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ABSTRACT

This report contains a description and evaluation of the Bilingual Pupil Services Program, operated by the New York City Board of Education, Office of Bilingual Education. The basic goal of the program was to improve the reading and mathematics abilities of Hispanic non-English speaking pupils and Hispanic English speaking pupils who were one or more years behind in reading and mathematics achievemnt as measured by teacher made and/or standardized tests. The program served 2061 pupils in 32 public schools in 13 community school districts. The program provided in-service training to paraprofessionals who assisted the regular classroom teacher by providing small group instruction. A copy of a test on teaching reading to the bilingual learner is included in an appendix. (Author/AM)

EVALUATION REPORT

Function No. 09-51698

Bilingual Pupil Services

School Year 1974-1975

Maurice A. Lohman, Ed.D.

An evaluation of a New York City School district educational project funded under Title I of the Elementary and Secondary Education Act of 1965 (PL 89-10) performed for the Board of Education of the City of New York for the 1974-75 school year.

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CHAPTER I

THE PROGRAM

Description of the Program

Purpose: The Bilingual Pupil Services Program is a centrally based program operated by the New York City Board of Education, Office of Bilingual Education. The basic goal of the program was to improve the reading and mathematics abilities of Hispanic non-English-speaking pupils and Hispanic-English-speaking pupils who are one or more years behind in reading and mathematics achievement as measured by teacher-made and/or standardized tests. The Bilingual Pupil Service Program provided these pupils with small group instruction by specially trained paraprofessionals who assisted the regular classroom teacher. In addition to the goal of improving the reading and mathematics achievement of the pupils, the program provided in-service training to the paraprofessionals. This training, along with supervised classroom teaching experience, was designed to provide the paraprofessionals with those skills, knowledges, and attitudes necessary for presenting reading and mathematics instruction to bilingual Hispanic children and to their professional growth in eventually becoming competent bilingual teachers.

Length of Time: The program, now in its sixth year, was funded from September 1, 1974 through June 30, 1975. A group of 155 pupils and 34 paraprofessionals were added to the program in February 1975

and received only one semester of instruction.

Pupil Population Served: The program served 2061 pupils in 32 public schools in 13 community school districts. Tables 1a and 1b present breakdowns by grade and by Spanish or English dominance for those 1906 pupils enrolled in September 1974 and for those 155 pupils added to the program in February 1975.

Paraprofessionals: The program provided the participating Title I schools with 150 bilingual paraprofessionals in the following categories:

1. Bilingual Professional Assistants, BPAs (B.A. degree and no education credits) 38 positions.
2. Educational Associates (90 credits or more, one year experience in New York City schools) 28 positions.
3. Educational Assistants (60 credits or more) 84 positions.

This number varied throughout the year. By February 1975, one paraprofessional had resigned, three had been asked to leave the program, eight had entered the Bilingual teacher intern program, two moved from the metropolitan area, and three entered graduate school on a full-time basis. These sixteen were replaced by thirty-four additional paraprofessionals in February 1975.

Staff: The central office was composed of three professional and seven clerical staff members. In addition, there were six Field Service Counselors who had the responsibility of insuring that program guidelines

Table 1a

Number of Pupils Enrolled in Bilingual Pupil Services Program September 1974 by Grade and Language Dominance

Grade	Spanish Dominant	English Dominant	Total
1	208	68	276
2	186	119	305
3	180	153	333
4	209	143	352
5	165	140	305
6	103	26	129
7	59	28	87
8	62	53	115
9	4	0	4
Total	1176	730	1906

Table 1b

Number of Pupils Added in Bilingual Pupil Services Program February 1975 by Grade and Language Dominance

Grade	Spanish Dominant	English Dominant	Total
1	9	3	12
2	48	22	70
3	17	0	17
4	45	10	55
5	1	0	1
Total	120	35	155

were met properly by the paraprofessionals and by local district instructional and supervisory staff. Although a research assistant had been anticipated, the position was never filled.

Paraprofessional In-Service Training: The paraprofessionals received 30 sessions of in-service education in the teaching of reading and mathematics to the bilingual learner. These sessions took place each Monday from 9:00 A.M. to 3:00 P.M. at the Brooklyn College Annex, 96 Schermerhorn St., Brooklyn, N.Y. 11201. Courses were taught by six instructors, aided by the central office staff and Field Service Counselors.

Selection of Program Participants

Pupils: The Hispanic English or non-English-speaking pupil was required to meet the following criteria:

1. The pupil must be in a Title I program.
2. The pupil must be Spanish dominant, non-English speaking or
3. English dominant below one or more years in reading as measured by teacher-made and/or standardized tests or
4. below one or more years in mathematics achievement as measured by teacher-made and/or standardized tests.

Paraprofessionals: The paraprofessional candidate was required to:

1. be bilingual (Spanish and English).
2. hold 60 evaluated college credits.
3. be a United States citizen or hold a Declaration of Intention.

4. be interested in entering bilingual elementary or secondary education.

Objectives of the Project

Project Objective #1: After 40 weeks of reading instruction in the pupil's dominant language, the reading grade of the participating Title I Spanish-speaking pupil attending on a regular basis will show a statistically significant difference between the real post-test score and anticipated post-test score as measured by an appropriate level of the C. I. A. Reading test.

Project Objective #2: After 40 weeks of instruction in mathematics in the pupil's dominant language, the mathematics grade of the participating Title I Spanish-speaking pupil attending on a regular basis will show a statistically significant difference between the real post-test score and anticipated post-test score as measured by an appropriate level of the C. I. A. Mathematics Battery test.

Project Objective #3: After 30 intensive sessions of instruction in the in-service training course -- Teaching of Reading to the Bilingual learner -- 80% of the participating paraprofessionals who scored below 75% on the pre-test developed and administered by the staff and consultants in September 1974 will improve their pre-test score by 15% or more on a post-test developed and administered by the staff in May of 1975.

Project Objective #4: After 30 intensive sessions of instruction in the in-service training course -- Teaching of Mathematics to the Bilingual learner -- 80% of the participating paraprofessionals who scored below 75% on the pre-test developed and administered by staff and consultants in September of 1974, will improve their pre-test scores by 15% or more on a post-test developed and administered by the staff in May of 1975.

CHAPTER II

EVALUATIVE PROCEDURES

Evaluation Objectives

Evaluation Objective #1: To determine whether, as a result of attending at least 85% of the reading instructional sessions in the pupil's dominant language, the reading grade of the participating Title I Spanish-speaking pupils will show a significant difference between the real post-test score and anticipated post-test score as measured by the C. I. A. Reading test.

Subjects: All students who had attended 85% of the reading instruction sessions.

Methods and Procedures: The appropriate form of the C. I. A. Reading test (Pruebas Cooperativas Interamericanas) was administered twice: in September 1974 as a pre-test and in June 1975 as a post-test.

Analysis of Data: As requested by an official of the New York State Education Department, [1] the "Real (treatment) Post-Test vs. Anticipated (without treatment) Post-Test" design was replaced by a correlated t-test for the significance of the difference between group means on the pre-test and post-test. The reasons for this decision were reported in the 1973-1974 Bilingual Pupil Service evaluation report. (Function No. 09-41698)

Time Schedule: The pre-test was administered during the first week of the program. The post-test was to be administered during the last week of May 1975; however, because of the Board of Education testing conducted as a requirement of the Consent Decree issued by the court, the post-test was postponed until the second week of June 1975.

Evaluation Objective #2: To determine whether, as a result of attending at least 85% of the mathematics instructional sessions in the pupil's dominant language, the mathematics grade of the participating Title I Spanish-speaking pupils will show a statistically significant difference between the real post-test score and anticipated post-test score as measured by the C. I. A. Mathematics Battery test.

Subjects: All students who had attended 85% of the mathematics instructional sessions.

Methods and Procedures: The appropriate form of the C. I. A. Mathematics

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[1] See Appendix A.

Battery test, (Pruebas Cooperativas [illegible]ramericanas) was administered twice: in September 1974 as a pre-[illegible]and in [illegible] a post-test.

Analysis of Data: Data was analyzed [illegible]t-test as described for Objective #1.

Time Schedule: Same as for Objective #1.

Evaluation Objective #3: To determine whether, as a result of 30 sessions of instruction in the in-service training course, Teaching of Reading to the Bilingual Learner, 80% of the participating paraprofessionals who scored below 75% on a pre-test designed to measure skills acquired in the teaching of reading to the bilingual learner will improve by 15% or more on the post-test.

Methods and Procedures: The program staff and summer evaluators devised an information test on curriculum to measure skills acquired in the in-service course on the teaching of reading to the bilingual learner. The test was administered twice, once as a pre-test and once as a post-test.

Analysis of Data: A frequency distribution of pre-test scores was compiled to determine which paraprofessionals scored below 75% on the pre-test. A frequency distribution of post-test scores for those paraprofessionals who scored below 75% on the pre-test was compiled to determine whether 80% improved by 15 percentage points on the post-test.

Time Schedule: The pre-test will be administered shortly after the

beginning of the program, and post-test during the last week of May 1974.

Evaluation Objective #4: To determine whether, as a result of 30 sessions of instruction in the in-service training course, Te ing of Mathematics to the Bilingual Learner, 80% of the participating paraprofessionals who scored below 75% on a pre-test designed to measure skills acquired in the teaching of reading to the bilingual learner will improve by 15% or more on the post-test.

Subjects: All paraprofessionals participating in the in-service training program.

Method and Procedures: The program staff and summer evaluators devised a information test on curriculum to measure skills acquired in the in-service course on the teaching of mathematics to the bilingual learner. The test was administered twice, once as a pre-test and once as a post-test.

Analysis of Data: A frequency distribution of pre-test scores was compiled to determine which paraprofessionals scored below 75% on the pre-test. A frequency distribution of post-test scores for those paraprofessionals who scored below 75% on the pre-test will be compiled to determine whether 80% improved by 15 percentage points on the post-test.

Time Schedule: The pre-test will be administered shortly after the beginning of the program, and the post-test during the last week of May 1974.

Evaluation Objective #5: To determine the extent and kind of implementation of the program as actually carried out, to determine physical, budgetary, staff, and equipment implementation and the extent of implementation of the teaching program and the effectiveness of the teaching methods and program.

Official records of attendance, supplies and schedules of instruction were maintained by the project director for inspection by the evaluator.

Interviews with the staff and administrators of the project were held and recorded at least twice during the project as a method of determining the extent of implementation. Results of the visits and interviews are included in this report as well as the extent to which the program as actually carried out, coincided with the program proposed.

Evaluation Instruments

Pupils: The following forms of the Cooperative Inter-American Series, (C.I.A.) published by Guidance Testing Associates were used for the pre- and post-tests:

OCR-1-CE/DE	Reading, English
COR-1-CE/DE	Reading, Spanish
R-1-CE/DE	Reading, English
L-1-CE/DE	Reading, Spanish
R-2-CE/DE	Reading, English

L-2-CE/DE	Reading, Spanish
R-3-CE/DE	Reading, English
L-3-CE/DE	Reading, Spanish
RN-3-DE	Reading and Number, English
LN-3-DE	Reading and Number, Spanish
GA-1-CE/DE	General Ability-Number, English
HG-1-CE/DE	General Ability-Number, Spanish
GA-2-CE/DE	General Ability-Number, English
HG-2-CE/DE	General Ability-Number, Spanish
GA-3-CE/DE	General Ability-Number, English
HG-3-CE/DE	General Ability-Number, Spanish

Paraprofessionals: A 25-item reading methods test, Teaching Reading to Bilingual Learners, previously developed by the professional staff of the program, was used as a pre-test for the initial 135 paraprofessionals who were in the program in September 1974 and as a post-test for the 115 of the initial group who were in the program in the last week of May 1975. A new 51-item reading methods test, developed by the professional staff during the first semester of the school year, was used as a pre- and post-test for the 34 additional paraprofessionals who were added to the program in February 1975.

A 75-item arithmetic methods test, Teaching Mathematics to Bilingual Learners, previously developed by the professional staff of the program, was used as a pre- and post-test for all of the paraprofessionals in the program, including those who entered in February 1975.

Site Evaluation Visits: Monthly visits were made to bilingual classes, which involved direct observation of small group instruction and interviews with the paraprofessionals, cooperating teachers, district bilingual coordin-

ators, school administrators and field service counselors, as well as site visits to the in-service training courses and the central office.

Discrepancies in Pre-Test and Post-Test Populations

Pupils: Of the 1906 pupils who were pre-tested in September 1974, 1560 or 82% were still registered in the program and had records of regular attendance at the time of the June 1975 post-test. The schools included in the program are in economically depressed areas and are subject to high pupil mobility and attrition. An additional 155 pupils were pre-tested in February 1975. Of these 108 or 70% were post-tested in June 1975. Because of the City-Wide-A.S.P.I.R.A. testing program, which conflicted with the Bilingual Pupil Services post-testing schedule, 33 pupils in this group were not able to be post-tested. An additional 205 pupils were administered the post-tests, but had not been in the program for the September 1974 or February 1975 pre-tests.

Only those pupils in the full year and the half year program who took both the pre-test and the post-test and were present for at least 85 per cent of the instructional sessions were included in the data analysis. These losses in test analysis have been accounted for in the Data Loss Form (See Appendix C-- Part 2).

CHAPTER III

FINDINGS

Pupil Evaluations

Objective #1: To determine whether, as a result of attending at least 85 per cent of the reading instructional sessions in the pupils' dominant language, the reading grades of the participating pupils will show a significant difference between the real post-test score and the anticipated post-test score as measured by the C. I. A. Reading test.

The projected statistical analysis of comparisons of real post-test scores with anticipated post-test scores was replaced by a correlated t-test as explained in Chapter II.

To assess Objective #1, means of raw scores were obtained for Spanish and English dominant pupils in each grade by the C. I. A. Reading Test. Table 2a and 2b present the summary statistics for all groups in reading. Full-year pupils made highly significant gains from pre- to post-tests, irrespective of the language of the test. The strongest gains were observed in grades one through five. Only one group, a seventh grade English dominant group of ten pupils, did not show a significant gain.

Table 2a

Summary Statistics of Spanish Reading,
Pupils' Pre-Test and Post-Test Raw Scores

Full-Year Group

			Pre-test		Post-test			
Grade	Test	N	$\bar{X}$	SD	$\bar{X}$	SD	t	p
1	COR-1	158	19.25	8.49	25.80	6.03	11.74	<.001
1	L-1	13	21.00	4.00	25.62	4.29	5.44	<.001
2	L-1	148	29.31	20.92	50.21	23.60	13.36	<.001
3	L-2	157	38.46	20.06	53.86	21.54	9.83	<.001
4	LN-3	166	21.75	9.46	31.56	10.93	12.78	<.001
5	L-3	108	22.51	13.89	34.42	20.46	7.65	<.001
5	LN-3	35	22.63	6.94	33.91	11.64	6.69	<.001
6	L-3	92	32.91	18.14	42.46	20.01	5.45	<.001
7	L-3	56	31.86	19.55	39.66	21.90	4.58	<.001
8	L-3	56	30.54	19.60	38.57	23.28	5.50	<.001
9	L-3	4	36.00	--	46.50	--	--	--
			Late Group					
2	L-1	34	40.91	20.26	41.26	19.63	.498	N.S.
3	L-2	17	33.88	15.27	37.53	11.64	1.375	N.S.
4	LN-3	45	32.29	8.08	32.24	8.37	-.052	N.S.
5	L-3	1	20.00	--	21.00	--	--	N.S.

Table 2b

Summary Statistics of English Reading,

Pupils' Pre-Test and Post-Test Raw Scores

Full-Year Group

			Pre-test		Post-test			
Grade	Test	N	$\bar{X}$	SD	$\bar{X}$	SD	t	p
1	OCR-1	54	26.26	5.57	28.94	3.25	3.88	<.001
2	R-1	94	24.92	25.08	52.24	20.74	10.83	<.001
3	R-2	125	35.46	11.45	46.32	20.33	7.05	<.001
4	RN-3	110	24.70	10.57	34.35	13.31	8.52	<.001
5	R-3	93	27.45	19.53	36.43	23.16	10.48	<.001
5	RN-3	16	28.19	7.61	42.81	16.15	3.16	<.01
6	R-3	22	12.54	7.84	20.32	6.32	4.05	<.001
7	R-3	10	31.50	11.90	38.20	11.52	1.75	N.S.
8	R-3	48	41.69	19.41	49.46	19.55	4.69	<.001
			Late Group					
2	R-1	1	22.00	--	25.00	--	--	--
4	RN-3	10	31.90	9.79	32.10	9.99	.1428	N.S.

The group which began in February, on the other hand, showed no significant gain for any group.

Objective #2: To determine whether, as a result of attending at least 85 per cent of the mathematics instructional sessions in the pupils' dominant language, the mathematics grade of the participating pupils will show a statistically significant difference between the real post-test score and the anticipated post-test score as measured by the C.I.A. General Ability-Number test.

The projected statistical analysis of comparisons of real post-test scores with anticipated post-test scores was replaced by a correlated t-test as explained in Chapter II.

To assess Objective #2, t-tests were conducted on the pupils' pre- and post-test raw scores on the C.I.A. General Ability-Number test. Tables 3a and 3b present the summary statistics for all groups in mathematics. Full-year pupils made significant gains from pre- to post-test, irrespective of the language of the test. Only one group, the same ten seventh grade pupils not making significant gains in reading, failed to show a significant gain.

All but one class of ten pupils in the group which began in February showed significant gains in mathematics.

Paraprofessional Evaluations

Objective #3: To determine whether, as a result of 30 sessions of instruction in the in-service reading training course, 80 per cent of the

Table 3a

Summary Statist panish Mathemati

Pupils' Pre-Test and Post-Test Raw Scores

Full-Year Group

			Pre-test		Post-test			
ade	Test	N	$\bar{X}$	SD	$\bar{X}$	SD	t	p
1	HG-1	170	6.64	3.26	10.60	3.24	14.98	<.001
2	HG-1	127	10.78	2.71	12.65	2.39	7.78	<.001
2	HG-2	13	21.38	6.06	26.23	3.48	2.48	<.05
3	HG-3	155	14.97	5.20	19.34	5.74	8.95	<.001
4	LN-3	168	20.68	9.65	28.61	10.81	12.42	<.001
5	HG-3	108	17.81	7.91	24.81	10.34	8.78	<.001
5	LN-3	34	21.21	8.29	30.91	10.56	6.09	<.001
6	HG-3	92	24.76	11.71	27.22	10.79	2.32	<.05
7	HG-3	55	20.55	8.21	30.67	14.79	5.83	<.001
8	HG-3	55	23.20	8.65	29.15	14.46	3.37	<.01
9	HG-3	4	30.25	--	54.00	--	--	--

Late Group

2	HG-1	34	9.18	2.19	11.18	2.33	3.27	<.001
3	HG-2	17	16.71	6.72	18.76	6.59	2.62	<.05
4	LN-3	45	20.42	6.76	23.29	6.58	6.71	<.001
5	HG-3	1	20.00	--	21.00	--	--	--

Table 3b

Summary Statistics of English Mathematics,

Pupils' Pre-Test and Post-Test Raw Scores

Full-Year Group

			Pre-test		Post-test			
Grade	Test	N	$\bar{X}$	SD	$\bar{X}$	SD	t	p
1	GA-1	54	8.81	3.31	13.33	3.98	9.33	<.001
2	GA-1	94	11.15	3.21	12.94	2.67	5.71	<.001
3	GA-2	126	14.46	4.35	19.37	5.31	10.61	<.001
4	RN-3	109	21.40	9.96	29.90	9.93	11.66	<.001
5	GA-3	93	19.91	8.79	26.62	9.92	9.60	<.001
5	RN-3	17	19.65	5.92	29.00	10.39	6.03	<.001
6	GA-3	22	18.05	9.11	23.50	7.61	5.20	<.001
7	GA-3	10	24.70	6.98	27.30	9.48	2.07	N.S.
8	GA-3	47	29.23	9.06	32.19	9.07	2.61	<.05

Late Group

2	GA-1	1	11.00	--	10.00	--	--	--
4	RN-3	10	21.50	6.77	22.80	6.96	.876	N.S.

participating paraprofessionals who scored below 75 per cent on a pre-test will improve by 15 per cent or more on the post-test.

To assess Objective #3, a 25-item pre-test developed by the program staff was administered to 135 paraprofessionals in September 1974. Of the 135 paraprofessionals who took the test, only six received a raw score above 19 (75 per cent). At the end of the spring term, 106 of the 135 paraprofessionals were administered the post-test. Of the 29 who were not tested, ten had graduated and became bilingual teachers, two entered graduate school on a full-time basis, two moved from the metropolitan area, three were asked to leave the program. Eight did not take the post-test due to illness or personal reasons and four took the new form of the test. Of the 106 paraprofessionals who received both a pre- and post-test, 40 (38 per cent) had increased their pre-test scores by four points (15 per cent). Thus, the program did not meet its stated objective of a 15 per cent increase in reading methods scores for a minimum of 80 per cent of those paraprofessionals who scored below 75 per cent on the pre-test. A t-test comparing pre- and post-test means of the 106 paraprofessionals, however, was significant at the .001 level. Table 4 presents summary statistics for paraprofessional pre- and post-test reading and mathematics scores.

A new group of 34 paraprofessionals was added to the program in February 1975. This group was administered a new 51-item reading

methods test developed by the project staff. All 34 received pre-test raw scores below 38 (75 per cent). Only two of the group were able to raise their post-test score by eight raw score points (15 per cent). A t-test comparing pre-test and post-test means for this group was not significant.

Objective 4: To determine whether, as a result of 30 sessions of instruction in the in-service mathematics training course, 80 per cent of the participating paraprofessionals, who scored below 75 per cent on the pre-test will improve by 15 per cent or more on the post-test.

To assess Objective 4, a 75-item pre-test in Teaching Mathematics Skills was administered to 135 paraprofessionals in September 1975. Only three of the 135 paraprofessionals scored above 58 (75 per cent). In June 1975, 106 of the paraprofessionals were administered the post-test. Only 18 (17 per cent) were able to increase their score by 12 points (15 per cent). Thus, the program did not meet its stated objective of a 15 per cent increase in mathematics methods scores for a minimum of 80 per cent of those paraprofessionals who scored below 75 per cent on the pre-test. A t-test comparing pre- and post-test means of the 106 paraprofessionals, however was significant at the .001 level. Table 4 presents summary statistics for paraprofessional pre- and post-test reading and mathematics scores.

The same test was administered to the 34 paraprofessionals who were added to the program in February. All 34 received pre-test raw scores below 58 (75 per cent). Three of the group were able to raise their post-test scores by more than 15 per cent. A t-test comparing pre-test and post-test means for this group was significant at the .05 level.

Table 4

Summary Statistics of Reading and Mathematics Methods, Paraprofessionals' Pre-Test and Post-Test Scores

		Pre-test		Post-test			
Test	N	$\overline{X}$	SD	$\overline{X}$	SD	t	p
Full-Year Group							
Reading	106	13.58	4.41	16.43	3.80	6.79	$< .001$
Mathematics	106	35.77	11.78	41.15	10.95	8.03	$< .001$
Late Group							
Reading	32	40.38	5.73	36.53	8.25	-1.81	N.S.
Mathematics	32	34.19	8.75	37.63	10.28	3.09	$< .05$

Implementation of the Program

Objective #5: To determine the extent and kind of implementation of the program as actually carried out, to determine physical, budgetary, staff, and equipment implementation and the extent of implementation of the teaching program and the effectiveness of the teaching methods and program.

Monthly site visits were made to the bilingual classes where small group instruction was observed. Interviews were conducted with paraprofessionals, cooperating classroom teachers, bilingual coordinators, school administrators, and parent representatives. Paraprofessionals were observed in all phases of their responsibilities. Lesson plans were examined and compared with each observation. The paraprofessional functioned in the role of an assistant teacher under the supervision of the cooperating classroom teacher, the bilingual coordinator and the field service counselor. The paraprofessional had full use of all classroom and school facilities, and in many cases was observed using materials developed by the Bilingual Pupil Service Program. Materials used consisted of teacher-made puzzles, games, flash cards and duplicated work sheets. There was evidence of commercial materials such as color-coded alphabet, Leocolor phonics, counting rods, balances, posters and art work. Most classes relied upon standard reading series such as Bank Street and

Laidlaw. A majority of the Spanish readers were printed in Spain, but a few schools were using materials developed by the State of Florida Bilingual Project. The paraprofessionals were observed working with single pupils, and small groups. They had a good rapport with the children and, in general, the relationship between the paraprofessional, the cooperating teacher and the field service counselor was excellent.

The six field counselors made over 500 classroom visits during the year. They periodically evaluated the paraprofessional in the classroom, as did the cooperating teacher. These evaluations along with the daily logs and attendance reports of both the paraprofessionals and the field service counselors are on file in the central office. The field service counselors made supervisory visits, resolved any conflicts between the paraprofessional and the school staff, gave demonstration lessons and aided in the in-service teaching program. Each field service counselor supervised 25 paraprofessionals.

The in-service training program was required for all paraprofessionals and met each Monday for five 45-minute classes. Instructors were professors from local colleges and universities aided by the field service counselors. Courses were offered in introductory and advanced teaching of bilingual reading and mathematics. All para-

professionals took part in the materials development courses presented by the field services counselors. Additional courses, such as teaching methods in English as a second language, composition and diagnostic testing, were provided, however the major emphasis was on instruction of reading and mathematics concepts and teaching methods. All courses were taught in both English and Spanish. On June 9, 1975, the materials development courses presented an exhibit of paraprofessional-made teaching materials, manuals, and slides which had been developed during the summer of 1974 and the 1974-1975 school year.

Monthly site visits to the central office which included interviews with the project coordinator, assistant coordinator and field service counselors indicated that the program was following the project proposal. The program did not fill the position of research assistant. The projected duties of the position were carried out by the assistant coordinator and the clerical staff. The administrative staff received weekly and monthly progress reports from the field service counselors and the paraprofessionals. A record was kept on the college, in-service training, and experience records of each paraprofessional. When new paraprofessionals were recruited, the candidates' college transcripts were evaluated and verified by the Board of Education, Office of Personnel. The eligibility require-

ments were reviewed by the assistant coordinator and field service counselors. Each candidate was given an oral and written examination in both English and Spanish. In the Fall of 1974, 84 new paraprofessionals were accepted into the program; 307 were put on waiting lists, 51 were in the second year and 106 applicants did not meet the criteria for selection.

Last Year's Recommendations

Last year's evaluation made six recommendations:

1. Normative data should be collected on the C.I.A. tests for use in future years.

This has not been implemented. However, two years of pupils' test scores are now on file in the central office and normative data could be collected when a research assistant is employed.

2. Field service counselors should not divide their energies by also acting as instructors in the in-service program.

This has been implemented. The program has employed in-service teachers, college professors and instructors.

3. Tests should be administered to paraprofessionals at the end of each semester rather than only at the end of the year.

The present reading and mathematics tests, including the revised 51-item reading test are not representative of the objectives of either the

mathematics or reading co[illegible]. [illegible]se would be gained in more frequent testing unless the tests were revised to reflect the course criteria.

4. Those paraprofessionals who accumulate the necessary college credits to meet licensing requirements for regular classroom teaching should be discouraged from leaving at mid-year.

The current need for licensed bilingual teachers plus the difference in salary between the teacher and paraprofessional positions have made it difficult to implement this recommendation.

5. A greater emphasis should be placed on the lower grades, i.e., grades one through four.

This year, grades one through four accounted for 65 per cent of the entire pupil population. Grades seven and eight accounted for only 17 per cent.

6. The average number of pupils included in small group instruction be reduced from ten per paraprofessional to eight.

The size of the small groups was determined by the pupil need in each class and ranged from a single child to as many as 15 at different times. While the central office recommended a maximum of 15 pupils, implementation was often not possible depending upon individual circumstances.

CHAPTER IV

SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary

The first objective was achieved inasmuch as those pupils attending 85 per cent or more of the classroom sessions showed significant gains in reading achievement.

The second objective was also achieved inasmuch as those pupils attending 85 per cent or more of the classroom sessions also showed significant gains in mathematics achievement. These represented the same population as for the first objective in reading.

With regard to the third and fourth objectives of the program for improvement in skills for the teaching of bilingual reading and mathematics by paraprofessionals, neither objective was met as stated in the proposal. However, the correlated t-test of pre- and post-test means, performed although not called for in the design, showed statistically significant gains for those paraprofessionals who received a full year of training.

The fifth, or implementation, objective based upon on-site observations, analysis of records and files, and staff interviews showed that the in-service training program provided instruction not available to the paraprofessionals in their respective colleges. A comparison of the test questions with the course outlines showed little face validity.

Monthly site visits to the central office indicated that the program was being carried out exactly as designated in the proposal in every way except in the employment of a bilingual research assistant.

In summary, non-English speaking and educationally retarded Hispanic children who were provided small group bilingual instruction showed significant gains in reading and mathematics as measured by the C.I.A. tests. In addition, a group of bilingual paraprofessionals were provided with supervised "on the job" experience along with an in-service training program. This training has prepared them to give meaningful small group instruction to bilingual pupils at the present time and makes it possible for them to become competent bilingual teachers in the future.

Conclusion

The Bilingual Pupil Services program achieved its objectives for the Hispanic student population, but did not meet its stated objectives for the in-service paraprofessional training program.

Recommendations

Recommendation #1: The program should be continued during the summer of 1975 as well as during the school year of 1975-76 because of the significant achievement gains of the pupils and the positive observations of the in-service and "on the job" paraprofessional training.

Recommendation #2: Last year's evaluation recommended the continued use of the cooperative Inter-American Achievement Test Series with the development of normative tables based upon the 1973-1974 test results. While this was not implemented last year, it is recommended that it be implemented for 1975-1976. The program

now has C.I.A. test scores for ~~three~~ two years of pre- and post-testing. This is more than adequate for norming purposes.

Recommendation #3: In using the various levels of the C.I.A. tests, care should be taken to insure that all pupils are tested at their appropriate functioning level. The C.I.A. test forms, especially at the lower levels, are short and very susceptible to floor and ceiling effects. In this evaluation (Tables 2a, 2b, 3a and 3b) it was evident that, except for one first grade reading class and one second grade mathematics class, all classes used the same level of the test for each pupil in a given class.

Recommendation #4: A research assistant should be employed by the project. Given the present staff of the central office, it is not possible to undertake such tasks as developing normative tables for the C.I.A. tests. The scoring and recording of pupil and paraprofessional pre-test and post-test scores and the development of pupil profile charts take valuable time away from the supervisory staff of the program. These tasks should be taken over by a trained research assistant.

Recommendation #5: The Paraprofessional pre- and post-tests in reading and mathematics should be revised. A new 51-item reading test was developed and used as a pre- and post-test on the February

group. While this test was an improvement over the 25-item test previously used, it did not adequately measure the concepts and skills listed in the in service training course outlines. Both the reading and mathematics tests are heavily weighted with cognitive items. A consultant knowledgeable in criterion referenced testing should be called in to aid in the development of criterion referenced tests in both the reading and mathematics in-service courses.

Recommendation #6: Those paraprofessionals who have been in the program for one or more years should not be pre- and post-tested along with the first year paraprofessionals. They were tested on the same instruments the previous year. By the second year they have been pre- and post-tested, evaluated by several cooperating classroom teachers, field service counselors, and district school supervisors who have monitored their classroom performance. They should be evaluated on an instrument which would draw more upon classroom experience.

APPENDIX A

BOARD OF EDUCATION OF THE CITY OF NEW YORK
BUREAU OF EDUCATIONAL RESEARCH
110 LIVINGSTON STREET, BROOKLYN, N. Y. 11201

Confirmation of Statistical Methods Change

ANTHONY J. POLEMENI, PH.D.
DIRECTOR (ACTING)

August 27, 1974

Mr. Richard Borrell
Two World Trade Center

RE: Bilingual Pupil Services
B/E #09-51698

Dear Mr. Borrell:

Per your request, we are addending the attached letter to our evaluation design of the program listed above to exclude the historical regression model. Simple correlated t tests will be used.

Very truly yours,

Wayne Williamson

cc: Paul Hughes

Appendix B -- Part 1

BILINGUAL PUPIL SERVICES

TEACHING READING TO THE BILINGUAL LEARNER

POST-TEST*

TRAINEE_____

DATE_____SCORE_____

* Developed by Bilingual Pupil Services under the office of Bilingual Education, and used as both Pre- and Post-test.

25 Items

1. A student is taught to associate the written symbols with his thoughts expressed orally through use of

   a) discussion
   b) language experience
   c) reading charts
   d) picture file

2. The linguistic approach to reading attempts to:

   a) use the child's active vocabulary
   b) carefully control all regularities that exist between speech and print
   c) use an Initial Teaching Alphabet
   d) select materials based on pupils interests

3. A criticism of the linguistic approach is that:

   a) The use of rigidly controlled sound-symbol correspondences
   b) The stress is in the decoding of written symbols
   c) it calls attention to pitch, stress and other features of oral language
   d) it doesn't reduce speech-print inconsistencies

4. A basal approach stresses:

   a) correspondence between speech and print.
   b) the use of high pupil interest materials.
   c) sequential development of reading skills.
   d) reenforcement or rewards of pupils' actions.

5. An Individualized Reading Approach assumes

   a) children can already read.
   b) that only the teacher can specify those materials that the student is to read.
   c) that the child will provide his own pressure for competing with the rest of his peers.
   d) the pupils possess the abilities to initiate their own work and sustain interest on their own.

6 Which of the following is basic to the Programmed Instruction Approach

   a) small instructional steps
   b) use of computer-type terminology
   c) the decoding aspect of reading

7. The phonic approach enables children to

   a) decode familiar words not in their reading vocabulary
   b) identify words which are not in their oral vocabulary
   c) Pronounce correctly words they never heard before
   d) select his own reading materials

8. The sentence "The big pio did jig." would most likely be used in a:

   a) basal reader
   b) formal phonic approach
   c) linguistic reader
   d) language experience chart

9. A reading approach which utilizes a key factor frequency of language is

   a) programmed materials
   b) linguistic approach
   c) formal phonic
   d) basal reader

10. A barrier which the learner faces when he begins to read is:

    a) lack of relevant materials
    b) discrepancy between oral and written language
    c) lack of extensive oral vocabulary
    d) all of the above.

11. The term audio - lingual refers to

    a) hearing and speaking
    b) listening and understanding
    c) talking and writing
    d) read aloud

12. A controlled situation between two students stimulated by teacher instruction is called a

    a) a rejoinder dull
    b) basic dialogue
    c) directed dialogue
    d) repetition drill

13. The following is _____ drill
    Model: He has a pencil
    Cue: Does he have a pencil?
    Cue: He doesn't have a pencil

    a) replacement
    b) reduction
    c) substitution
    d) transformation

14. The following is a _____ drill
    Model: Give Robert a piece of chalk
    Cue: _____ a paper
    Cue: _____ candy
    Cue: _____ pie

    a) paired sentences
    b) substitution
    c) expansion
    d) progressive replacement

15. A well known series that is extensively used in the schools which reflects a linguistic approach to English reading is:

    a) Bank Street Series
    b) Miami Linguistic Readers
    c) Laidlaw Series
    d) Houghton Mifflin Series

16. In working with children with reading difficulties in the upper elementary grades it is good practice to use all of the following EXCEPT:

    a) a large and varied selection of materials
    b) materials selected by the student
    c) high interest-low level vocabulary materials
    d) only experience charts

17. The essential characteristics of a reading program which serves all students are:

    a) Systematic assessment of each student's interests, abilities and needs and long-range and short-range goals for each student
    b) Use of alternatives in methods and materials which enable each student to reach his short-range objectives and make progress toward the achievement of his long-range goals
    c) adequate support systems to facilitate learning, including inservice education and material resources
    d) all of the above

18. The role of the teacher in a reading program is to:

a) dispense information
b) diagnose the strength and weaknesses which each child brings to the reading process and prescribe appropriate learning activities
c) group the children according to reading ability
d) give pretest only

19. In order to help a child develop his full potential for beginning reading:

a) only reading activities should only be part of the school program since outside related reading activities might confuse the child
b) multi-sensory activities should be used since research indicates that greatest growth is oral language and motor-sensory skills occurs in the early childhood years.
c) A specific commercial reading program should be followed by the teacher since this way she can become very familiar with the program and help the children better
d) A Spanish reading series such as Por el Mundo del Cuento y la Aventura should be used since the children can't understand books written in English.

20. In preparing reading materials for a reading program the primary factors which must be considered are:

a) student interest needs and abilities
b) (available) commercial and teacher made materials
c) teacher professional training in the university in the field of materials development
d) none of the above

21. It is true that:

a) the teaching of reading must not be exclusively confined to any time or place in the school but must pervade the entire educational program
b) Reading instruction must be isolated from other aspects of learning
c) Only the reading teacher is responsible for development of reading proficiency in students
d) Grouping according to ability always has positive results.

22. The goal of Reading Programs such as Bilingual Pupil Services is to provide services for students for whom the regular program is failing by:

    a) replacing the existing program of classroom instruction
    b) supplementing regular classroom instruction
    c) changing the regular classroom method of instruction
    d) making reading materials and activities for the regular classroom teacher

23. An effective reading program recognizes that:

    a) there is no one best approach to be recommended for the teaching of reading
    b) the teacher should select aspects of several approaches which she feels best meet the needs of the students
    c) psychological aspects of the childs self image are important determiners in the success and failure of learning to read
    d) all of the above are true

24. The interdependency of speaking and reading is demonstrated by the statement:

    a) children with speech defects are poor readers
    b) even in silent reading there is an involuntary silent activity of the vocal organs known as "silent speech".
    c) teachers get good results with language emphasis lessons for non-native English speakers
    d) in audio-bilingual approach is the best method for non-English speakers

25. In teaching reading to fourth grade bilingual learners whose abilities are at the first grade level:

    a) the use of first grade books can be a factor in the lack of success in beginning reading
    b) it is best to use standard primers so that they can succeed
    c) it is best to use the fourth grade level books
    d) it is best not to use any books since the first grade books are to "babyish" and the fourth grade books are too difficult.

Appendix B -- Part 2

BILINGUAL PUPIL SERVICES

READING

POST-TEST*

TRAINEE_____

DATE_____SCORE_____

* Developed by Bilingual Pupil Services under the Office of Bilingual Education, and used as both Pre- and Post-test.

51 Items

READING TEST

1. A teacher would apply contractive analysis techniques to teach:

   a) only Spanish
   b) only English
   c) differences between Spanish and English
   d) both similarities and differences in Spanish and English

2. An audiolingual approach is especially effective for use with bilingual children because it stresses:

   a) hearing and speaking
   b) thinking and understanding
   c) talking and writing
   d) reading aloud

3. Which is the best technique for teaching the pre-reading motor skills?

   a) make a touch book
   b) make a chart of sizes and shapes
   c) play a tape recorder with city sounds
   d) play a skipping game.

4. The following is _____ drill:

   Model: He has a pencil
   Cue: Does he have a pencil?
   Cue: He doesn't have a pencil

   a) replacement
   b) reduction
   c) substitution
   d) transformation

5. The following is a _____ drill

Model: Give Robert a piece of chalk
Cue: _____ a paper
Cue: _____ candy
Cue: _____ pie

a) paired sentences
b) substitution
c) expansion
d) progressive replacement

6. The main difference in the teaching of reading to the English speaking child, as opposed to the non-English speaking child, is the emphasis on:

a) comprehension skills
b) oral aspect of reading
c) word analysis skills
d) contextual clues

7. A teacher's ability to develop phonics analysis is dependent upon all of the following items EXCEPT

a) a child's listening and speaking vocabulary
b) a child's skill in auditory and visual discrimination
c) a child's skill in utilizing picture clues
d) a child's ability to pronounce words correctly

8. Reading is considered by some experts as a recognition of symbol-sound correspondence. According to them, meaning is not found in the graphic form, but in the speech which it represents. This doctrine describes

a) a linguistic approach
b) a programmed reading approach
c) an i/t/a, initial teaching alphabet approach
d) a basal reader approach

9. A technique for teaching context clues in Spanish which is one technique for teaching context clues in Spanish or English language:

   a) make word wheels
   b) use pictures or root vegetables
   c) have the children listen to riddles
   d) make word family houses

10. For teaching the comprehension skill of selecting the main idea the teacher will have the students to:

   a) read a paragraph and list events in sequence
   b) select supportive details
   c) select the best tittle for the story
   d) analyze facts and opinions

11. The essential characteristics of a reading program which serves all students are:

   a) systematic assessment of each student's interests, abilities and needs and long-range and short-range goals for each student
   b) use of alternatives methods and materials which enable each student to reach his short-range objectives and make progress toward the achievement of his long-range goals
   c) adequate support systems to facilitate learning, including in-service education and material resources
   d) all of the above

12. A book review in a magazine or newspaper usually describes the theme or plot of the book by summarizing the

   a) conclusion
   b) main ideas
   c) judgments
   d) factual details

13. Charles turned the key in the ignition, shifted into "drive" and slowly moved forward. This is an example of

a) details of facts
b) selection of main ideas
c) drawing conclusions
d) sequencing details

14. "When I read the "Diary of Anne Frank", I felt like I had lived through the escape with her." This pupil is expressing

a) selection of main ideas
b) a conclusion
c) an appreciation or judgment
d) a prediction

15. A basal approach stresses:

a) correspondence between speech and print
b) the use of high pupil interest materials
c) sequential development of reading skills
d) reenforcement or rewards of pupils' actions

16. An Individualized Reading Approach assumes

a) children can already read
b) that only the teacher can specify those materials that the student is to read
c) that the child will provide his own pressure for competing with the rest of his peers
d) the pupils possess the abilities to initiate their own work and sustain interest on their own

17. Which of the following is <u>basic</u> to the Programmed Instruction Approach

a) small instructional steps
b) use of computer-type terminology
c) the decoding aspect of reading

18. A bilingual child who guesses when he comes across new words in reading needs assistance in

a) comprehension skills
b) oral reading
c) work-study skills
d) word-attack techniques

19. Of the following uses of standardized test scores in reading, the one that is LEAST valid is to

a) group the class for instructional purposes
b) select reading materials on the basis of the test scores
c) compare the present status of each child with his previous status and this study growth
d) plan instructional programs for the superior, average and slow-learning readers in the class

20. The linguistic approach to reading attempts to:

a) use the child's active vocabulary
b) carefully control all regularities that exist between speech and print
c) use an Initial Teaching Alphabet
d) select materials based on pupils interests

21. A barrier which the learner faces when he begins to read is

a) lack of relevant materials
b) discrepancy between his language pattern and that of the school books
c) lack of extensive oral vocabulary
d) all of the above

22. Circle the word that includes dipthongs:

a) think
b) reach
c) spoil
d) straight

23. What makes the main character in a story different from the usual story character? This requires the pupil to

a) predict outcomes
b) separate facts from opinions
c) evaluate based on set criteria
d) identify a specific detail

24. The MOST effective procedure for a teacher to follow in presenting the aim of a lesson concerning verbs to a first-grade class in language arts is to

a) have the children act out various action words
b) write a list of verbs on the board
c) ask the children to tell you some verbs
d) have the teacher give examples of verbs

25. Of the following statements concerning the development of word power among first-grade children, the one which is NOT correct is

a) the listening and speaking vocabulary is larger than their reading vocabulary
b) their reading vocabulary is larger than their writing vocabulary
c) children are generally clear as to the meanings of words that they use
d) there is a wide variation in the number of words that first-grade children know

26. The main role of the teacher in a reading program is to:

a) dispense information
b) diagnose the strength and weaknesses which each child brings to the reading process and prescribe appropriate learning activities
c) group the children according to reading ability
d) give pretest only

27. In order to help a Spanish bilingual child develop his full potential for beginning reading

a) reading activities should only be part of the school program since outside related reading activities might confuse the child

b) multi-sensory activities should be used since research indicates that greatest growth in oral language and motor-sensory skills occurs in the early childhood years
c) a specific commercial reading program should be followed by the teacher since this way she can become very familiar with the program and help the children better
d) a Spanish reading series such as Por el Mundo del Cuento y la Aventura should be used since the children can't understand books written in English.

28. In preparing reading materials for a reading program the primary factor should be

a) student interest needs and abilities
b) (available) commercial and teacher made materials
c) teacher professional training in the university in the field of materials development
d) previous parents meetings

29. Which of the following aspects is a true statement about reading?

a) the teaching of reading must not be exclusively confined to any time or place in the school but must pervade the entire educational program
b) reading instruction must be isolated from other aspects of learning
c) only the reading teacher is responsible for development of reading proficiency in students
d) grouping according to ability always has positive results

30. Which of the following techniques the pupil will use to identify the underlined word in the phrase: "Identifies cough because the glossary indicates that it is pronounced / /"

a) configuration
b) picture
c) phonemic
d) context

31. Of the following ways to assure mastery of English vocabulary and expressions in a bilingual classroom, the best way is to have children

a) repeat over and over again the word or expression
b) practice the word or expression in meaningful classroom experiences
c) write the word or expression five times for homework
d) memorize the vocabulary lists in the reader

32. If a fith grade teacher should find that ther pupils' written work is excellent in content, but very weak in correctness of expression, of the following her best course of action would be to

a) let her analysis of children's papers determine the areas of emphasis for formal lessons
b) have the children criticize and correct each other's work
c) follow the course of study in formal grammar lessons to assure a logical development of grammatical principles
d) disregard such errors as long as content is good, in order to avoid discouraging creativity

33. All of the following principles are valid in teaching English as a second language EXCEPT that the child needs

a) assistance to help him hear the new sounds and reproduce them
b) a basal reader to begin learning English
c) opportunity to practice sentence patterns
d) requent opportunities to speak in the new language to apply what he has learned

34. When a newly arrived child who speaks English haltingly enters a teacher's class, the procedure among the following which is LAST in order of priority is to

a) increase the child's English vocabulary so that he may function better
b) provide useful experiences which will help the child to adjust more readily to his new environment
c) determine the health and nutritional needs of the child
d) eliminate the foreign accent from the child's speech so that he will not be embarrassed in his relations with his classmates

35. The goal of Reading Programs such as Bilingual Pupil Services is to provide services for students for whom the regular program is failing by

a) replacing the existing program of classroom instruction
b) supplementing regular classroom instruction
c) changing the regular classroom method of instruction
d) making reading materials and activities for the regular classroom teacher

36. An effective reading program recognizes that

a) there is no one best approach to be recommended for the teaching of reading
b) the teacher should select aspects of several approaches which she feels best meet the needs of the students
c) psychological aspects of the childs self image are important determiners in the success and failure of learning to read
d) all of the above are true

37. In teaching reading to fourth grade bilingual learners whose abilities are at the first grade level:

a) the use of first grade books can be a factor in the lack of success in beginning reading
b) it is best to use standard primers to that they can succeed
c) it is best to use the fourth grade level books
d) it is best to use an approach incorporating easy to read books with more sophisticated subject matter

38. The interdependency of speaking and reading is demonstrated by the statement:

a) children with speech defects are poor readers
b) even in silent reading there is an involuntary silent activity of the vocal organs known as "silent speech"
c) teachers get good results with language emphasis lessons for non-native English speakers
d) an audio-bilingual approach is the best method for non-English speakers

39. Reading is considered by some experts as a recognition of symbol-sound correspondence. According to them, meaning is not found in the graphic form, but in the speech which it represents. This doctrine describes

a) a linguistic approach
b) a programmed reading approach
c) an i/t/a, initial teaching alphabet approach
d) a basal reader approach

40. The sentence "The big pig did jig." would most likely be used in a:

a) basal reader
b) formal phonic approach
c) linguistic reader
d) language experience chart

41. "Who presented the award to the winner of the contest?". This question is an example of:

a) drawing a conclusion
b) predicting an outcome
c) identifying a specific detail of fact
d) forming a judgment based on values

42. The reading teacher could use the question: What do you think an "Ad Hoc Committee is?" to assess:

a) understanding meaning from context
b) evaluation based on a criteria
c) identification of a specific detail of fact
d) sequence of events

43. A student is taught to associate the written symbols with his thoughts expressed orally through use of

a) discussion
b) language experience
c) reading charts
d) picture file

44. The criterion of LEAST value to a teacher in selecting stories to b read to a second grade class would be to base the selections on

a) the quality of the illustrations
b) the interest level
c) the popularity of the author
d) the quality of the literary style

45. All of the following statements are elements of a special language lesson EXCEPT:

a) It provides practice in the new pattern or vocabulary through frequent class and group repetition of the teacher's model.
b) It stresses accuracy from the beginning, especially during the practice of new material.
c) It eliminates drill exercises because of the repetitive nature of this teaching approach and method.
d) It uses a variety of meaningful language-learning aids, devices and experiences to keep the children interested.

46. Charles Fries would best be associated with one of the following reading materials:

A. Inner city basal readers
B. The Merrill Linguistic Readers
C. Language experiences
D. Initial Teaching Alphabet (ITA)

47. The process of change in the following transformation from column 1 to column 2:

Column 1	Column 2
Map	Mop
Cat	Cap
Some	Come
Ship	Chip

1. Reversal 2. insertion 3. substitution 4. addition

48. A frequent reason for poor reading is:

1. Poor economic environment
2. Poor health
3. Language difference
4. All of the above

49. If a teacher lists these grapheme symbols on the blackboard
bl cl fl gl pl

she is obviously teaching

1. digraphs 2. dipthongs 3. blends 4. a particular consonant sound

50. The best sequence to follow to get children to achieve competence in reading is:

A. Write - Read
B. Speak - Read
C. Listen - Speak - Read
D. Listen - Write - Read

51. The best principle for teaching a student to attach new words is:

A. Looking up unknown words in the dictionary.
B. Writing sentences using new words.
C. Teaching from the known to the unkr n.
D. Skipping over new words and come back later.

Appendix B -- Part 3

BILINGUAL PUPIL SERVICES

MATHEMATICS POST-TEST*

1974 - 1975

NAME_____
Last First

CATEGORY: BPA_____ ED. ASSOC._____

ED. ASSIST._____

COUNSELOR_____ _____

DISTRICT ASSIGNED_____SCHOOL_____

DATE_____

* Developed by Bilingual Pupil Services under the Office of Bilingual Education, and used as both Pre- and Post-test.

Directions:

Read each statement carefully. Choose the best answer by making a circle around the corresponding letter.

1. What number is used as the base in the Hindu-Arabic system of numeration?

   a) twelve

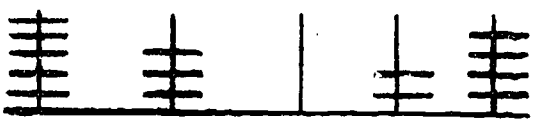
   b) twenty

   c) ten

   d) two

   e) one hundred

2. What number is shown on this abacus?



   a) 53,240

   b) 530,240

   c) 53,024

   d) 35,024

   e) none of these

3. What is $9^2 \cdot 9^4$?

   a) 9^8

   b) 81^6

   c) 9^6

   d) 81^8

   e) none of these

4. Which expanded form tells how 300 has been renamed in this subtraction problem?

$$\begin{array}{r} 2\ 9\ 10 \\ \not{3}\ \not{0}\ \not{0} \\ -\ 2\ 1\ 7 \end{array}$$

   a) 2 + 9 + 10

   b) 200 + 9 + 10

   c) 200 + 100

   d) 200 + 90 + 10

   e) none of these

5. If $x \neq 0$, what is $x^5 + x^3$?

   a) x^8

   b) x^{15}

   c) x^3

   d) x^2

   e) none of the above

6. What is $A \cap B$ if A and B are disjoint sets?

   a) $\{B\}$

   b) $\{A\}$

   c) $\{\ \}$

   d) $\{A, B\}$

   e) $\{A \cap B\}$

7. If you used the principle of compensation to avoid regrouping, what would be the most efficient subtrahend with which you would operate in this example?

$$\begin{array}{r} 61 \text{ (minuend)} \\ -\ 28 \text{ (subtrahend)} \end{array}$$

a) 28

b) 30

c) 20

d) 38

e) All of these

8. The product of 32 and 15 is equal to the sum of 32 x 10 and which of the following?

a) (5 tens) x 32

b) 5

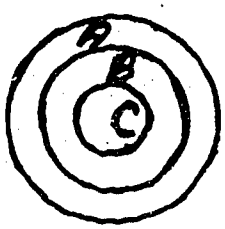
c) 32 x 5

d) 5 x 30

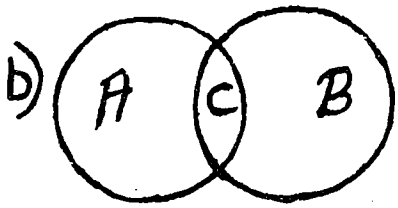
e) 2 x 15

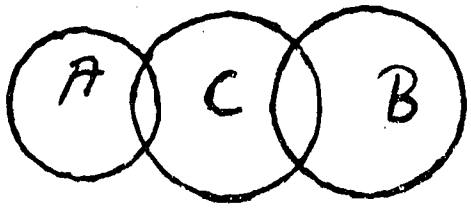
9. The diagram that shows the following relationship:

Some A are B and all C are B, but no C are A, is

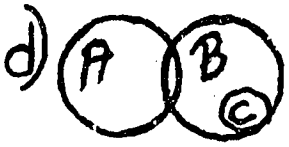


b)





d)



10. Consider: M = {10, 11, 12}
N = {11, 12, 15}
What is the union of sets M and N?

a) {11, 12}

b) {10, 11, 12, 15}

c) {10, 11, 12, 11, 12, 15}

d) {15}

e) none of the above.

11. What is the relationship of (1, 2, 3, ..., 26) and (a, b, c, ..., z)?

a) Equal

b) Equivalent and equal

c) Equivalent but not equal

d) Equal but not equivalent

e) No relationship

12. Given: K = {□, △, ◇, }
L = {◇, △, ▭}

Which of the following best characterizes the two sets?

a) Equality

b) Equivalence

c) One-to-one correspondence

d) a, b, c, are all correct

e) both b and c

13. Let A be the set of all animals, and D be the set of all dogs. What is the most correct way of expressing this relationship?

a) $D \in A$

b) $D \notin A$

c) $A \subset D$

d) $A \in D$

e) $D \subset A$

14. If A denotes (3, 5, 7, 9), which of the following is a proper subset of A?

a) {3, 5, 7, 9}

b) {7}

c) {0}

d) {4, 6, 8}

e) none of the above.

15. Consider: A = {May, George, Jim} and B = {1, 2, 3}. They are equivalent because:

a) they are disjoint sets

b) their membership is not indentical

c) the elements can be placed in one-to-one correspondence

d) the empty set is an element of both set A and B.

e) none of the above.

16. How many subsets does a 5-element set have?

a) 5

b) 31

c) 120

d) 32

e) 6

17. Which of the following is a well-defined set:

a) All integers greater than 37

b) All numbers whose squares are 0

c) All female graduates of West Point Military Academy

d) All of the above

e) None of the above

18. Which of the following shows the greatest number in thousand's place?

a) 68479

b) 37962

c) 82398

d) 59643

e) 95724

19. What is $(a^2)^4 \cdot (a^3)^5$?

a) a^{420}

b) a^{14}

c) $a^8 \cdot a^{15}$

d) a^{-7}

e) none of the above

20. What is $a^5 \div a^0$, providing $a \neq 0$?

a) a^4

b) a^5

c) 0

d) $a^{5/0}$

e) none of the above

21. Which statement is an expanded form for 29735?

a) $(29 \times 10^4) + (735 \times 10^0)$

b) $(29 \times 10^4) + (735 \times 10^1)$

c) $(2 \times 10^4) + (9 \times 10^3) + (7 \times 10^2) + (3 \times 10^1) + (5 \times 10^0)$

d) $(2 \times 10)^4 + (9 \times 10)^3 + (7 \times 10)^2 + (3 \times 10)^1 + (5 \times 10)^0$

e) $(2 \times 10^5) + (9 \times 10^4) + (7 \times 10^3) + (3 \times 10^2) + (5 \times 10^1)$

22. The set theory should be introduced:

a) After addition and subtraction

b) Before addition and subtraction

c) Together with addition and subtraction

d) In the Junior High School

23. The set of stars in the sky is a:

a) null set

b) infinite set

c) finite set

d) none of the above

24. In teaching Mathematics to the bilingual learners (English and Spanish), the teacher should teach:

a) in English

b) in Spanish

c) in the dominant language of the students.

d) in both English and Spanish

25. The numeral 10 in any base always means

a) one times ten

b) ten

c) ten ones

d) one times the base

e) none of the above

26. Which is equivalent to the following?

$(6 \times a^3) + (2 \times a^1) + (4 \times a^0)$

a) $6a^3 + 2a + 0$

b) $6a^3 + 2a + 0$

c) $12a^4$

d) $6a^3 + 2a + 4$

e) $2a(3a^2) + 4a$

27. In 15568 the 5 on the left indicates a number that is how many times the number indicated by the 5 on the right?

a) 1 (same value)

b) 10

c) 5

d) 2

e) 100

28. How many tens are there in 5917?

a) 59.1

b) 5.9

c) 5910

d) 917

e) 591

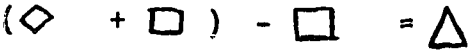
29. Consider: 

All the symbols represent non-zero whole numbers. Which of the following is true?

a) 

b) 

c) 

d) 

e) none of the above

30. Consider:

step a: $(5 \times 10^1) + (2 \times 10^1)$

step b: $(5 + 2)\ (10^1)$

What property allows us to rewrite step a as step b?

a) Associative

b) Commutative

c) Distributive

d) Compensation

e) Closure

31. In which example is the Commutative Property of Addition most concisely illustrated?

a) $3 + 4 = 4 + 3$

b) $3 + 4 = 3\ (2 + 2)$

c) $3 + 2 + 4 = 3 + 2 + 2 + 2$

d) $3 + 4 = 7$

e) $3 + (2 + 2) = (3 + 2) + 2$

32. In which example is the Associative Property of Addition most concisely illustrated?

a) $a + b = b + a$

b) $(3 + 4) + c = 3 + (4 + c)$

c) $3 + (6 \times 5) = (3 + 6) \times (3 + 5)$

d) $(3 + 4 + c) = (c + 4 + 3)$

e) $3 \times (6 + 5) = (3 \times 6) + (3 \times 5)$

33. This place value chart (and tally marks) indicate a base-eight numeral. What is that numeral?

sixty-fours	eights	ones
//	/////	//////

a) 13_{eight}

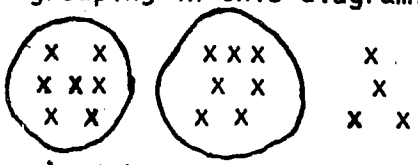
b) 256_{eight}

c) 682_{eight}

d) 9_{eight}

e) none of these

34. What base is suggested by the grouping in this diagram.



a) eight

b) seven

c) ten

d) five

e) two

35. Which of the following reveals the basic relationship between subtraction and addition?

a) If 5 + 4 = 9 then, 9 - 4 = 5

b) If 9 - 6 = 3 then, 6 + 2 = 8

c) If 6 + 5 = 11 then, 6 - 5 = 1

d) 6 + (12 - 7) = 11

e) none of the above

36. Consider: DEF + MNP + ZXL = ? What is the effect of changing this to: ZXL + MNP + DEF? (Assume that numbers are being represented.)

a) answer will not change

b) answer will be larger

c) answer will be smaller

d) could not do the example

e) cannot tell until you add both ways and compare.

37. If you are a teacher and you find that three children in the 6th grade do not know addition, the best thing to do is.

a) send those children to 3rd grade during the mathematics period.

b) work with them individually in the classroom

c) allow the school principal to make the decision

d) forget about them because they are they are only three and the rest need to continue learning.

38. What is the multiplication inverse of 9?

a) 1

b) -9

c) 0

d) 1/9

e) 9/1

39. Which of the following is always true for the operation of subtraction of whole numbers?

a) Commutative

b) Associative

c) Closure

d) All of the above

e) None of the above

40. Which of the following demonstrates the identity element for addition?

a) a + b = c

b) a + b = b + a = a

c) a + a = 2a

d) a + b = b + a =

e) none of the above

41. What is the additive inverse of 9?

a) 9/1

b) 1/9

c) 1

d) -9

e) 0

42. If you are teaching counting in the first grade and you find that 50% of the children know how to count, the best thing to do is to:

a) continue teaching counting to the group in order that the students will learn from each other

b) provide them with additional activities in mathematics

c) let them read while the teacher continues to teach counting to the rest of the group.

d) send them to the library.

43. In the number 3,481 the total value of 3 is:

a) 3

b) 3,841

c) 3,000

d) 841

44. In teaching mathematics the most important aspect is:

a) teaching the concepts meaningfully

b) teaching addition, subtraction, multiplication, and division

c) teaching children to work with money

d) teaching the relationships between Algebra, Geometry, etc.

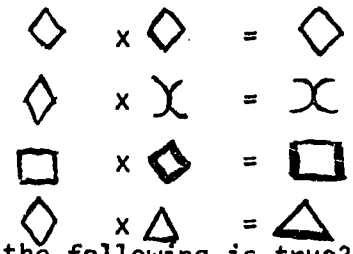
45. In $3\overline{)14}$ the dividend is:

a) 3

b) 4 2/3

c) 2

d) 14

46. Consider: 

Which of the following is true?

a)  is equal to one

b)  is less than 

c)  is greather than 

d)  is equal to zero

e)  times  times  is equal to 

47. Which of the following is equal to 4 x 44?

a) 16 + 16

b) (4 x 40) + (4 x 4)

c) (4 x 40) + (4 x 40)

d) (4 x 4) + (4 x 4)

e) none of these

48. What does 2380 represent in the following example?

$$\begin{array}{r} 476 \\ \times\ 58 \\ \hline 3800 \\ 2380 \\ \hline \end{array}$$

a) 23,800

b) 238,800

c) 2,380

d) 238 tens

e) 2380 hundreds

49. If the 0's in this example were deleted how would the answer be changed?

$30\overline{)5240}$

a) The answer would be one hundred times as great

b) The answer would be ten times as great

c) the answer would be one-tenth as great

d) The answer would not change

e) The answer would be one-hundredth as great.

50. Which of the following is possible in the system of real numbers?

a) $3 \div 6$

b) $0 \div 3$

c) $3 \div 0$

d) a and c but not b

e) a and b but not c

51. Which is an example of the partition type of division problem?

a) 21 balloons are shared equally by 7 children; how many will each one receive?

b) 16 children are separated into 4; equal groups; how many are there in each group:

c) 3 oranges cost 27¢; how much does each one cost?

d) none of the above

e) all of the above

52. The verbal problems in mathematics should be taught.

a) after the 3rd grade

b) in the Junior High School

c) beginning with Kindergarten

d) after the children learn to read

53. Which of the following is a member of the set of integers?

a) $\sqrt{2}$

b) 2.2

c) $2\frac{1}{2}$

d) -2

e) none of the above

54.

	(hundreds)	(tens)	(ones)
a)	2a	3b	1

Consider the above illustration. 2a represents a number in hundred's place of the dividend If 2a is divided by a, in what place will the first digit of the quotient be?

a) Ten's place

b) Could be in either hundred's place or ten's place

c) Hundred's place

d) Could be in either ten's place or one's place

e) Impossible to tell without specific numbers

55. In the example partly worked at the right, how many 5's have been subtracted from 329?

$$\begin{array}{r} 6 \\ 5\overline{)329} \\ \underline{30} \\ 29 \end{array}$$

a) 30

b) 6

c) 60

d) 29

e) 600

56. Deleting a 0 from the right side of a numeral has the same effect as:

a) multiplying by 10

b) subtracting 10

c) subtracting 100

d) dividing by 10

e) multiplying by 1

57. Consider: a - b = ? For which a and b would the answer be a member of the set of negative numbers?

a) a = 5 and $a > b$

b) a = 3 and $a < b$

c) a = 10 and a = b

d) a = 4 and $a \geq b$

e) none of the above

58. The games in mathematics will enable the teacher to:

a) work on a report while the children are playing.

b) teach math concepts in an enjoyable way

c) have group control

d) keep the disruptive students busy during the mathematics class.

59. Consider: $\frac{6}{25} = \frac{5}{x}$

What is x equal to?

a) 5/6

b) 20 5/6

c) 6/5

d) 750

e) none of the above

60. What property is illustrated by $(^-a)(b + {}^-b) = (^-a)(b) + (^-a)(^-b)$?

a) Associative Property of Multiplication

b) compensation

c) Distributive Property

d) reciprocality

e) none of the above

61. Which is true?

a) $(-5) \times (-6) = 30$

b) $(+6) \times (-4) = 24$

c) $(-4) \times (-3) = -12$

d) $(-3) \times (+6) = -(-18)$

e) none of the above

62. What is the role of 1 in $(\frac{2}{7} \times 1 = \square)$?

a) equivalence

b) inverse

c) identity element

d) reciprocal

e) universal set

63. What is the test of equivalence for fractions?

a) If $\frac{a}{b} = \frac{c}{d}$ then $ab = cd$

b) If $\frac{a}{b} = \frac{c}{d}$ then $a\ c = bd$

c) If $\frac{a}{b} = \frac{c}{d}$ then $ad = bc$

d) If $\frac{a}{b} = \frac{c}{d}$ then $abc = bcd$

e) none of the above

64. Which of the following shows how we state the procedure for multiplying with fractions?

$\frac{a}{b} = \frac{c}{d}$

a) $\frac{a \times d}{b \times c}$

b) $\frac{a \times (b \times d)}{c \times (b \times d)}$

c) $\frac{a \times c}{b \times d}$

d) $\frac{(a \times c)\ (b)\ (d)}{b \times d}$

e) none of the above

65. Which of the following fractions names the least rational number?

a) 1/4

b) 1/2

c) 1/7

d) 1/12

e) 1/3

66. Which represents the equivalence class for 3/5?

a) 3/2, 3/4,...

b) 5/3, 4/3,...

c) 1/5, 2/5,...

d) 9/25, 27/125,...

e) 9/15, 12/20,...

67. Which of the following statements would help most to increase understanding of what we do in this example?

$$7 \div \frac{4}{5} = 8\frac{3}{4}$$

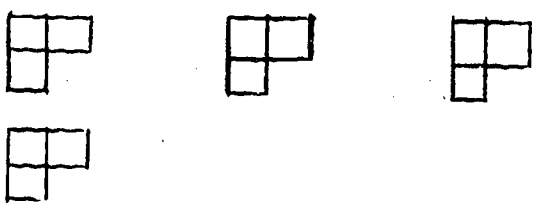
a) invert 4/5 and multiply

b) divide both 7 and 4/5 by the multiplicative identity

c) multiply 4/5 by 8 3/4

d) multiply both 7 and 4/5 by the multiplicative inverse of 4/5

e) draw a diagram:

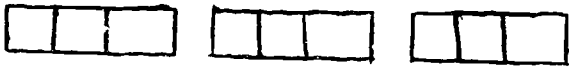


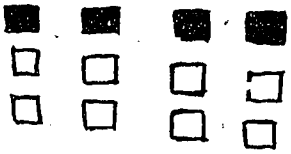
68. Which picture best suggests 2 x 2/3? (The shaded part represents the answer.)

a) 

b) 

c) 

d) 

e) 

69. Which of the following names the greatest number?

a) 60.5

b) 60.0555

c) 60.505

d) 60.05

e) 60.50

70. Which illustrates the Commutative Property of Addition for rational numbers?

a) $\frac{m}{n} + \frac{p}{q} = mq + pn$

b) $\frac{m}{n} + \frac{p}{q} = \frac{m}{q} + \frac{p}{n}$

c) $\frac{m}{n} + \frac{p}{q} = \frac{p}{q} + \frac{m}{n}$

e) none of the above

71. What is $\frac{96}{400}$ expressed as a per cent?

a) approximately 4.2%

b) 96%

c) approximately 42%

d) 24%

e) 9.6%

72. How would the following be ordered using the relation "is greater than?"

$\frac{3}{2}$, $\frac{17}{12}$, $\frac{52}{17}$, 1,414, 2

a) $\frac{52}{17}$, 2, $\frac{3}{2}$, $\frac{17}{12}$, 1.414

b) 2, 1.414, $\frac{52}{17}$, $\frac{17}{12}$, $\frac{3}{2}$

c) $\frac{3}{2}$, $\frac{17}{12}$, $\frac{52}{17}$, 1.414, 2

d) 2, $\frac{3}{2}$, $\frac{52}{17}$, $\frac{17}{12}$, 1,414

e) 1.414, 2, $\frac{3}{2}$, $\frac{52}{17}$, $\frac{17}{12}$

73. Which shows how we state the procedure for subtracting with fractions showing the same denominator?

$\frac{a}{c} - \frac{b}{c}$

a) $\frac{a - c}{-b}$

b) $\frac{a - (b)\ (c)}{c}$

c) $\frac{ac - bc}{c}$

d) $\frac{a - b}{c}$

e) none of the above

74. Which of the following is equivalent to .636?

a) 636/10

b) 636/1000

c) (63.6)/10

d) 636/100

e) (63.6)/1000

75. Which name the same number?

a) 2/3 and .6

b) 3/8 and .375

c) 3/5 and 3.5

d) 4/5 and .88

e) none of the above

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Urban and Community Programs Evaluation
Albany, New York 12234

MAILED INFORMATION REPORT FOR CATEGORICALLY AIDED EDUCATION PROJECTS

SECTION III

1974-75 School Year

Appendix C

Due Date: July 15, 1975

SED Project Number | 3 | 0 | 0 | 0 | 0 | 0 | | 7 | 5 | | 0 | 0 | 2 | | 0 | 1 |

BE Function Number (N.Y.C. only) | 0 | 9 | 5 | 1 | 6 | 9 | 8 |

Project Title Bilingual Pupil Services

School District Name Central Board of Education

School District Address 66 Court Street

Brooklyn, New York 11201

Name and Title of Person Completing this form:

Name Maurice A. Lohman

Title Evaluator

Telephone Number 914 (Area Code) 591-8270

Date this form was completed 7 / 10 / 75

Use Table 28 for norm referenced achievement data not applicable to Table 26. (See "Instructions" Item 5 before completing this table.)

28. Standardized Test Results

In the table below, enter the requested assessment information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, read all footnotes. Attach additional sheets if necessary. 27

Component Code	Activity Code	Test Used 1/	Form Pre	Form Post	Level Pre	Level Post	Total N 2/	Group ID 3/	Number Tested 4/ N	Number Tested 5/	Pretest Date	Pretest Mean	Pretest SD 6/	Posttest Date	Posttest Mean	Posttest SD 6/	Statistical Data 7/ Test	Statistical Data 8/ Value	Subgroup 9/
6 6 7 1 3	7 2 0	CIA-72	COR 1CE	COR 1DE	K-1	K-1	194	1	158	6	9/74	19.3	8.5	6/75	25.8	6.0	t	11.74	
6 6 7 1 3	7 2 0	CIA 72	OCR 1CE	OCR 1DE	K-1	K-1	62	1	54	6	9/74	26.3	5.6	6/75	28.9	3.2	t	3.88	
6 6 7 1 3	7 2 0	CIA 66	L-1 CE	L-1 DE	1	1	14	1	13	6	9/74	21.0	4.0	6/75	25.6	4.3	t	5.44	
6 6 7 1 3	7 2 0	CIA 66	L-1 CE	L-1 DE	1	1	186	2	148	6	9/74	29.3	204	6/75	50.2	236	t	13.31	
6 6 7 1 3	7 2 0	CIA 66	R-1 CE	R-1 DE	1	1	119	2	94	6	9/74	24.9	251	6/75	52.2	207	t	10.83	
6 6 7 1 3	7 2 0	CIA-62	L-2 CE	L-2 DE	2	2	174	3	157	6	9/74	38.5	201	6/75	53.9	215	t	9.83	
6 6 7 1 3	7 2 0	CIA-62	R-2 CE	R-2 DE	2	2	153	3	125	6	9/74	35.5	115	6/75	46.3	203	t	7.05	

1/ Identify test used and year of publication (MAT-58; CAT-70, etc.)

2/ Total number of participants in the activity.

3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.

4/ Total number of participants included in the pre and posttest calculations.

5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.

6/ SD = Standard Deviation

7/ Test statistics (e.g., t; F; X^2).

8/ Obtained value

9/ Provide data for the following groups separately: Neglected (code as N), Delinquent (code as D), and Handicapped (code as H). Place the indicated code letter in the last column to signify the subgroup evaluated.

Use Table 28 for norm referenced achievement data not applicable to Table 26. (See "Instructions" Item 5 before completing this table.)

28. Standardized Test Results

In the table below, enter the requested assessment information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, [27] read all footnotes. Attach additional sheets if necessary.

Component Code	Activity Code	Test Used 1/	Form		Level		Total N 2/	Group ID 3/	Number Tested		Pretest			Posttest			Statistical Data		Subgroup 9/
			Pre	Post	Pre	Post			4/ N	5/	Date	Mean	6/ SD	Date	Mean	6/ SD	7/ Test	8/ Value	
6 6 7 1 4	7 2 0	CIA-69	LN3 CE	LN3 DE	3	3	207	4	166	6	9/74	21.7	9.5	6/75	31.6	10.9	t	12.78	
6 6 7 1 4	7 2 0	CIA-69	RN3 CE	RN3 DE	3	3	143	4	110	6	9/74	24.7	10.6	6/75	34.4	13.3	t	8.52	
6 6 7 1 4	7 2 0	CIA-62	L3 CE	L3 DE	3	3	124	5	108	6	9/74	22.5	13.9	6/75	34.4	20.5	t	7.65	
6 6 7 1 4	7 2 0	CIA-62	R3 CE	R3 DE	3	3	104	5	93	6	9/74	27.4	19.5	6/75	36.4	23.2	t	10.48	
6 6 7 1 4	7 2 0	CIA-69	LN3 CE	LN3 DE	3	3	41	5	35	6	9/74	22.6	6.9	6/75	33.9	11.6	t	6.69	
6 6 7 1 4	7 2 0	CIA-69	RN3 CE	RN3 DE	3	3	34	5	16	6	9/74	28.2	7.6	6/75	42.8	16.2	t	3.16	
6 6 7 1 4	7 2 0	CIA-62	L3 CE	L3 DE	3	3	103	6	92	6	9/74	32.9	18.1	6/75	42.5	20.0	t	5.45	

1/ Identify test used and year of publication (MAT-58; CAT-70, etc.)

2/ Total number of participants in the activity.

3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.

4/ Total number of participants included in the pre and posttest calculations.

5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.

6/ SD = Standard Deviation

7/ Test statistics (e.g., t; F; X^2).

8/ Obtained value

9/ Provide data for the following groups separately: Neglected (code as N), Delinquent (code as D), and Handicapped (code as H). Place the indicated code letter in the last column to signify the subgroup evaluated.

Use Table 28 for norm referenced achievement data not applicable to Table 26. (See "Instructions" Item 5 before completing this table.)

28. Standardized Test Results

In the table below, enter the requested assessment information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, read all footnotes. Attach additional sheets if necessary. 27

Component Code	Activity Code	Test Used 1/	Form Pre	Form Post	Level Pre	Level Post	Total N 2/	Group ID 3/	Number Tested 4/ N	Number Tested 5/	Pretest Date	Pretest Mean	Pretest SD 6/	Posttest Date	Posttest Mean	Posttest SD 6/	Statistical Data 7/ Test	Statistical Data 8/ Value	Subgroup 9/
6 6 7 1 4	7 2 0	CIA-62	R-3 CE	R-3 DE	3	3	26	6	22	6	9/74	125	78	6/75	203	63	t	4.05	
6 6 7 1 5	7 2 0	CIA-62	L-3 CE	L-3 DE	3	3	59	7	56	6	9/74	319	196	6/75	397	219	t	4.58	
6 6 7 1 5	7 2 0	CIA-62	R-3 CE	R-3 DE	3	3	28	7	10	6	9/74	315	119	6/75	382	115	t	1.75	
6 6 7 1 5	7 2 0	CIA-62	L-3 CE	L-3 DE	3	3	60	8	56	6	9/74	305	196	6/75	386	233	t	5.50	
6 6 7 1 5	7 2 0	CIA-62	R-3 CE	R-3 DE	3	3	53	8	48	6	9/74	417	194	6/75	495	196	t	4.69	
6 6 7 1 5	7 2 0	CIA-62	L-3 CE	L-3 DE	3	3	4	9	4	6	9/74	360	-	6/75	465	-	-	-	
6 6 8 1 3	7 2 0	CIA	HG-1 CE	HG-1 DE	1	1	205	1	170	6	9/74	6.6	3.3	6/75	10.6	3.2	t	14.98	

1/ Identify test used and year of publication (MAT-68; CAT-70, etc.)

2/ Total number of participants in the activity.

3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.

4/ Total number of participants included in the pre and posttest calculations.

5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.

6/ SD = Standard Deviation

7/ Test statistics (e.g., t; F; X^2).

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9/ Provide data for the following groups separately: Neglected (code as N), Delinquent (code as D), and Handicapped (code as H). Place the indicated code letter in the last column to signify the subgroup evaluated.

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Component Code	Activity Code	Test Used 1/	Form		Level		Total N 2/	Group ID 3/	Number Tested		Pretest			Posttest			Statistical Data		Subgroup 9/
			Pre	Post	Pre	Post			4/ N	5/	Date	Mean	6/ SD	Date	Mean	6/ SD	7/ Test	8/ Value	
66813	720	CIA-1	GA1 CE	GA1 DE	1	1	68	1	54	1	9/74	8.8	3.3	6/75	13.3	3.9	t	9.33	
66813	720	CIA-1	HG1 CE	HG1 DE	1	1	167	2	127	6	9/74	10.8	2.7	6/75	12.7	2.4	t	7.78	
66813	720	CIA-1	GA1 CR	GA-1 DE	1	1	118	2	94	6	9/74	11.1	3.2	6/75	12.9	2.7	t	5.71	
66813	720	CIA-2	HG2 CR	HG-2 DE	2	2	15	2	13	6	9/74	21.4	6.1	6/75	26.3	3.5	t	2.48	
66813	720	CIA-2	HG2 CR	HG-2 DE	2	2	180	3	155	6	9/74	15.0	5.2	6/75	19.3	5.7	t	8.95	
66813	720	CIA-2	GA2 CE	GA2 DE	2	2	151	3	126	6	9/74	14.5	4.3	6/75	19.4	5.3	t	10.61	
66813	720	CIA-3	LN3 CE	LN3 DE	3	3	209	4	168	6	9/74	20.7	9.7	6/75	28.6	10.8	t	12.42	

1/ Identify test used and year of publication (MAT-58; CAT-70, etc.)

2/ Total number of participants in the activity.

3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.

4/ Total number of participants included in the pre and posttest calculations.

5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.

6/ SD = Standard Deviation

7/ Test statistics (e.g., t; F; X^2).

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28. Standardized Test Results

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Component Code	Activity Code	Test Used 1/	Form Pre	Form Post	Level Pre	Level Post	Total N 2/	Group ID 3/	Number Tested 4/ N	Number Tested 5/	Pretest Date	Pretest Mean	Pretest SD 6/	Posttest Date	Posttest Mean	Posttest SD 6/	Statistical Data 7/ Test	Statistical Data 8/ Value	Subgroup 9/
6 6 8 1 4	7 2 0	CIA-69	RN3 CE	RN3 DE	3	3	141	4	109	6	9/74	21.4	10.0	6/75	29.9	9.9	t	11.66	
6 6 8 1 4	7 2 0	CIA--	HG3 CE	HG3 DE	3	3	122	5	108	6	9/74	17.8	7.9	6/75	24.8	10.3	t	8.78	
6 6 8 1 4	7 2 0	CIA--	GA3 CE	GA3 DE	3	3	106	5	93	6	9/74	19.9	8.8	6/75	26.6	9.9	t	9.60	
6 6 8 1 4	7 2 0	CIA-69	LN3 CE	LN-3 DE	3	3	41	5	34	6	9/74	21.2	8.3	6/75	30.4	10.6	t	6.09	
6 6 8 1 4	7 2 0	CIA-69	RN3 CE	RN-3 DE	3	3	34	5	17	6	9/74	19.6	5.9	6/75	29.0	10.4	t	6.03	
6 6 8 1 4	7 2 0	CIA--	HG3 CE	HG-3 DE	3	3	103	6	92	6	9/74	24.8	11.7	6/75	27.2	10.8	t	2.32	
6 6 8 1 4	7 2 0	CIA--	GA3 CE	GA-3 DE	3	3	26	6	22	6	9/74	18.0	9.1	6/75	23.5	7.6	t	5.20	

1/ Identify test used and year of publication (MAT-58; CAT-70, etc.)

2/ Total number of participants in the activity.

3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.

4/ Total number of participants included in the pre and posttest calculations.

5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.

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9/ Provide data for the following groups separately: Neglected (code as N), Delinquent (code as D), and Handicapped (code as H). Place the indicated code letter in the last column to signify the subgroup evaluated.

Use Table 28 for norm referenced achievement data not applicable to Table 26. (See "Instructions" Item 5 before completing this table.)

28. Standardized Test Results

In the table below, enter the requested assessment information about the tests used to evaluate the effectiveness of major project components/activities in achieving desired objectives. Before completing this form, read all footnotes. Attach additional sheets if necessary. [27]

Component Code	Activity Code	Test Used 1/	Form Pre	Form Post	Level Pre	Level Post	Total N 2/	Group ID 3/	Number Tested 4/ N	Number Tested 5/	Pretest Date	Pretest Mean	Pretest SD 6/	Posttest Date	Posttest Mean	Posttest SD 6/	Statistical Data Test 7/	Statistical Data Value 8/	Subgroup 9/
6 68 15	720	CIA -	HG3 CE	HG3 DE	3	3	58	7	55	6	9/74	20.5	8.2	6/75	30.7	14.8	t	5.88	
6 68 15	720	CIA -	GA3 CE	GA3 DE	3	3	27	7	10	6	9/74	24.7	7.0	6/75	27.3	9.5	t	2.07	
6 68 15	720	CIA -	HG3 CE	HG3 DE	3	3	62	8	55	6	9/74	23.2	8.6	6/75	29.2	14.5	t	3.37	
6 68 15	720	CIA -	GA3 CE	GA3 DE	3	3	53	8	47	6	9/74	29.2	9.1	6/75	32.2	9.1	t	2.61	
6 68 15	720	CIA -	HG3 CE	HG3 DE	3	3	4	9	4	6	9/74	30.3	-	6/75	54.0	-	-	-	
6 67 13	720	CIA-66	L1 CE	L-1 DE	1	1	48	2	34	6	2/75	40.9	20.3	6/75	41.3	19.6	t	.50	
6 67 13	720	CIA-66	R-1 CE	R-1 DE	1	1	22	2	1	6	2/75	22.0	-	6/75	25.0	-	-	-	

1/ Identify test used and year of publication (MAT-58; CAT-70, etc.)

2/ Total number of participants in the activity.

3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.

4/ Total number of participants included in the pre and posttest calculations.

5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.

6/ SD = Standard Deviation

7/ Test statistics (e.g., t; F; X^2).

8/ Obtained value

9/ Provide data for the following groups separately: Neglected (code as N), Delinquent (code as D), and Handicapped (code as H). Place the indicated code letter in the last column to signify the subgroup evaluated.

APPENDIX C - Part 1 — M.I.R. Form — Function

Use Table 28 for norm referenced achievement data not applicable to Table 26. (See "Instructions" I completing this tabl

28. Standardized Test Results

In the table below, enter the requested assessment information about the tests used to evaluat iveness of major project components/activities in achieving desired objectives. Before comple read all footnotes. Attach additional sheets if necessary.

Component Code	Activity Code	Test Used 1/	Form		Level		Total N 2/	Group ID 3/	Number Tested		Pretest				Posttest				Statis Dat	
			Pre	Post	Pre	Post			4/ N	5/	Date	Mean	6/ SD		Date	Mean	6/ SD		7/ Test	
6 6 7 1 3	7 2 0	CIA-62	L2 CE	L-2 DE	2	2	17	3	17	6	2/75	33.9	15.3		6/75	37.5	11.6		t	
6 6 7 1 4	7 2 0	CIA-69	RN3 CE	RN3 DE	3	3	10	4	10	6	2/75	31.9	9.8		6/75	32.1	10.0		t	
6 6 7 1 4	7 2 0	CIA-69	LN3 CE	LN-3 DE	3	3	45	4	45	6	2/75	32.3	8.1		6/75	32.2	8.4		t	
6 6 7 1 4	7 2 0	CIA-62	L3 CE	L-3 DE	3	3	1	5	1	6	2/75	20.0	-		6/75	21.0	-		-	
6 6 8 1 3	7 2 0	CIA-	HG1 CE	HG-1 DE	1	1	48	2	34	6	2/75	9.2	2.1		6/75	11.2	2.3		t	
6 6 8 1 3	7 2 0	CIA-	GH1 CE	GH-1 DE	1	1	22	2	1	6	2/75	11.0	-		6/75	10.0	-		-	
6 6 8 1 3	7 2 0	CIA-	HG2 CE	HG2 DE	2	2	17	3	17	6	2/75	16.7	6.7		6/75	18.8	6.6		t	

1/ Identify test used and year of publication (MAT-58; CAT-70, etc.)
2/ Total number of participants in the activity.
3/ Identify the participants by specific grade level (e.g., grade 3, grade 5). Where several grades are combined, enter the last two digits of the component code.
4/ Total number of participants included in the pre and posttest calculations.
5/ 1 = grade equivalent; 2 = percentile rank; 3 = z score; 4 = Standard score (publisher's); 5 = stanine; 6 = raw score; 7 = other.
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lized Test Results

able below, enter the requested assessment information about the tests used to evaluate the effect- of major project components/activities in achieving desired objectives. Before completing this for . footnotes. Attach additional sheets if necessary.

tiv- ty de		Test Used 1/	Form		Level		Total N 2/	Group ID 3/	Number Tested		Pretest			Posttest			Statistical Data		Subgro 9/
			Pre	Post	Pre	Post			4/ N	5/	Date	Mean	6/ SD	Date	Mean	6/ SD	7/ Test	8/ Value	
2	0	CIA 69	RN3 CE	RN3 DE	3	3	10	4	10	6	2/75	21.5	6.8	6/75	22.8	7.0	t	.876	
2	0	CIA 69	LN3 CE	LN3 DE	3	3	45	4	45	6	2/75	20.4	6.8	6/75	23.9	6.6	t	6.71	
2	0	CIA -	HG3 CE	HG3 DE	3	3	1	5	1	6	2/75	20.0	-	6/75	21.0	-	-	--	
2	0	CIA 72	COR CE	-	1	-	12	1	0	6	2/75	19.0	8.1	-	-	-	--	-	
2	0	CIA -	HG1 CE	-	1	-	12	1	0	6	2/75	5.8	2.2	--	-	-	-	-	

used and year of publication (MAT-58; CAT-70,

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APPENDIX C

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Activity Code		Test Used 1/	Form		Level		Total N 2/	Group ID 3/	Number Tested 4/		Pretest			Posttest			Statistical Data		Subgroup 9/
			Pre	Post	Pre	Post			N		Date	Mean	SD 6/	Date	Mean	SD 6/	Test 7/	Value 8/	
71	4	Developed Program Test	-	-	-	-	135	Paras	106	6	9/74	136	44	6/75	164	3.8	t	6.79	
71	4		-	-	-	-	135	Paras	106	6	9/74	358	118	6/75	412	110	t	8.03	
71	4		-	-	-	-	34	Paras	32	6	2/75	404	57	6/75	365	83	t	-1.81	
71	4		-	-	-	-	34	Paras	32	6	2/75	342	88	6/75	376	103	t	3.09	

st used and year of publication (MAT-58; CAT-70,

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APPENDIX C
Part 2

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OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM
(attach to MIR, item #30) Function # 09-51698

table enter all Data Loss information. Between MIR, item #30 and this form, all participants
y must be accounted for. The component and activity codes used in completion of item #30
here so that the two tables match. See definitions below table for further instructions.

Activity Code			(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, c tested, were not analyzed	Numb Reas
							N	%		
7	2	0	1	CIA-72	194	158	36	18.6	Moved Absent	
7	2	0	1	CIA-72	62	54	8	12.9	Moved	
7	2	0	1	CIA-66	14	13	1	7.1	Moved	
7	2	0	2	CIA-66	186	143	43	23.1	Moved Absent	
7	2	0	2	CIA-66	119	94	25	21.0	Moved Absent	

: participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combi
: last two digits of the component code.
: test used and year of publication (MAT-70, SDAT-74, etc.).
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ercent of participants not tested and/or not analyzed on item#30.
reasons why students were not tested and/or analyzed. For each reason specified, provide a sep
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OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM
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:able enter all Data Loss information. Between MIR, item #30 and this form, all participants
r must be accounted for. The component and activity codes used in completion of item #30
ier. so that the two tables match. See definitions below table for further instructions.

Activity Code			(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, o tested, were not analyzed	Numb Reas
							N	%		
7	2	0	3	CIA-62	179	157	22	12.3	Moved	
7	2	0	3	CIA-62	153	125	28	18.3	Moved Absent	
7	2	0	4	CIA-69	207	166	41	19.8	Moved Absent	
7	2	0	4	CIA-69	143	110	33	23.1	Moved Absent	
7	2	0	5	CIA-62	124	108	16	12.9	Moved Absent	

participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combi
last two digits of the component code.
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APPENDIX C
Part 2

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table enter all Data Loss information. Between MIR, item #30 and this form, all participants
y must be accounted for. The component and activity codes used in completion of item #30
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Activity Code			(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested tested, ere not analyzed	N R
							N	%		
7	2	0	5	CIA-62	104	93	11	11.8	Moved Absent	
7	2	0	5	CIA-69	41	35	6	14.6	Moved	
7	2	0	5	CIA-69	34	16	18	52.9	Moved Absent	
7	2	0	6	CIA-62	103	92	11	10.7	Moved	
7	2	0	6	CIA-62	26	22	4	6.5	Moved Deceased	

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APPENDIX (
Part 2

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APPENDIX C
Part 2

OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM

(attach to MIR, item #30) Function # 09-51698

In this table enter all Data Loss information. Between MIR, item #30 and this form, all participants in each activity must be accounted for. The component and activity codes used in completion of item #30 should be used here so that the two tables match. See definitions below table for further instructions.

Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
						N	%		Number/ Reason
66813	72 0	1	CIA -	68	54	14	20.6	Moved	8
								Absent	6
66813	72 0	2	CIA -	167	127	40	23.9	Moved	38
								Absent	2
66813	72 0	2	CIA -	118	94	24	20.3	Moved	24
66813	72 0	2	CIA -	15	13	2	13.3	Moved	2
66813	72 0	3	CIA -	180	155	25	13.9	Moved	22
								Absent	3

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.
(2) Identify the test used and year of publication (MAT-70, SDAT-74, etc.).
(3) Number of participants in the activity.
(4) Number of participants included in the pre and posttest calculations found on item#30.
(5) Number and percent of participants not tested and/or not analyzed on item#30.
(6) Specify all reasons why students were not tested and/or analyzed. For each reason specified, provide a separate number count. If any further documentation is available, please attach to this form. If further space is needed to specify and explain data loss, attach additional pages to this form.

APPENDIX C
Part 2

OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM

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Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
						N	%		Number/ Reason
66813	7200	3	CIA -	151	126	25	16.6	Moved	25
66814	7200	4	CIA-69	209	168	41	19.6	Moved	33
								Absent	8
66814	7200	4	CIA-69	141	109	32	22.7	Moved	29
								Absent	3
66814	7200	5	CIA -	122	108	14	11.5	Moved	14
66814	7200	5	CIA -	106	93	13	12.3	Moved	11
								Absent	2

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.
(2) Identify the test used and year of publication (MAT-70, SDAT-74, etc.).
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Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or tested, were not analyzed	Number/ Reason
						N	%		
66814	720	5	CIA-69	41	34	7	17.1	Moved	7
66814	720	5	CIA-69	34	17	17	50.0	Moved	6
								Absent	11
66814	720	6	CIA-	103	92	11	10.7	Moved	11
66814	720	6	CIA -	26	22	4	15.4	Moved	3
								Deceased	1
66815	720	7	CIA -	58	55	3	5.2	Moved	3

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined enter the last two digits of the component code.
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Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
						N	%		Number/ Reason
66815	720	7	CIA -	27	10	17	63.0	Moved	17
66815	720	8	CIA -	62	55	7	11.3	Moved	4
								Absent	3
66815	720	8	CIA -	53	47	6	11.3	Moved	5
								Absent	1
66713	720	½ yr 2	CIA-62	48	34	14	29.2	Moved	3
								Received too late	11
66713	720	½ yr 2	CIA-62	22	1	21	95.5	Conflict with A.S.P.I.R.A. testing program	21

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.
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Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
						N	%		Number/ Reason
66813	720	½ yr 2	CIA -	48	34	14	29.2	Moved	3
								Received too late	11
66813	720	½ yr. 2	CIA -	22	1	21	95.5	Conflict with A.S.P.I.R.A. testing program	21
66713	720	½ yr. 1	CIA-72	12	0	12	100.	Conflict with A.S.P.I.R.A. testing program	12
66813	720	½ yr. 1	CIA- -	12	0	12	100.	Conflict with A.S.P.I.R.A. testing program	12

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.
(2) Identify the test used and year of publication (MAT-70, SDAT-74, etc.).
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Component Code					Activity Code			(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
												N	%		Number/ Reason
6	5	7	2	8	7	1	4	Paras	Prog. Dev. Read.	135	106	29	21.5	10 Graduated 2/75 10 Left program	20
														Absent	6
														Wrong form of test	3
6	5	7	2	8	7	1	4	Paras	Prog. Dev. Math.	135	106	29	21.5	10 Graduated 2/75 10 Left program	20
														Absent and personal reasons	9
6	5	7	2	8	7	1	4	½ yr. Paras	Prog. Dev. Read.	34	32	2	5.9	Absent	2
6	5	7	2	8	7	1	4	½ yr. Paras	Prog. Dev. Math.	34	32	2	5.9	Absent	2

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.
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(5) Number and percent of participants not tested and/or not analyzed on item#30.
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32. Program Abstract: Please provi[illegible]f your project, including aspects of the project which ac[illegible] positive results. Provide a summary of the findings in re[illegible]e objectives, as well as a des[illegible]ip-tion of the pedagogical methodology employed.

[See Appendix C -- Part 3, next page.]

33. Date activities began 9 / 1 / 74 (Mo. Day Yr.) Date activities will terminate 6 / 30 / 75 (Mo. Day Yr.)

34. Project time span (check one): 1|X| School Year 2|__| Summer 3|__| 12 Mos. 4|__| More than 1 year

35. Project is: 1|__| New 2|X| Resubmitted 3|__| Continuation (Title III only)

A. If project is resubmitted, please indicate number of years operated:

|__| 2 years |__| 4 years

|__| 3 years |X| 5 or more years

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F# 09-51698

Appendix C -- Part 3

PROGRAM ABSTRACT

BILINGUAL PUPIL SERVICES

The Bilingual Pupil Services Program is a centrally based program operated by the New York City Board of Education, Office of Bilingual Education. The basic goal of the program was to improve the reading and mathematics abilities of Hispanic non-English-speaking pupils and Hispanic-English-speaking pupils who were one or more years behind in reading and mathematics. The Bilingual Pupil Services program provided these pupils with small group instruction by specially trained paraprofessionals who assisted the regular classroom teachers. In addition to the goal of improving the achievement of the pupils, the program provided in-service training along with supervised "on the job" training to the paraprofessionals.

As a result of the program, those pupils with regular attendance for a full year made highly statistically significant gains on both reading and mathematics irrespective of language dominance.

The program did not meet the stated in-service training goal of a 15 per cent gain for each paraprofessional who scored below 75 per cent on the pre-test. However, a t-test of pre-test and post-test means was statistically significant. Monthly on-site classroom and in-service training center observations along with supervisory evaluations revealed that the program was providing the paraprofessionals with competent instruc-

tion in the area of bilingual education.

The discrepancy analysis required of this evaluation revealed that all components of the program have been fully implemented under the supervision of a highly competent central office staff.