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ABSTRACT

The Computer Writing Skills for Limited English Proficient Students Project (COMPUGRAFIA.LEP) was partially implemented in 1987-88, during the first year of a 3-year cycle. It is a staff development program serving 35 bilingual special education classes with 414 limited-English-proficient Hispanic students in 10 elementary schools in the Bronx. Project COMPUGRAFIA.LEP was designed to establish computer centers at all 10 sites but established centers at only 2 sites. The project met its objectives in native language arts, computer skills, and career education at two of the centers, but did not meet its English-as-a-Second-Language (ESL), staff development, curriculum development, or parental involvement objectives. Recommendations include completing installation of the computers, establishing parent ESL classes, organizing a program advisory board, implementing staff development for the classroom teacher, and establishing a system for providing regular information about the program to the parents. (MSE)

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EVALUATION SECTION REPORT

COMPUTER WRITING SKILLS FOR
LIMITED ENGLISH PROFICIENT
STUDENTS PROJECT

(COMPUGRAFIA.LEP)

1987-88



EVALUATION SECTION
John E. Schoener, Chief Administrator
June 1989

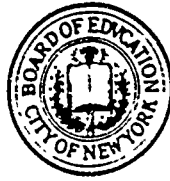
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(COMPUGRAFIA.LEP)
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5/22/89

COMPUTER WRITING SKILLS FOR
LIMITED ENGLISH PROFICIENT STUDENTS
(COMPUGRAFIA.LEP)*
1987-1988

SUMMARY

- The Computer Writing Skills for Limited English Proficient Students project was partially implemented. During the 1987-88 school year the project only established computer centers in two out of the ten participating schools. However, the project did provide staff development workshops, curriculum development, and activities for parental involvement.
- The project met its native language arts, computer skills and career education objectives at two of the ten centers. It did not meet its E.S.L., staff development, curriculum development, or parental involvement objectives.

In its first year of a three-year E.S.E.A. Title VII-funding cycle, the Computer Writing Skills for Limited English Proficient Students project (COMPUGRAFIA.LEP) is a staff development program serving 35 bilingual special education classes with 414 Hispanic students in ten elementary schools in the Bronx. Project COMPUGRAFIA.LEP was designed to establish computer centers in each of the participating schools.

Students were pretested on the Language Assessment Battery (LAB) and the Spanish LAB to assess their E.S.L. and native language arts (N.L.A.) skills respectively. Students who scored below the twenty-first percentile on the English LAB were selected for the program. Teacher recommendations and parental consent were also necessary.

The program staff provided expertise to the teachers through lesson plans and demonstration lessons in site classrooms as well as through workshops and the products of the project curriculum development.

Since only 48 percent of the participating students made significant gains on the English LAB, the project did not meet its proposed E.S.L. objective. COMPUGRAFIA.LEP did, however, achieve its N.L.A. objective as well as its computer skills and career education objectives. COMPUGRAFIA.LEP did not achieve its staff development, curriculum development or parental involvement objective.

*This summary is based on the final evaluation of the "Computer Writing Skills for Limited English Proficient Students (COMPUGRAFIA.LEP) 1987-88" prepared by the OREA Bilingual Education Evaluation Unit.

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

- Complete the installation of the computers.
- Establish parent E.S.L. classes.
- Organize the Program Advisory Board.
- Implement staff development for the classroom teacher.
- Establish a system to give regular information about the program to the parents. A periodic bilingual newsletter might serve this purpose.

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I. INTRODUCTION

This report documents the Office of Research, Evaluation, and Assessment's (OREA's) evaluation of the Elementary and Secondary Education Act (E.S.E.A.) Title VII program, Computer Writing Skills for Limited English Proficient Students Project (COMPUGRAFIA.LEP). The program is in the first year of a three-year funding cycle. It is a teacher-training program serving 35 bilingual special education classes in ten elementary schools in the Bronx.

PARTICIPATING STUDENTS

The program served 414 Hispanic bilingual special education students in grades one through six. Of the 361 students for whom data were available, most came from Puerto Rico (42 percent) or were born in the U.S. (45 percent). Outside of school, their communication was totally in Spanish. The disabilities which qualified them for special education were autism and other emotional disturbances, learning disabilities, mental retardation, deafness, speech impairment, orthopedic impairment, multiple handicaps, and other health problems. To qualify for bilingual education, they had to have scored below the twenty-first percentile on the English version of the Language

Assessment Battery (LAB).*

Almost all students (99 percent) entered the program during the fall of 1987 or the spring of 1988. Of the 379 students for whom both age and grade data were available, the largest numbers were in grades four and five (26 and 28 percent respectively). (See Table 1.) Overall, 40 percent of the students were overage for their grade placement.

DELIVERY OF SERVICES

The program staff provided expertise to classroom teachers in the areas of English as a second language (E.S.L.); career explanation and work readiness education integrated into content area subjects; and basic elements of computer literacy and computer-assisted instruction in E.S.L. and native language arts (N.L.A.) writing skills. Resource specialists and workshops provided lesson plans and gave demonstration lessons in the site classrooms. The computer-related instruction was expected to enhance participating students' self-esteem while improving their writing skills. The program also developed a parental component to help program parents become involved in the educational processes of their children.

*The Language Assessment Battery (LAB) was developed by the Board of Education of the City of New York to measure the English-language proficiency of nonnative speakers of English in order to determine whether their level of English proficiency is sufficient to enable them to participate effectively in classes taught in English. Students scoring below the twenty-first percentile on the LAB are entitled to bilingual and E.S.L. services.

TABLE 1

Number of Program Students by Age and Grade^a

Age	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	TOTAL
7	2	3	2	1			8
8	3	20	12	2	1		38
9	1	12	29	8	1		51
10		2	30	50	8		90
11		2	2	31	48	11	94
12				5	44	29	78
13					3	17	20
TOTAL	6	39	75	97	105	57	379 ^b

Overage Students

Grade	1	2	3	4	5	6	Total
Number	4	16	32	36	47	17	152
Percent	66.7	41.0	42.7	37.1	44.8	29.8	40.1

Note: Shaded boxes indicate expected age range for grade.

^aAge and grade on June 30, 1988.

^bData were missing for 35 students.

- Most students were in grades three, four, and five.
- Forty percent of program students were overage for their grade.

MATERIALS AND RESOURCES

Materials included 35 Apple IIe 125K computers, 35 Imagewriter II printers, 70 5.25 disk drives, and one computer and printer and two disk drives for each classroom. The project had to purchase computer tables after the start of the program. COMPUGRAFIA.LEP also distributed textbooks, dictionaries, and encyclopedias to each classroom.

STAFF

Project staff included two Title VII resource teachers and a Title VII secretary. Tax-levy funds paid the project director and program coordinator. The program coordinator was also the coordinator for the Bilingual Services Division of Special Education of the Bronx Regional Office.

The program director had a Ph.D. and 22 years of relevant experience. All project staff were fluent in English and Spanish.

SETTING

Seven of the ten schools participating in the program were located in the south Bronx; the other three were located in the northeast section of the Bronx. Eight of the sites were located in low-income sections of the borough, with an unstable immigrant population living in public housing or apartment buildings. Two sites were in low middle-income neighborhoods, with a more stable population residing in two- or three-family, privately owned houses. The neighborhood contained a mixed population of white, Hispanic, and black middle-income families.

The program's central office was located in the Throggs Neck area of the Bronx. The building also housed the Bronx offices of the New York City Board of Education and P.S. 8.

HISTORY OF THE PROGRAM

The sites were selected on the basis of the needs of special education children, who had never received Title VII aid before, and whether the schools had administrations who would back the program, its procedures, and its goals. The program was funded for September 1987 but did not begin operations until January 28, 1988.

REPORT FORMAT

The report was organized as follows: Chapter II presents an analysis of the qualitative and quantitative findings of the evaluation; and Chapter III offers conclusions and recommendations based on the findings of the evaluation.

II. EVALUATION FINDINGS

The Office of Research, Evaluation, and Assessment (OREA) evaluated COMPUGRAFIA.LEP by inspecting student test results and program records, interviewing school and project personnel, and observing classes.

The field consultant observed two special education science classes, two special education N.L.A. classes, two special education E.S.L. classes (one in reading, one in cultural awareness), two special education computer classes, one teacher training workshop and one program parents' meeting. Interviews were conducted with the program director, the program coordinator, site teachers, and site principals. OREA distributed, tabulated, and analyzed data forms to obtain student demographic and achievement information.

INSTRUCTIONAL ACTIVITIES

The project proposed instructional objectives in E.S.L., N.L.A., computer-based skills, and career education.

English as a Second Language

- By the conclusion of the first year of funding, 70 percent of the participating students will demonstrate a significant increase in percentile score in their performance on the Language Assessment Battery (LAB) English administered on a pre- and posttest basis.

Implementation. An OREA field consultant observed an E.S.L. BIS II cultural awareness lesson. Eight second- and third-grade students were present. The objective of the lesson was to study

the English past tense. The students read two paragraphs written on the chalkboard about a trip to the New York Experience and pointed out past tense verbs contained in the selection. All teacher-student interchange was in English.

Outcomes. In order to measure the development of English language skills, the OREA data analyst computed a correlated t-test using pre- and posttest percentile scores on the LAB. The t-test determined whether the difference between pre- and posttest mean scores was significantly greater than would be expected from chance variation alone.

There were complete LAB scores for 232 students. The gains were statistically significant ($p < .05$). (See Table 2.) The effect size, however, was small (.18), showing very little educational meaningfulness.* Of the 232 students, 112 students (48 percent) made percentile score gains. Thus, COMPUGRAFIA.LEP did not meet the objective in E.S.L.

It should be noted that students in all grades but second made mean percentile score gains. Only in grade six did students make statistically significant ($p < .05$) gains in sufficient numbers (76 percent) to meet the proposed criterion.

*The effect size, developed by Jacob Cohen, is a ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. Effect size (E.S.) is interpreted to indicate educational meaningfulness, and an E.S. of .80 is thought to be highly meaningful, while one of .20 is considered to be only slightly so.

TABLE 2

Pretest/Posttest Differences on the Language Assessment Battery, by Grade

Grade	Number of Students	Pretest		Posttest		Difference		t Value	Effect Size	Proportion of Students Making Gains
		Mean	S.D.	Mean	S.D.	Mean	S.D.			
1	5	5.8	9.7	7.4	4.8	1.6	6.8	.47	.72	80
2	25	10.4	10.3	8.5	9.6	-1.9	13.9	-.18	-1.55	32
3	44	6.7	11.4	8.8	10.7	2.1	14.7	.18	.98	59
4	61	6.2	5.1	6.7	7.5	0.5	6.8	.10	.57	38
5	68	6.3	6.6	7.3	9.3	1.0	9.1	.15	.90	43
6	29	4.4	5.2	10.4	10.8	6.0	10.5	1.15	3.02*	76
Total	232	14.2	10.4	16.1	11.1	1.9	12.2	2.3	.36*	48

*p < .05

- Overall, only 48 percent of the students made statistically significant percentile score gains.

Native Language Arts

- By the conclusion of the first year of funding, 70 percent of the participating students will demonstrate a significant increase in percentile score in their performance on the Language Assessment Battery (LAB Spanish) administered on a pre- and posttest basis.

As on the English LAB, the data analyst computed a correlated t -test and an effect size using percentile scores on the Spanish version of the LAB. The mean gain was 19.6 (s.d.=11.2). The t value (33.34) was statistically significant ($p < .05$). The effect size (1.75) was high, suggesting that the gains were of great educational meaningfulness. The percentage of students who made percentile gains from pretest to posttest was 99. COMPUGRAFIA.LEP easily met its N.L.A. objective.

Computer Based Skills

- By the conclusion of the first year of funding, 70 percent of the participating students will have demonstrated improved ability of six new skills for each year of project participation in computer supported writing instruction in any combination of the areas of keyboarding, text editing, and word processing skills.

Implementation. Staffing was completed in March and materials purchased and delivered during April. The computers were only functioning in two schools (P.S. 4 and P.S. 153) for security reasons. At the end of each day, the equipment needed to be placed in secure areas. The project was purchasing computer tables to facilitate moving the computers from the classroom.

The field consultant observed a BIS I computer class with eight first- and second-grade students in attendance. The

objective of the lesson was to recognize the alphabet through the use of the Print Shop software. The class copied print letters from their textbook while two students made a wall sign using the computer. The teacher moved from student to student giving advice.

The consultant also observed a BIS I computer literacy class of 12 fourth- and fifth-grade students. The teacher first defined a computer and what it does (teaches, solves problems, etc.). The class then reviewed the parts of a computer. One student made a wall sign using the computer. The students made suggestions about the type of border, the graphics, the type of lettering, and the writing text to be used. The lesson ended with an assignment.

Outcomes. According to data provided, 383 of the 414 students on whom there were data (93 percent) showed improved ability of six or more new skills in keyboarding. Thus, the program met the computer-based skills objective.

Career Education

- By the conclusion of the first year of funding, 70 percent of the participating students will have demonstrated improved ability of six new skills for each year of project participation in career education instruction in any combination of the areas of career exploration, work readiness, and work study skills.

According to data provided, 401 of the 414 students on whom there were data (97 percent) showed improved ability of six or more new skills in career exploration. Thus, the program met the education objective.

NONINSTRUCTIONAL ACTIVITIES

The project proposed noninstructional objectives in staff development, curriculum development, and parental involvement.

Staff Development

- By the conclusion of the first year of funding, all targeted classroom teachers will have participated in staff development sessions on the development of different skill areas using bilingual special education instruction approaches.

The program staff visited each site an average of two times per month to train classroom teachers. This training was to have included: providing lesson plans, presenting model lessons in the classroom, and offering workshops. However, due to the program's late start, priority was given to computers as the focus of staff development activities.

The project was considering a modification of the original concept of presenting new lesson plans to the classroom teacher. The new plan entails providing teachers with the expertise to develop their own lesson plans. Since this aspect of staff development had not yet begun, its efficacy could not be evaluated.

The program coordinator began visiting the sites at the end of March. She made two visits to each site that month. Regular visits by all staff members began in April. The coordinator and the resource teachers visited the sites as a team.

The future implementation of the staff development plan will consist of several steps: (1) A programwide workshop will be offered to acquaint classroom teachers with the computer and show

them how to use it; (2) individual instruction in the classrooms will reinforce what was presented in the workshop and help teachers internalize the process; (3) schoolwide workshops will follow if needed. It is proposed that the new plan will accomplish two objectives: there will be a homogenization of lesson planning in the program and help will be given to the classroom teachers.

This year, COMPUGRAFIA.LEP offered the following program-level workshops: orientation to the program and demonstrations of the computer and its software; methods for teaching second language acquisition; Language Experience Program software; self-awareness through career education; Type to Learn software; needs assessment instrument and the data collection process.

COMPUGRAFIA.LEP presented the following school-level workshops on: the Language Experience Recorder for program teachers at P.S. 4 and P.S. 42 (many teachers at these two schools requested more experience with the software and the school principal requested another workshop); and the components of the program and its capacity-building aspects. Two mini-lessons were given to teachers at their own schools because they had been unable to attend the Type to Learn workshop.

The program staff developed an assessment instrument to ascertain the curriculum needs of classroom teachers. The instrument established the teacher's area of specialization (bilingual education, special education, or bilingual special education), indicated her/his primary needs, and identified the

curriculum guidelines which the classroom teacher used. The results of the study showed that some of the program teachers were not following the New York State curriculum guidelines because they did not have them. Correction of this problem was planned and would impact the content of next year's workshops.

The OREA consultant visited a staff development workshop. Seventeen special education teachers from the COMPUGRAFIA.LEP program and another Title VII program, COMPUOCC.LEP, were present. The principal objective of the workshop was for teachers to become acquainted with the program's new needs assessment questionnaire. The workshop also reviewed the activities of both programs during the year and presented new activities planned for the forthcoming year (1988-89).

The staff also distributed the students' annual evaluation forms, presented instructions for completing them, and announced the deadline for their submission. During the presentation, staff members moved around the room checking teachers' comprehension and distributing data forms. Information was given about the Teacher Summer Institute, which will be offered by the program in conjunction with Columbia University. The workshop ended with words of commendation for the work performed during the year.

The program director stated that in addition to the training received by classroom teachers during the school year, summer training was funded for 35 site teachers. A grant of \$5,000 was approved, providing 500 hours of summer training.

The project did not achieve its staff development objective.

Curriculum Development

- By the end of the first year of funding, the Title VII resource specialists will have developed subject matter-oriented instructional units for teaching keyboarding, text editing, and word processing skills.
- By the end of the first year of funding, the Title VII resource specialists will have developed subject matter-oriented instructional units for teaching career exploration, work readiness, and work study skills.

The program was developing a handbook which would provide an abstract of the program, including its objectives, research on bilingual education, software references, information on E.S.L. and combining N.L.A. with classroom activities, computer-assisted instruction, career education, and training for parents. The first handout was expected to be completed by the middle of the fall term of 1988. Two others were projected for dissemination in the following two years. They will include summaries of each year's activities.

Publications distributed at each workshop, together with additional materials on the same subject area, were to be given to each site teacher in booklet form to use as classroom resources.

The project did not meet its curriculum development objective.

Parental Involvement

- By the end of the first year of funding, 50 percent of the parents of program students will have attended parent involvement sessions in the areas of bilingual

education policies and procedures, and special education policies and procedures.

- By the end of the first year of funding, 80 percent of program students will have participated in E.S.L. training sessions for the purpose of improving their own English language proficiency and were expected to maintain an attendance rate of 75 percent.

The program had not yet organized its Advisory Board.

Letters of information and invitations were sent to program parents through the schools. One of the paraprofessionals began a data bank of parents to use as resources to help each other (for translations, support for the program, etc.) and to have the information needed to contact them whenever necessary.

The program provided parents with information on due process, career and vocational choices for their children, and educational options at the junior high school level. The program staff felt that available research in bilingual educational topics might be too difficult for most parents to understand; however, it was available to them.

The program had not yet established E.S.L. classes for parents. It was hoped that such instruction would combine E.S.L. with survival skills (such as going to a doctor's office, grocery shopping etc). It had not yet been decided whether the E.S.L. classes would be at the district level or at centrally located school sites.

The project offered two workshops to parents. It vigorously advertised both workshops and invited 400 parents. The field consultant observed one workshop given in both English and Spanish to acquaint the parents with the program and its

objectives. Nine program parents were present. The program director introduced the staff and presented the components and goals of the program. A bilingual training specialist from the Division of Curriculum and Instruction explained the special education mainstreaming process. Parents also learned how to use the computers. The parents asked questions, presented concerns, and made comments.

Since the project did not provide attendance data, it was not possible to determine whether COMPUGRAFIA.LEP had met the objective dealing with parental involvement. Since E.S.L. courses had not begun, the project did not meet its objective on E.S.L. course participation.

III. CONCLUSIONS AND RECOMMENDATIONS

Although Project COMPUGRAFIA.LEP started late in the school year, and all the computers had not yet been installed for security reasons, the program had moved ahead vigorously in almost all areas. Those computers that did function were a motivating factor in the program; teachers and students alike were highly interested in using them.

Project COMPUGRAFIA.LEP met its objectives in N.L.A, computer-based skills, and career education. It did not meet its objectives in E.S.L., staff development, curriculum development, or parental involvement.

The project organized program activities in all districts and sites. The participating site administrators and teachers appeared to be highly satisfied with the program. Staff members identified, ordered, and distributed relevant materials. Adapting materials from other sources helped the program in its initial stage. The curriculum development plans, i.e., handbooks and workshop publications, if properly utilized, will greatly benefit the participating teachers. The modifications for classroom teacher instruction planned for next year attack an often demonstrated weakness in staff development. The teachers will gain the expertise they need to develop lesson plans, based on their students' needs, by themselves. The area of parental involvement requires some strengthening.

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

- Complete the installation of the computers.
- Establish parent E.S.L. classes.
- Organize the program Advisory Board.
- Implement staff development for the classroom teacher.
- Establish a system to give regular information about the program to the parents. A periodic bilingual newsletter might serve this purpose.