

<table>
<thead>
<tr>
<th>Sites</th>
<th>Level</th>
<th>Periods Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fall</td>
</tr>
<tr>
<td>Far Rockaway High School</td>
<td>Beginning</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Advanced</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Transitional</td>
<td>5</td>
</tr>
<tr>
<td>Andrew Jackson High School</td>
<td>Beginning</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Advanced</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Transitional</td>
<td>10</td>
</tr>
<tr>
<td>Sheepshead Bay High School</td>
<td>Beginning</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Advanced</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Transitional</td>
<td>10</td>
</tr>
</tbody>
</table>

*Teaching Proficiency (TP): Competent to teach in this language. Communicative Proficiency (CP): Conversational capability only.
Instructional teaching strategies included cooperative learning, staff tutoring, peer tutoring, and teacher-led classes using a text-interpretative approach.

- Seventy-five percent of project students will demonstrate a significant improvement in English language proficiency.

Evaluation Instrument: Language Assessment Battery (LAB)*


Number of students for whom pre- and posttest data were reported: 284

Percent of students with pretest/posttest gains: 57.7

Mean gain: 6.7 N.C.E.s (s.d.=9.4)

Mean gain is statistically significant (t=12.01, p<.05).

Project did not meet E.S.L. objective.

Native Language Arts (N.L.A.)

Students lacking literacy skills in native language (estimated): Spanish 15 percent, Chinese 10 percent, Haitian 75 percent.

N.L.A. CLASSES

<table>
<thead>
<tr>
<th>High School</th>
<th>Level</th>
<th>Periods Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far Rockaway</td>
<td>Beginning</td>
<td>5 Spanish</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>5 Spanish</td>
</tr>
<tr>
<td></td>
<td>Advanced</td>
<td>5 Spanish</td>
</tr>
<tr>
<td></td>
<td>Advanced Placement</td>
<td>5 Spanish</td>
</tr>
<tr>
<td>Andrew Jackson</td>
<td>Intermediate</td>
<td>10 Haitian</td>
</tr>
<tr>
<td>Sheepshead Bay</td>
<td>Intermediate</td>
<td>5 Chinese</td>
</tr>
</tbody>
</table>

All N.L.A. classes used computer software to build vocabulary and to improve reading and writing skills in the native language. Teachers used group learning, peer tutoring, individualized training, and hands-on activities as N.L.A. instructional strategies. Teachers and paraprofessionals offered afterschool tutoring, and parents were asked to reinforce study at home.

Students in intermediate Haitian N.L.A. read l.a Robe et Le Couteau by Campbell and Bauer. The advanced class read Le Petit Prince by St. Exupéry and Les Jeux Sont Fais by Jean Paul Sartre.

*OREA used a gap reduction design to evaluate the effect of supplementary instruction on project students' performance on the LAB. Since all LEP students in New York City are entitled to such instruction, no valid comparison group exists among these students, and OREA used instead the group on which the LAB was normed. Test scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.06. It is assumed that the norm group has a zero gain in N.C.E.s in the absence of supplementary instruction and that participating students' gains are attributable to project services.

- Seventy-five percent of program students will achieve a passing grade of 65 or better in Haitian/French language arts.

Evaluation Indicator: final course grades.

<table>
<thead>
<tr>
<th>Language</th>
<th>Enrollment</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall</td>
<td>Spring</td>
</tr>
<tr>
<td>Haitian</td>
<td>47</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Spring</td>
</tr>
<tr>
<td></td>
<td>89.4</td>
<td>86.4</td>
</tr>
</tbody>
</table>

Project met objective for Haitian/French language arts.

- Seventy-five percent of Spanish dominant students will demonstrate a significant increase in Spanish language achievement.

Evaluation Indicator: final course grades.

<table>
<thead>
<tr>
<th>Language</th>
<th>Enrollment</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall</td>
<td>Spring</td>
</tr>
<tr>
<td>Spanish</td>
<td>80</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Spring</td>
</tr>
<tr>
<td></td>
<td>92.5</td>
<td>93.3</td>
</tr>
</tbody>
</table>

Project met objective for Spanish students in N.L.A.

The project did not have an objective for Chinese N.L.A.

Content Area Subjects

Project students took bilingual courses in mathematics, science, and social studies. Instructional strategies included the use of videos, cooperative learning, group discussion, and the traditional lecture approach. Teachers also used computers to build students' skills in all three content area subjects. Paraprofessionals were available for individual assistance. Instructional materials are listed in Appendix B.

- Seventy-five percent of all target students will achieve at least the passing grade of 65 or better in the subject areas of mathematics, social studies, and science.

Evaluation Indicator: final course grades.
PASSING GRADES IN CONTENT AREA COURSES

<table>
<thead>
<tr>
<th>High School</th>
<th>Subject</th>
<th>Fall Enrollment</th>
<th>Fall Percent Passing</th>
<th>Spring Enrollment</th>
<th>Spring Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheepshead Bay</td>
<td>Mathematics</td>
<td>96</td>
<td>95.8</td>
<td>100</td>
<td>88.0</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>94</td>
<td>86.2</td>
<td>93</td>
<td>83.9</td>
</tr>
<tr>
<td></td>
<td>Social Studies</td>
<td>101</td>
<td>95.0</td>
<td>114</td>
<td>93.9</td>
</tr>
<tr>
<td>Andrew Jackson</td>
<td>Mathematics</td>
<td>42</td>
<td>73.8</td>
<td>43</td>
<td>65.1</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>49</td>
<td>67.3</td>
<td>60</td>
<td>75.0</td>
</tr>
<tr>
<td></td>
<td>Social Studies</td>
<td>43</td>
<td>83.7</td>
<td>51</td>
<td>84.3</td>
</tr>
<tr>
<td>Far Rockaway</td>
<td>Mathematics</td>
<td>96</td>
<td>50.3</td>
<td>115</td>
<td>52.2</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>84</td>
<td>83.3</td>
<td>97</td>
<td>81.4</td>
</tr>
<tr>
<td></td>
<td>Social Studies</td>
<td>89</td>
<td>88.8</td>
<td>107</td>
<td>89.7</td>
</tr>
</tbody>
</table>

The objective was met in all courses at Sheepshead Bay High School. At Andrew Jackson High School, the objective was met for social studies both semesters, and science in the spring but not in the fall. It did not meet the objective for mathematics although it came very close in the fall. At Far Rockaway High School, the objective was met for science and social studies in both semesters, but not for mathematics in either semester.

Project partially met content area objective.

Computer Science Instruction

Computer resource centers were installed at all three sites and all had a good supply of software programs. The instructional materials used are listed in Appendix B.

- Seventy-five percent of program students will show significant gains in computer science (Basic language and/or COBOL) and achieve a passing grade of 65 or better.

Evaluation Indicator: final course grades.

Twenty-five students enrolled in the fall semester, and 88 percent of these students passed; 23 enrolled in spring, and 73.9 percent of these students passed.

Project met computer science objective during the fall semester and came very close to meeting it in spring.

Career Counseling

- All program students will meet the Guidance Counselor on an individual basis for advisement at least two times during the school year for career orientation and planning.

Evaluation Indicator: program records.

The project director reported that all program students met with the guidance counselor on an individual basis at least two times during the school year for career orientation and planning.

Project met career counseling objective.
Other Activities

The program held cultural and career-related field trips and career fairs. All three sites published a yearly magazine. Far Rockaway High School also published a monthly bilingual project newsletter.

Attendance

- Program students' attendance rate will be 10 percent greater than mainstream students'.

Evaluation Indicator: attendance records.

<table>
<thead>
<tr>
<th>High School</th>
<th>Project Students</th>
<th>Mainstream Students</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheepshead Bay</td>
<td>95.2</td>
<td>82.1</td>
<td>16.0 *</td>
</tr>
<tr>
<td>Andrew Jackson</td>
<td>98.8</td>
<td>80.3</td>
<td>23.0 *</td>
</tr>
<tr>
<td>Far Rockaway</td>
<td>89.7</td>
<td>82.8</td>
<td>8.3 *</td>
</tr>
</tbody>
</table>

*p < .05

Project met attendance objective at two sites and came very close to meeting it at the third.

Dropout Prevention

- The dropout rate of the students will be less than mainstream students.

Evaluation Indicator: school records.

<table>
<thead>
<tr>
<th>High School</th>
<th>Project Students</th>
<th>Mainstream Students</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheepshead Bay</td>
<td>0.0</td>
<td>4.1</td>
<td>-4.1</td>
</tr>
<tr>
<td>Andrew Jackson</td>
<td>0.7</td>
<td>5.0</td>
<td>-4.3</td>
</tr>
<tr>
<td>Far Rockaway</td>
<td>12.9</td>
<td>5.0</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Although the dropout rate at Far Rockaway High School decreased 15.4 percent from the previous year, it continued to be much higher than the mainstream rate, which allowed Project HAITI STARS to only partially meet the objective.

Project partially met objective for dropout prevention.

Student Grade Retention/Placement in Special Education Classes

Students considered in need of special education were referred by their teachers to the School-based Support Team (S.B.S.T.) for interviewing and testing. The S.B.S.T. at one of the sites had a team member who spoke the project students' native language. At the two other sites, the resource specialists spoke the project students' native languages and were available to assist in evaluations. The team considered numerous factors when evaluating a student, including background, attitude, and test results.

- Students' grade retention and referral to or placement in special education classes rate will be 10 percent less than mainstream students.

Evaluation Indicator: school records.
As in the previous year, project did not provide mainstream figures. However, the zero referral rates could not be improved upon and the grade retention rate for Sheepshead Bay High School was lower than the usual school retention rate and far lower than last year's 21.8 percent.

Project met grade retention/special education objective.

**Gifted and Talented Programs/Enrollment in Post-Secondary Education Institutions**

- Placement in programs for the gifted and talented and enrollment in post-secondary education institutions will be 10 percent greater than that of mainstream students.

Evaluation Indicator: school records.

The project did not refer any students to gifted and talented programs nor were any mainstream figures submitted to OREA for assessment. This was true in the previous year also.

OREA could not evaluate objective for referral to gifted and talented programs/enrollment in post-secondary education institutions.

**Remedial Programs**

- The rate of referral to special programs, e.g., P.C.E.N. remedial programs, will be 10 percent less than mainstream students.

Evaluation Indicator: school records.

The project did not refer any students to remedial programs nor were any data submitted for mainstream students. However, the zero referral rate could not be improved upon.

Project met remedial programs objective.

**Mainstreaming**

Project HAITI STARS mainstreamed two students (0.5 percent of participants), one student less than in the previous year.

Academic achievement of former project students in mainstream. Data were not submitted on any former program participants.
Staff Development

- Ninety percent of program staff will demonstrate professional growth by passing and completing courses of study and by attending in-service training sessions.

Evaluation Indicator: program records.

The project director reported that 90 percent of all program staff completed courses of study and attended in-service training sessions.

Project met staff development objective.

Staff Awareness of Pupil Needs and Problems

- Eighty-five percent of staff will show an increase in awareness of pupil needs and pupil problems.

Evaluation Instrument: OREA-developed 5-point Likert scale.

The project did not provide this data, although it met this objective in the previous year.

OREA could not assess objective for staff awareness of pupil needs and problems.

Curriculum Development

- Four instructional guides in the areas of mathematics, science, social studies, native language arts, and computer science in the native language will be developed.

- The curriculum specialists will develop four additional interdisciplinary subject matter curriculum guides for teaching science and social studies in the native language.

Evaluation Indicator: program inventory.

Instructional guides for mathematics, science, social studies, native language arts, and computer science were developed. Curriculum specialists were hired to develop additional interdisciplinary curriculum guides for teaching science and social studies in the native languages of the students.

Project met both curriculum development objectives.

Parental Involvement

All three schools had a bilingual Parents Advisory Committee (PAC), and parents were heavily involved in meetings, open school days, classroom visits, and bilingual conferences.

- Program students' parents will demonstrate 10 percent more involvement than parents of mainstream students.

Evaluation Indicator: project records.

Attendance of program parents at parent activities was over 10 percent higher than was the attendance of mainstream parents at all three sites.

Project met parental involvement objective.

CASE HISTORY

Project did not provide a case history.
APPENDIX A
DATA COLLECTION AND ANALYSIS

COLLECTION

OREA evaluation consultants visit sites and interview key personnel. The project director gathers data and, with the consultant, completes forms (as shown below) as necessary.

Student Data Form

This one-page form is filled out by staff for each participating and mainstreamed student. OREA gathers data from this form on backgrounds, demographics, academic outcomes, attendance, referrals, and exit from the program.

Project Director's Questionnaire

The Project Director's Questionnaire includes questions on staff qualifications, program implementation, periods of instruction, and instructional materials and techniques.

Project Director's Interview

The interview gathers information on program and student or staff characteristics not supplied by the Project Director's Questionnaire. The interview also allows project staff to offer qualitative data or amplify responses to the questionnaire.

Citywide Test Scores

OREA retrieves scores centrally from the Language Assessment Battery (LAB) and other citywide tests. For evaluation purposes, these test scores are reported in Normal Curve Equivalents (N.C.E.s). N.C.E.s are normalized standard scores with a mean of 50 and a standard deviation (s.d.) of 21.06. They constitute an equal-interval scale in which the distance is the same between any two adjacent scores. A gain of 5 N.C.E.s is the same whether it is at the lower or the higher end of the scale. N.C.E.s can be used in arithmetic computations to indicate group progress. (Percentile scales, although more familiar to many, are unsuitable for such computations since they are not equal-interval.)

Likert-Type Surveys

Likert-type surveys, in which respondents mark their opinions on a scale from one to five, are used in a variety of ways. They examine student attitudes (i.e., toward school and career, native language use, and native and mainstream cultures). They also assess staff and parent attitude and reactions to workshops and other activities.

ANALYSIS

Gap Reduction Evaluation Design

OREA uses a gap reduction design for measuring changes in standardized tests. Since no appropriate non-project comparison group is available in New York City, where all students of limited English proficiency (LEP) are entitled to receive supplementary services, OREA compares the progress of participating students with that of the group on which the test was normed. It is assumed that the norm group would show a zero gain in the absence of instruction, and gains made by project students could be
attributed to project services. Scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.06. (See "Citywide Test Scores" above.)

To test whether pre/posttest gains are greater than could be expected by chance alone, OREA uses a t-test. To test whether a difference between two proportions (e.g., program and mainstream attendance rates) is greater than could be expected by chance, OREA uses a z-test and reports the differences between the two proportions. The level of significance is set at .05 for all tests.

Techniques For Minimizing Error

The evaluation procedures minimize error by providing for proper administration of evaluation instruments through a combination of testing at 12-month intervals, appropriate analysis procedures and reporting.

Instruments of measurement include the LAB (see above), the Degrees of Reading Power (D.R.P.) test, the Metropolitan Achievement Test--Mathematics (MAT-Math), El Examen de Lectura en Español (ELE), Likert-type scales (see above), and project-developed tests. Except for Likert scales and project-developed tests, these instruments are scored on a citywide basis at the Scan Center of the New York City Public Schools.
APPENDIX B

INSTRUCTIONAL MATERIALS

E.S.L.

Apple IIC and Tandy 1000 Computers
Franklin Computers (speaking dictionary companion)
Typewriters, video and audio cassette recorders

Grammar in Action
English Step by Step
Great American Story
Real Stories

Newbury House and Co.
Regents
Prentice Hall, Regents

N.L.A.

Chinese Language Arts (vol. III)
Galeria Hispánica
El Cuento
Aventuras de Don Quijote
La Robe et le Couteau
Les Jeux Sont Fais

Lesley College
McGraw-Hill Book Co.
Holt, Rinehart & Winston
Princeton University Press

Content Areas

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