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ABSTRACT

This report provides achievement information from the Philadelphia, Pa. Follow Through program in Mathematics and Reading for the five years, 1971-1972 through 1975-1976. The data are drawn from cross-sectional analyses, focusing primarily on mean score performance in Total Mathematics and Total Reading on city-wide tests. The principal findings are: (1) While the Total Program (TFT) shows continuous improvement in both Math and Reading in Grades K-3 across the five years, it is the Behavior Analysis Model (BA) which has produced the greatest positive program effect. (2) Across the five years and across Grades K-3, BA easily ranks first among the models in both Math and Reading. (3) The closest model to BA in K-3 performance across the five years is the Bank Street (BS), which ranked secord among the models in Math and third in Reading. (4) The Parent Implemented Model (PI) could not be ranked over the five years because it was not tested in 1972-1973. The Philadelphia Process Model (PP) ranked second in Reading across the five years, principally because of improved performance in 1975-1976. It ranked fifth in Math, however. The Education Development Center Model (EDC) ranked third in Math, and fourth in Reading, having improved substantially since 1974-1975. The Florida Parent Model (FP) ranked fourth in Math and fifth in Reading. The Bilingual Model (BI) ranked last in both subject matter areas. (Author/MV)

FOLLOW THROUGH
PUPIL ACHIEVEMENT CHARACTERISTICS
IN PHILADELPHIA

1971-1972 through 1975-1976

January, 1977

Report Prepared by:

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of the

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Report Number 77121

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DISCLAIMER

The activity which is the subject of this report regarding the original, national Follow Through Program was supported in whole or in part by the U. S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U. S. Office of Education, and no official endorsement by the U. S. Office of Education should be inferred.

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The School District of Philadelphia
Follow Through Schools and Principals

1975-1976

Schools	Principals
Arthur School 20th and Catharine Streets Philadelphia, Penna. 19146	Mr. Murray Ginsburg
Duckrey School 15th and Diamond Streets Philadelphia, Penna. 19121	Mr. Sylvester Webb
Dunbar School 12th St. N. of Columbia Avenue Philadelphia, Penna. 19122	Mr. Eugene Strolle
Drew School 38th St. S. of Powelton Avenue Philadelphia, Penna. 19104	Mrs. Franzella Buchanan
Elverson School 13th and Susquehanna Avenue Philadelphia, Penna. 19133	Mr. Albert Norrell
Ferguson School Seventh and Norris Streets Philadelphia, Penna. 19122	Mrs. Sadie Mitchell
Fulton School Haines St. E. of Germantown Avenue Philadelphia, Penna. 19144	Mr. Jesse DiTeodoro
Harrison School 11th and Thompson Streets Philadelphia, Penna. 19122	Mr. William C. Williams
Kearny School Sixth and Fairmount Avenue Philadelphia, Penna. 19123	Mr. James P. Kane
J. B. Kelly School Pulaski Avenue and Hansberry Street Philadelphia, Penna. 19144	Mr. William Seiberlich
Ludlow School Sixth and Master Streets Philadelphia, Penna. 19122	Mr. Charles Day

Follow Through Schools	Principals
McMichael School 36th St. and Fairmount Avenue Philadelphia, Penna. 19104	Mr. John A. Watson
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A. Wilson School 46th and Woodland Avenue Philadelphia, Penna. 19143	Mr. Stanford James
J. Wister School Wakefield and Bringhurst Streets Philadelphia, Penna. 19144	Mrs. Barbara Daly

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ABSTRACT

This report provides achievement information in Mathematics and Reading for the five years, 1971-1972 through 1975-1976. The data are drawn from cross-sectional analyses, focusing primarily on mean score performance in Total Mathematics and Total Reading on city-wide tests.

The principal findings are:

(1) While the Total Program (TFT) shows continuous improvement in both Math and Reading in Grades K-3 across the five years, it is the Behavior Analysis Model (BA) which has produced the greatest positive program effect.

(2) Across the 5 years and across Grades K-3, BA easily ranks first among the models in both Math and Reading. By 1975-1976, BA had attained mean scores corresponding to the following national percentiles in Math across Grades K-3 respectively: 64, 71, 62 and 63, while corresponding percentiles in Reading for K-3 were: 80, 75, 61 and 49 respectively. Furthermore, over the 5 years, across the program grades, BA percentiles equaled or exceeded the national mean in 64% of the total comparisons made in Math and in 50% of those made in Reading; its mean scores, moreover, were higher than those attained by its appropriate Non-Follow Through (NFT) groupings in 87% of the Math and 78% of the Reading comparisons, while similar results with respect to its appropriate Total District (TD) groupings were 86% and 72% in Math and Reading respectively.

(3) The closest model to BA in K-3 performance across the five years is the Bank Street (BS), which ranked second among the models in Math and third in Reading. In 1975-1976 it had attained the following percentiles in Math across K-3 respectively: 64, 63, 57 and 37: its percentiles in Reading correspondingly were: 80, 59, 50 and 39 respectively across the K-3 range.

(4) The Parent Implemented Model (PI) could not be ranked over the five years because it was not tested in 1972-1973. The Philadelphia Process Model (PP) ranked second in Reading across the five years, principally because of improved performance in 1975-1976. It ranked fifth in Math, however. EDC ranked third in Math, and fourth in Reading, having improved substantially since 1974-1975. The Florida Parent Model (FP) ranked fourth in Math and fifth in Reading. The Bilingual Model (BI) ranked last in both subject matter areas.

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FOLLOW THROUGH
PUPIL ACHIEVEMENT CHARACTERISTICS
IN PHILADELPHIA
1971-1972 THROUGH 1975-1976

INTRODUCTION

This report is concerned with cross-sectional analyses of reading and mathematics achievement test performances for the past five years in the 18 schools involved in the original Follow Through program; it does not address performance in the 46 additional schools of the local Follow Through Expansion Program. The original Follow Through program consisted of pupils in Kindergarten through Grade Three. In the latter portion of school year 1974-1975, there was a local extension to Grade Four but funding cutbacks caused this to be discontinued after 1975-1976. The data analyzed have been obtained (1) from the City-Wide Testing Program administered in school years 1971-1972 and 1973-1974 through 1975-1976 by the Division of Testing, Office of Research and Evaluation, School District of Philadelphia, and (2) from the tests administered in school year 1972-1973, to Follow Through and comparison groups only, by the Stanford Research Institute (SRI).

The following test data are the focus of the report for the five year period:

(1) in Spring 1972 the Stanford Early School Achievement Test (SESAT) for Kindergarten, the Metropolitan Achievement Test (MAT) for Grades One and Two, and the Iowa Tests of Basic Skills (ITBS) for Grade Three;

in Spring 1973 the MAT for Kindergarten and Grades One through Three;

(3) in Spring 1974 the SESAT for Kindergarten and the California Achievement Tests (CAT) for Grades One through Three; and

(4) in the Winters of 1975 and 1976 the SESAT for Kindergarten and the CAT for Grades One through Four.

The analysis categories are based on the following three major divisions of aggregate data:

(1) Follow Through data by school year, comprising reading and mathematics scores from all Follow Through classes, grouped by model, by district, and a Total Follow Through aggregate.

(2) Non-Follow Through data by school year (except unavailable for 1971-1972), comprising reading and mathematics scores from all comparison classes in Districts 1-6 (except Kindergarten and Grade One in 1975-1976, because of absorption into the expansion program), grouped by district, and a Total Non-Follow Through aggregate.

(3) District summary data by school year (except unavailable for 1972-1973), comprising reading and mathematics scores from all pupils in the city, grouped by district (for Districts 1-6), and a Total Districts 1-6 aggregate and a Total City aggregate (Districts 1-8).

The comparison classes, from which the Non-Follow Through data noted above were obtained, parallel the comparison group employed in the National Follow Through Evaluation in 1972-1973 by SRI, with the exception of a very few classes added to equalize the distribution across districts in certain grades; SRI had not made this information available until then, so comparison data were not able to be provided for 1971-1972. The local Follow Through Expansion Program, on the other hand, was instituted on the Kindergarten level in March 1975 and extended to Grade One the following school year. The schools involved in this local expansion included those

containing Non-Follow Through comparison classes; accordingly, as noted above, there are no Kindergarten and Grade One Non-Follow Through data for school year 1975-1976.

"Reading and mathematics achievement" in this report always refers to those scores from the various tests labeled 'Total Reading' and 'Total Mathematics' respectively, except for those instruments which do not yield total area scores such as the SESAT in reading (Letters and Sounds was used) and the ITBS in reading (Reading Comprehension was used).

The report is essentially an attempt to compare the Follow Through (FT) models with one another across five years of data analyzed from a number of different perspectives. It is divided into three parts. Part I offers these comparisons (1) in terms of national percentiles corresponding to mean scores, and (2) in terms of mean score differences when compared with appropriate Non-Follow Through and Total District/Total City groupings. Part II provides these same kind of comparisons (data available only for the last three years) with regard to the percentage of pupils scoring below the national 16th percentile and at or above the national 50th percentile. Part III ranks each model in terms of (1) percentage of times mean scores equaled or exceeded the national mean, (2) percentages of pupils with scores below the national 16th percentile and (3) percentages at or above the national 50th percentile. In each of the three parts, data pertinent to the current year (1975-1976) are presented first, followed by an analysis of performance across the five or three year period.

General summary tables for this report are presented in Appendix A. A series of graphs displaying national percentile rankings for all Follow Through models is found in Appendix B. An abstract of the Title I Report for 1975-1976 is included as Appendix C, particularly because of the numerous achievement objectives that were of concern for that report, but also to provide a brief overview of total program context.

A companion volume will give basic data tables for the Winter 1976 testing. The data include number of pupils, mean score, number and percentage scoring below the national 16th percentile, and number and percentage scoring at or above the national 50th percentile; for every grouping (Follow Through, Non-Follow Through, Total District, and Total City), by subtest area within grade. Additionally, a series of matrices compares the differences in mean scores between the various groupings in terms of the standard error of measurement of the differences between means by subtest area within grade. Mean scores reported for SESAT are raw scores; mean scores reported for the CAT are the standardized Achievement Development Scale Scores (ADSS).

A description of the abbreviations used for all groupings is shown in Table A. Note that there are no separate District 1, District 3, or District 6 Follow Through groupings; this is because the Philadelphia Process, Florida Parent, and Educational Development Center models are contained within these single districts, respectively. A table providing orientation to the 18 original program schools in terms of model and district affiliation is shown in Table B. As the table indicates, there are 3 schools each in five of the models; the Florida Parent model consists of two schools, and the Parent Implemented is the lone single-school model.

It should be reemphasized that the report is based solely on cross-sectional analyses. Other reports prepared by the evaluation unit provide quasi-longitudinal and longitudinal analyses which complement the former approach and offset the confounding effects inherent in any form of analysis.

TABLE A Grouping Abbreviations

Throughout the report the Follow Through groupings are referred to in the following abbreviated form:

BS = Bank Street Model

BA = Behavior Analysis Model

BI = Bilingual Model

EDC = Education Development Center Model

FP = Florida Parent Model

PI = Parent Implemented Model

PP = Philadelphia Process Model

D2F = District 2 Follow Through Grouping

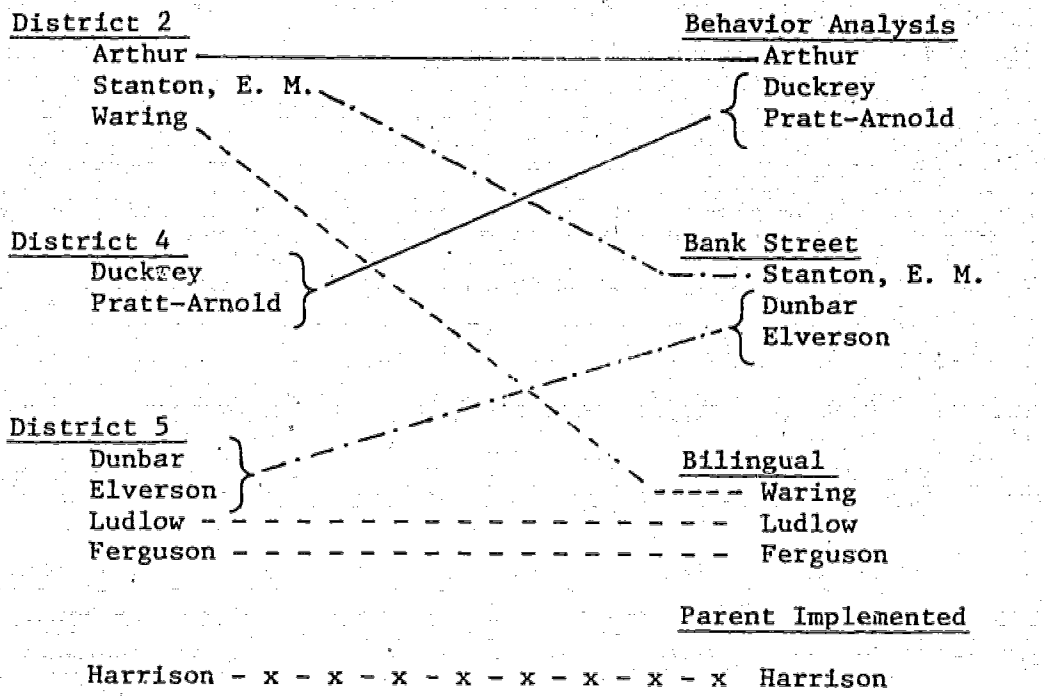
D4F = District 4 Follow Through Grouping

D5F = District 5 Follow Through Grouping

TFT = Total Follow Through Program (All Models)

Table B Orientation to Follow Through Schools

District Affiliation	Model Groupings
District 1	Philadelphia Process
Drew	Drew
McMichael	McMichael
Wilson	Wilson
District 3	Florida Parent
Nebinger	Nebinger
Kearny	Kearny
District 6	EDC
Fulton	Fulton
Kelly, J. B.	Kelly, J. B.
Wister, J.	Wister, J.



PART I. COMPARATIVE PERFORMANCE OF FOLLOW THROUGH MODELS IN READING AND MATHEMATICS FOR THE FIVE YEARS, 1971-1972 THROUGH 1975-1976: (1) DIRECT COMPARISONS IN TERMS OF NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, AND (2) COMPARISONS ON THE BASIS OF RELATIVE MEAN SCORE DIFFERENCES BETWEEN FOLLOW THROUGH AND APPROPRIATE NON-FOLLOW THROUGH, TOTAL DISTRICT, AND TOTAL CITY GROUPINGS.

A. Preliminary Considerations

a. To permit comparisons across years in terms of mean scores on the different tests noted earlier, it was necessary to convert the mean scores attained by the various groupings/models to corresponding national percentile ranks. The position taken in this report is that since technically equated scores are not available for the various instruments involved, percentiles are the only possible comparison indices which can be adopted. Percentiles are made use of, then, for the comparisons discussed in the initial section of Part I, on the assumption that they can be generally accepted, though certainly not literally, as equivalent indices of performance across these different tests, especially since the test areas involved are composite scores, Total Reading and Total Mathematics, which can mitigate any basic differences in definition or measurement strategy in one or the other subtest from which they are formed.

Two further concerns in using percentile ranks are (1) how to

deal with the percentile scale's unequal interval property, and (2) how to treat the measurement errors associated with a particular instrument when scores are transformed to percentiles. The usual solution to both problems is to present the data in percentile, standard error, bands appropriate to the different levels of the scale. This approach was considered of doubtful value, and, in fact, unnecessary in this first segment of Part I, because of the already acknowledged informality in the use of percentiles, and also because the two comparison dimensions in Part I, the second of which is entirely concerned with standard error considerations, are to be regarded as essentially complementary aspects of the single focus of this part, which is to characterize mean score performance.

A final consideration regarding the use of percentile ranks in the report is the fact that national pupil percentile ranks provided in the test manuals had to be employed even though group mean scores were being transformed. In the absence of national group percentile information, this seemed to be the only recourse.

b. As in previous reports on cross-sectional analyses, the population of concern is considered to be the total Philadelphia Follow Through population within the total city population of the School District of Philadelphia, which is encompassed in city-wide testing. Therefore, when there is question of mean score

differences in the second section of Part I, these are viewed as occurring in a parameter context and are reported in terms of measurement error only and not sampling error. The companion volume described in the introduction, however, provides all data necessary for making strictly statistical inferences to a hypothetically larger population should this be required; on the other hand, the findings reported here are regarded as essentially generalizable to large cities like Philadelphia.

c. In computing probabilities (at least .05) for determining levels of mean differences, the formulas given by Davis (F.B. Davis, Educational Measurements and Their Interpretation, Belmont, Calif.: Wadsworth Publ. Co., 1964) for the standard error of measurement of the difference between means were used. For independent groups, the required difference between means is found by computing:

$$1.96\ (\text{S.E.M.})\sqrt{\frac{1}{N_1} + \frac{1}{N_2}}$$

where N_1 and N_2 are the number of pupils in each group; S.E.M. refers to the standard error of measurement found in the test manual, which Davis considers adequate for general use.

For overlapping groups, the required value is found by computing:

$$1.96\ (\text{S.E.M.})\sqrt{\frac{1}{N_{sub}} - \frac{1}{N_{tot}}}$$

where N_{sub} is the number of pupils in the subgroup and N_{tot}

is the number in the total group.

d. The following discussion is based overall on Tables 1-4 in Appendix A, which provide general summary data for reading and Mathematics separately, by FT groupings/models, grade, and school year. An explanation of the information contained in the table cells is shown on the page preceding Table 1.

As noted in the Introduction, each segment of the discussions that follow presents 1975-1976 data only initially, and then the pattern of performance across the 5 years, 1971-1972 through 1975-1976.

B. Comparison Indices

1. Analysis of National Percentile Rankings Corresponding to Mean Score

Two major conclusions in the 1974-1975 report on cross-sectional achievement in Follow Through (ORE Report #7664) were:

(1) The positive program effects observed in Grades K and 1 in 1973-1974 have been extended to Grade 2 in 1974-1975 for the total program aggregate.

(2) Across Grades K-3, the three highest ranking models are the Behavior Analysis (BA), Parent Implemented (PI), and Bank Street (BS).

The statements that follow will focus on these conclusions as the basic frame of reference for discussing both 1975-1976 performance alone and then in analyzing the entire performance

pattern across the five years, 1971-1972 through 1975-1976. In light of the above, while information regarding Grade 4 performance is supplied in conjunction with that for all other grades in Appendix A, and in summary tables in the text, the principal concern of all the discussions in this section will be K-3 performance. The essential reasons for this are: (1) data for Grade 4 have only been included in the achievement analyses since 1974-1975 and the rationale for inclusion then was that they would constitue pre-program, baseline information prior to the introduction of the program at that grade level in April, 1975, (2) for fiscal reasons the program in Grade 4 was only allowed to function for one year and had to be discontinued after 1975-1976, and (3) the resulting situation is that data for the K-3 span form the only stable and enduring context for discussion of cross-sectional achievement at this point.

a. School Year 1975-1976

Total Follow Through (TFT) in Mathematics in 1975-1976 has maintained the positive effect noted last year in Grades K-2, with mean consistently above the 50th percentile (64th, 60th and 54th in K, 1 and 2 respectively) and achieved the 45th percentile for the first time in Grade 3. This represents improvement in percentile rank at every grade level except in Grade 2 (a slight decrease from the 57th to the 54th) in comparison with 1974-1975. (Fourth grade improved from the 19th to the 26th percentile) In Reading, TFT scored at the 77th, 62nd and 54th

percentiles in K, 1, and 2, and reached the 39th percentile for the first time in Grade 3. This means in comparison with 1974-1975, improvement occurred in Grade 2 and 3, the 77th percentile was maintained in K, and the 62nd percentile was maintained in Grade 1. (Fourth grade improved from the 26th to the 29th percentile.)

The consistently highest achieving Behavior Analysis Model (BA) in Mathematics in 1975-1976 achieved mean scores at the 64th, 71st, and 62nd and 63rd percentile in Grades K, 1, 2, and 3 respectively; substantially improving performance over 1974-1975 in K and Grade 3, while not quite achieving the same level as the previous year in Grades 1 and 2. (Fourth grade improved from the 21st to the 26th percentile.) In Reading in 1975-1976, BA had mean scores at the 80th, 75th, 61st and 49th percentiles respectively across K-3; maintaining the same high level achieved in K in 1974-1975, maintaining the same level in Grade 3, but while still attaining high performance levels in Grades 1 and 2, not reaching the previous year's levels. (Fourth grade improved from the 31st to the 34th percentile.)

The Parent Implemented Model (PI), which is the lone single school model in the program, in Mathematics in 1975-1976 attained mean scores at the 58th, 43rd, 51st and 51st percentiles respectively for the K-3 span;

maintaining the same level of K performance achieved in 1974-1975, but not reaching the previous year's levels in Grades 1-3. (Grade 4 improved from the 31st to the 34th percentile.) In Reading in 1975-1976, FI obtained mean scores at the following percentile levels, K-3: 72nd, 31st, 56th, and 42nd respectively; representing a substantial lowering in performance in comparison with 1974-1975, especially in Grade 1. (Grade 4 maintained the 34th percentile.)

Bank Street (BS) in Mathematics in 1975-1976 had the following percentile ranks corresponding to mean scores across K-3: 64th, 63rd, 57th and 37th respectively; maintaining the same level as in 1974-1975 in K and Grade 3, improving over the previous year in Grade 1, and not quite on a par with it in Grade 2. (Grade 4 improved from the 27th to the 29th percentile.) In Reading in 1975-1976, BS had mean scores across K-3 at the following percentile levels: 80th, 59th, 50th, and 39th respectively; maintaining the same level at K as in 1974-1975, substantially improving over the previous year in Grades 2 and 3, but not quite attaining the same level in Grade 1. (Grade 4 remained at the 34th percentile.)

Among the remaining four models in Mathematics in 1975-1976, percentile ranks in K ranged from 50 (EDC) to 76 (Florida Parent, FP); in Grade 1 from 44 (Bilingual, BI) to 66 (Philadelphia Process, PP); in Grade 2 from 45 (BI) to 54 (EDC, FP, PP); and in Grade 3 from 34 (BI) to 54 (PP). A general pattern of improvement in comparison

with 1974-1975 occurred in BI and PP, particularly the latter. (Each of the four improved in Grade 4; 1975-1976 percentiles range from 18 in FP to 27 in PP.) In Reading in 1975-1976, percentile ranks for the four models in K ranged from 68 (BI) to 86 (FP); in Grade 1, from 44 (BI) to 71 (PP); in Grade 2, from 42 (BI and FP) to 65 (PP); and in Grade 3 from 27 (BI) to 42 (PP). In comparison with 1974-1975, PP improved substantially at all four grade levels; BI and FP improved at Grades K, 2, 3 and 1, 2, 3 respectively; EDC improved at Grade 1. (At Grade 4 each model improved except EDC which remained the same as in 1974-1975; the range was from the 22nd percentile in BI to the 34th in PP.)

Performance for 1975-1976 can be summarized as follows:

(1) Total Follow Through (TFT) in 1975-1976 evidences consolidation of its previously attained high level of performance across Grades K-2, i.e., in both Mathematics and Reading across these grades mean score performance is never below the 50th percentile and in fact ranges from the 54th to the 77th percentile. TFT also exhibits substantial movement toward 50th percentile performance in Grade 3 mathematics, attaining the 45th percentile for the first time, and continues to improve in Grade 3 Reading as well, achieving the 39th percentile for the first time.

(2) In 1975-1976, as can be seen from summing the ranks in Appendix A, the Behavior Analysis Model (BA) continues to enjoy the highest rank among the models across Grades K-3 in both Mathematics and Reading. Second place has been taken over by the Philadelphia Process Model (PP), however, in both subject matter areas, while the Bank Street Model (BS) retains third ranking in both Reading and Mathematics.

b. Across The Five Years 1971-1972 Through 1975-1976

Table Ia provides summary indicators of the number of times (expressed as an overall percentage in a Totals column) each model and the total program improved, or at least maintained the same percentile rank, in comparison with each previous year over the five year span. Table Ib displays summary counts of the number of times the percentile ranks attained by each model and the total program were at or above the 50th national percentile. The following discussion further characterizes total program and model performance across the five years.

Table Ia. Summary Indicators of Improvement in Percentile Rank in Mathematics (M) and Reading (R) (Actual versus Possible Number of Times in Fractions).

Follow Through Groupings	GRADES Kindergarten M	R	Grade One M	R	Grade Two M	R	Grade Three M	R	Grade Four M	R	TOTALS M	R
BS	3/4	3/4	3/4	3/4	3/4	4/4	4/4	3/4	1/1	1/1	14/17 (.82)	14/17 (.82)
BA	3/4	3/4	3/4	3/4	3/4	3/4	3/4	4/4	1/1	1/1	13/17 (.76)	14/17 (.82)
BI	3/4	4/4	3/4	2/4	4/4	4/4	3/4	3/4	1/1	1/1	14/17 (.82)	14/17 (.82)
EDC	2/4	2/4	3/4	4/4	3/4	3/4	3/4	3/4	1/1	1/1	12/17 (.71)	13/17 (.76)
FP	3/4	4/4	3/4	3/4	3/4	3/4	3/4	3/4	1/1	1/1	13/17 (.76)	14/17 (.82)
PI	3/3	2/3	1/3	2/3	2/3	2/3	1 3	2/3	1/1	1/1	8/13 (.62)	9/13 (.69)
PP	3/4	2/4	4/4	2/4	4/4	3/4	3/4	3/4	1/1	1/1	15/17 (.88)	11/17 (.65)
TOTALS	20/27 (.74)	20/27 (.74)	20/27 (.74)	19/27 (.70)	22/27 (.81)	22/27 (.81)	20/27 (.74)	21/27 (.78)	7/7 (1.00)	7/7 (1.00)		
TFT	3/4	4/4	4/4	4/4	3/4	4/4	3/4	3/4	1/1	1/1	14/17 (.82)	16/17 (.94)

Table Ib. Summary Indicators of Number of Times Across Years, Percentile Ranks in Mathematics (M) and Reading (R) were at or above the National Mean and (in Parentheses) below the National Mean Having Once Been at or above It.

Follow Through Groupings	GRADES Kindergarten M	R	Grade One M	R	Grade Two M	R	Grade Three M	R	Gr Four M	R	TOTALS M	R
BS	3(1)	4	3(1)	2	2	1	-	-	-	-	8	7
BA	3(1)	5	5	4	4	2	2	-	-	-	14	11
BI	1	3	-	-	-	-	-	-	-	-	1	3
EDC	3(1)	4(1)	3	2	2	2	-	-	-	-	8	8
FP	4	4	3	-	2	-	-	-	-	-	9	4
PI	2	3	1(2)	2(1)	3	2	3	-	-	-	9	7
PP	2	4(1)	3	3	1	2	1	-	-	-	7	9
TOTALS	18	27	18	13	14	9	6	0	0	0		
TFT	3(1)	4	3	3	2	2	-	-	-	-	8	9

Total Follow Through (TFT), as can be seen in detail in Tables 1-4 in Appendix A, and in the graphics in Appendix B (where TFT performance is represented by a horizontal bar), shows an overall pattern of improvement in national percentile rank of the mean from year to year across the five years. This trend is in evidence within each grade of the K-3 span in both Mathematics and Reading. The trend lines are not "perfect" in every respect, i.e., there are some fluctuations (which may or may not be a function of the different tests involved), but the overriding pattern is one of consistent improvement. In Mathematics in 1971-1972, across Grades K-3 TFT percentiles ranged from a low of 20 (Grade 2) to a high of 40 (Grade 1); in 1975-1976 they ranged from a low of 45 (Grade 3) to a high of 64 (Grade K). In Reading in 1971-1972, TFT percentiles across Grades K-3 showed a range from a low of 20 (Grade 2) to a high of 48 (Grade K), while in 1975-1976 they ranged from a low of 39 (Grade 3) to a high of 77 (Grade K).

Since performance at Grades K and 1 has attained high national percentile levels for a number of years now, Grade 2 and 3 performance is of greatest concern. In this respect, TFT in Grade 2 Mathematics over the five years shows improvement from the 20th percentile in 1971-1972 to the 54th in 1975-1976, and in Grade 3 from the 25th in 1971-1972 to the 45th in 1975-1976. In Reading, TFT in Grade 2 has also improved from the 20th percentile in 1971-1972 to the 54th in 1975-1976, while in Grade 3 the improvement has been from the 26th in 1971-1972 to the 39th in 1975-1976.

Based on summaries of the rankings found in Tables 1-4 in Appendix A. across Grades K-3 and across the five years 1971-1972 through 1975-1976, the Behavior Analysis Model (BA) easily ranks first in both Mathematics and Reading. The Bank Street Model (BS) ranks second in Mathematics, but third in Reading. The Philadelphia Process Model ranks second in Reading. The EDC model ranks third in Mathematics. In Mathematics, ranks four, five and six are held respectively by the Florida Parent (FP), the Philadelphia Process (PP) and the Bilingual (BI) models. In Reading, EDC, FP and BI are found in ranks four, five and six respectively. (As noted in Appendix A, the rankings were applied to only six of the seven models, i.e., those six for which data were available for each grade, K-3, each year of the five year span, 1971-1972 through 1975-1976. The Parent Implemented Model (PI), the lone single school model, was, therefore, not included in the rankings because no data were available for 1972-1973 as explained in the appendix. PI would have high inter-model rankings in 1971-1972, in 1973-1974, and again in 1974-1975, but not in 1975-1976, as already noted.) Further description of performance of the BA Model and the other three models which ranked second or third over the five years follows.

In Mathematics in 1971-1972, BA's lowest percentile rank was a 28 in Grade 2; its highest, a 52 in Grade 1. In 1975-1976, its lowest was a 62 in Grade 2; its highest, a 71 in Grade 1. In Reading in 1971-1972, BA's lowest percentile rank was a 23 in Grade 2; its highest, a 54 in K. In 1975-1976, its lowest was a 49 in Grade 3; its highest, an 80 in K.

Table Ic. Summary Indicators of Number of Times FT Model Mean Scores Were Greater Than NFT and TD Mean Scores, by Year, Across Grades, Expressed as Percentages.

	A/a (Comparisons with Non-Follow Through Groupings)								B/b (Comparisons with Total District Groupings)							
	Mathematics				Reading				Mathematics				Reading			
	K-3 72-73	K-3 73-74	K-4 74-75	2-4 75-76	K-3 72-73	K-3 73-74	K-4 74-75	2-4 75-76	K-2 71-72	K-3 73-74	K-4 74-75	K-4 75-76	K-3 71-72	K-3 73-74	K-4 74-75	K-4 75-76
BS	100	75	70	100	75	62	80	100	0	50	90	80	0	25	70	100
BA	87	100	90	67	87	75	90	50	75	100	80	90	25	87	80	90
BI	37	50	20	83	12	0	20	50	50	0	0	40	12	0	0	0
EDC	25	25	60	33	25	0	60	0	25	25	40	40	0	0	0	0
FP	25	25	60	67	25	25	20	33	0	25	20	0	0	0	0	0
PI	-	100	60	100	-	100	60	100	75	75	60	40	50	75	100	50
PP	0	50	40	33	25	25	20	33	25	0	20	40	25	25	20	60

(2) If the above analysis is conducted for the entire five year period, the follow percentages result (Table Id).

Table Id. Summary Indicators of Number of Times FT Model Mean Scores Were Greater Than NFT and TD Mean Scores, across Years and Grades, Expressed as Percentages

	A/a		B/b	
	Mathematics	Reading	Mathematics	Reading
BS	84	78	58	53
BA	87	78	86	72
BI	44	19	22	3
EDC	37	25	33	0
FP	44	25	11	0
PT	83	83	61	72
PP	31	25	22	33

(3) As shown in Table Id, for both subjects the Bank Street, Behavior Analysis, and Parent Implemented models had greater mean scores across years and grades than their corresponding NFT groupings at least 75% of the time,

while the number of times the remaining four models had greater mean scores (both subjects) was less than 50%. In comparison with corresponding TD groupings, Table Id indicates the Behavior Analysis model had greater mean scores appreciably more times (86% for math, 72% for reading) than any other model. As shown in Tables Ic and Id, the Bilingual, Educational Development Center, and Florida Parent models failed to obtain greater mean reading scores than their corresponding TD groupings except in school year 1971-1972, when the Bilingual model mean reading scores were greater 12% of the time.

RT II: COMPARATIVE PERFORMANCE OF FOLLOW THROUGH MODELS IN READING AND MATHEMATICS FOR THE THREE YEARS, 1973-1974 THROUGH 1975-1976, IN TERMS OF PERCENTAGES OF PUPILS SCORING BELOW THE NATIONAL 16TH PERCENTILE (<16) AND AT OR ABOVE THE NATIONAL 50TH PERCENTILE (≥50): (1) DIRECT INTRA-PROGRAM COMPARISONS, AND (2) COMPARISONS EXPRESSED AS A FUNCTION OF RELATIVE PERFORMANCE OF APPROPRIATE NON-FOLLOW THROUGH, TOTAL DISTRICT, AND TOTAL CITY GROUPINGS

1. Preliminary Notes

a. This part of the report deals with data for the last three school years, when the same tests were administered, i.e., the SESAT for Kindergarten and the CAT for Grades One through Four.

b. The following discussion, based on Tables 5 through 8 in Appendix A, displays data for Reading and Mathematics separately, by type of grouping, grade, and school year. An explanation of information contained in table cells is shown on the page before Table 5.

2. Analysis of Percentages in Lower and Upper National Percentile Rank Intervals

a. School Year 1975-1976

The amount of improvement for each Follow Through grouping can be shown by comparing the 1975-1976 percentages with the corresponding percentages for the previous year. Improved results are defined as the occurrence of two indications; no change or a decrease in the '<16' percentage, and no change or an increase in the '≥50' percentage. Mixed results are defined as the occurrence of one indication. On this basis, the Total Follow Through grouping showed improved or mixed results for all ten subject-grade combinations. For model groupings, the number of subject-grade combinations that showed improved or mixed results varied from ten out of ten for Bilingual and Philadelphia Process, to three out of ten for Parent Implemented. The

number of subject-grade combinations for which results were improved or mixed for each model grouping were: BS-7, BA-7, BI-10, EDC-6, FP-9, PI-4, PP-10. (The comparable data for District Follow Through groupings were D2F-8, D4F-6, D5F-8.) The number of subject-model grouping combinations that showed improved or mixed results for each grade were: Mathematics (K-4, One-4, Two-4 Three-6, Four-7); Reading (K-5, One-6, Two-4, Three-7, Four-6).

b. School Years 1973-1974 through 1975-1976

(1) Using the definition of 'results' given above, a comparison of 1973-1974 percentages with the corresponding percentages for 1975-1976 reveal improved results over the three year period for all Total Follow Through subject-grade combinations. In comparing percentages for model groupings, improved results were shown for 57 out of 70 subject-grade combinations. (Mixed results were shown for eight combinations: BS-Grade 3 Math; BI-Grade 1 Math; PI-Kindergarten Reading, Grade 3 Math, Grade 3 Reading, Grade 4 Reading; and PP-Grade 4 Math, Grade 4 Reading. Poorer results were shown for five combinations: BS-Grade 4 Reading; BA-Grade 1 Math; and PI-Grade 1 Math, Grade 1 Reading, Grade 2 Math.)

(2) The degree to which improvement persisted over the three year period is revealed by the following table (Table IIa). The table indicates the number of times the '<16' and '≧50' percentages improved or remained the same compared to the corresponding percentages for the previous year. The total possibilities are four for Kindergarten through Grade Three, and two for Grade Four.

For ease of comparison, the totals are shown as decimals (in parentheses) as well as fractions.

TABLE IIa. Summary Indicators of Improvement in '≤16' and '≥50' percentages from Year to Year (Actual versus Possible Number of Times in Fractions) in Mathematics (M) and Reading (R)

Follow Through Groupings	GRADES: Kindergarten M	Kindergarten R	Grade One M	Grade One R	Grade Two M	Grade Two R	Grade Three M	Grade Three R	Grade Four M	Grade Four R	TOTALS M	TOTALS R
BS	2/4	2/4	3/4	3/4	3/4	3/4	3/4	3/4	2/2	0/2	13/18 (.72)	11/18 (.61)
BA	4/4	4/4	2/4	3/4	2/4	2/4	4/4	4/4	2/2	2/2	14/18 (.78)	15/18 (.83)
BI	4/4	3/4	2/4	4/4	4/4	4/4	3/4	2/4	2/2	2/2	15/18 (.83)	15/18 (.83)
EDC	2/4	2/4	3/4	4/4	2/4	2/4	4/4	3/4	2/2	2/2	13/18 (.72)	13/18 (.72)
FP	3/4	4/4	2/4	3/4	3/4	4/4	4/4	3/4	2/2	2/2	14/18 (.78)	16/18 (.89)
PI	2/4	2/4	0/4	0/4	2/4	2/4	1/4	2/4	2/2	1/2	7/18 (.39)	7/18 (.39)
PP	4/4	4/4	3/4	3/4	4/4	4/4	4/4	3/4	1/2	1/2	16/18 (.89)	15/18 (.83)
TOTALS	21/28 (.75)	21/28 (.75)	15/28 (.54)	20/28 (.71)	20/28 (.71)	21/28 (.75)	23/28 (.82)	20/28 (.71)	13/14 (.93)	10/14 (.71)		
TFT	4	3	3	3	3	3	4	4	2	2	16/18 (.89)	15/18 (.83)

(3) As shown in Table IIa, the Behavior Analysis, Bilingual, Florida Parent and Philadelphia Process models improved their '≤16' and '≥50' percentages (compared to the previous year's percentages) more than 75% of the time for both subjects.

(4) Having examined the percentages in terms of overall improvement and persistency in improvement over the three year period, it would be appropriate to compare them to the national percentages. The following table shows, for each subject-grade combination, the number of times the percentages were

better than the corresponding national percentages; i.e., the number of times the '<16' percentage was below 16 plus the number of times the '≥50' percentage was above 49. Additionally, the table indicates the number of times the percentages failed to maintain an improved condition having once attained it. E.g., Florida Parent Grade Two percentages for mathematics were better than the corresponding national percentages in three instances, but subsequently failed on one occasion to maintain this improved condition. The table reveals that upper grade performance is not on a par with the lower grades, and a rather wide variation in the number of times the model grouping percentages were better than the corresponding national percentages across subjects and grades. (The total possibilities, by subject, are six for all model groupings.)

Table IIIa. Summary Indicators of Number of Times '<16' and '≥50' Percentages were Favorable, and (in Parentheses) the number of Times They were Unfavorable Having Once Attained a Favorable Condition, Across Years, in Mathematics (M) and Reading (R).

Follow Through Groupings	Kindergarten M	Kindergarten R	Grade One M	Grade One R	Grade Two M	Grade Two R	Grade Three M	Grade Three R	Grade Four M	Grade Four R	TOTALS M	TOTALS R
BS	4	6	4	4	4	1	-	-	-	-	12	11
BA	5	6	6	6	5	5	3	-	-	-	19	17
BI	2	6	-	-	-	-	-	-	-	-	2	6
EDC	4	5	5(1)	4	4	3(1)	-	-	-	-	13	12
FP	6	6	4	1	3(1)	-	-	-	-	-	13	7
PI	5	6	3(3)	4(2)	6	5	5	-	-	-	19	15
PP	3	5	5	6	2	4	1	-	-	-	11	15
TOTALS	29	40	27	25	24	18	9	0	0	0		
TFT	4	6	5	6	4	4	-	-	-	-	13	16

(5) As shown in Table IIb, the '<16' and '≥50' percentages for the Behavior Analysis and Parent Implemented models were favorable an appreciably greater number of times than for the other models. Additionally Table IIb indicates that performance in Grades Three and Four, particularly in reading, is not on the same level as K-2 performance.

3. Analysis of Percentage Difference Comparisons

a. School Year 1975-1976

As noted on the page before Table 5, a letter code in a table cell indicates that the percentage displayed is more favorable than the corresponding percentage for certain other groupings. Comparing the group of letter codes in each pair of cells for 1975-1976 with the corresponding pair for the previous year, reveals that of the ten Total Follow Through grouping subject-grade combinations, eight improved or remained constant, one fell off, and for one no definite conclusion is possible. Similar comparisons for the model groupings reveal a variation in improved or constant results from nine of ten subject-grade combinations for Bilingual and Florida Parent to five of ten for Behavior Analysis. The number of subject-grade combinations that improved or remained constant for each model grouping were: BS-7, BA-5, BI-9, EDC-7, FP-9, PI-6, PP-8. (The results for District Follow Through groupings were: D2F-7, D4F-3, D5F-8.)

b. School Years 1973-1974 Through 1975-1976

(1) The following table reveals the number of times each model grouping attained more favorable percentages than appropriate Non-Follow Through groupings (letter code 'A' or 'a') or District Summary groupings (letter code 'B' or 'b'), expressed as a percentage of total possibilities, for each of the three years. (For model groupings BS, BA, and BI; an 'a' or 'b' was considered one-half of a possibility.)

Table IIc. Summary Indicators of the Number of Times FT Model '<16' and '≥50' Percentages were More Favorable than Corresponding NFT and TD Percentages, by Year, Across Grades, Expressed as Percentages.

A/a (Comparisons with NFT Groupings)

	MATHEMATICS			READING		
	K-3 73-74	K-4 74-75	2-4 75-76	K-3 73-74	K-4 74-75	2-4 75-76
BS	87	90	100	69	70	83
BA	94	85	67	75	95	50
BI	69	25	83	31	15	50
EDC	25	30	33	0	50	17
FP	25	50	67	25	10	17
PI	100	70	100	100	70	100
PP	50	50	50	25	30	10

B/b (Comparisons with TD Groupings)

	MATHEMATICS			READING		
	K-3 73-74	K-4 74-75	K-4 75-76	K-3 73-74	K-4 74-75	K-4 75-76
BS	62	95	90	31	70	70
BA	87	85	80	69	85	80
BI	25	0	35	12	0	0
EDC	25	40	20	0	10	0
FP	25	30	20	12	0	10
PI	100	90	60	87	100	80
PP	12	20	50	25	40	60

(2) If the above analysis is conducted for the entire three year period, the following percentages result (Table IId).

Table IId. Summary Indicators of the Number of Times FT Model '<16' and '≥50' Percentages were More Favorable than Corresponding NFT and TD Percentages, Across Years and Grades, Expressed as Percentages.

	A/a		B/b	
	Mathematics	Reading	Mathematics	Reading
BS	92	73	84	59
BA	83	77	84	79
BI	54	29	20	4
EDC	29	25	29	4
FP	46	17	25	7
PI	87	87	82	89
PP	50	25	29	43

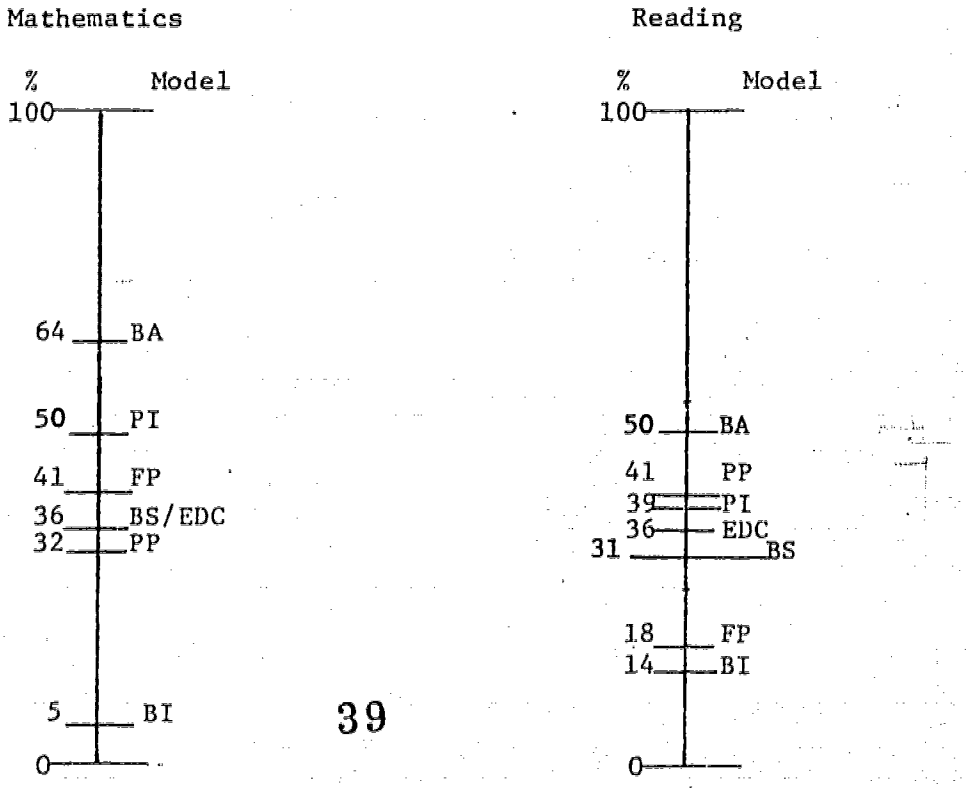
(3) As shown in Table IId, for both subjects the Bank Street, Behavior Analysis, and Parent Implemented models had more favorable '<16' and '$\geq$50' percentages than their corresponding NFT groupings an appreciably greater number of times than was the case for the remaining four models. In comparison with TD groupings, the same pattern results.

PART III: SUMMARY COMPARISON INDICES: COMPARATIVE PERFORMANCE OF FOLLOW THROUGH MODELS IN READING AND MATHEMATICS ON THE BASIS OF RANKS REFLECTING (1) THE PERCENTAGE OF TIMES (FIVE YEARS) THE NATIONAL PERCENTILE RANK OF THE MEAN EQUALED OR EXCEEDED THE 50TH PERCENTILE, (2) THE PERCENTAGE OF PUPILS (OVER THREE YEARS) SCORING BELOW THE NATIONAL 16TH PERCENTILE, AND (3) THE PERCENTAGE OF PUPILS (THREE YEARS) SCORING AT OR ABOVE THE NATIONAL 50TH PERCENTILE.

1. Percentage of Times National Mean Exceeded

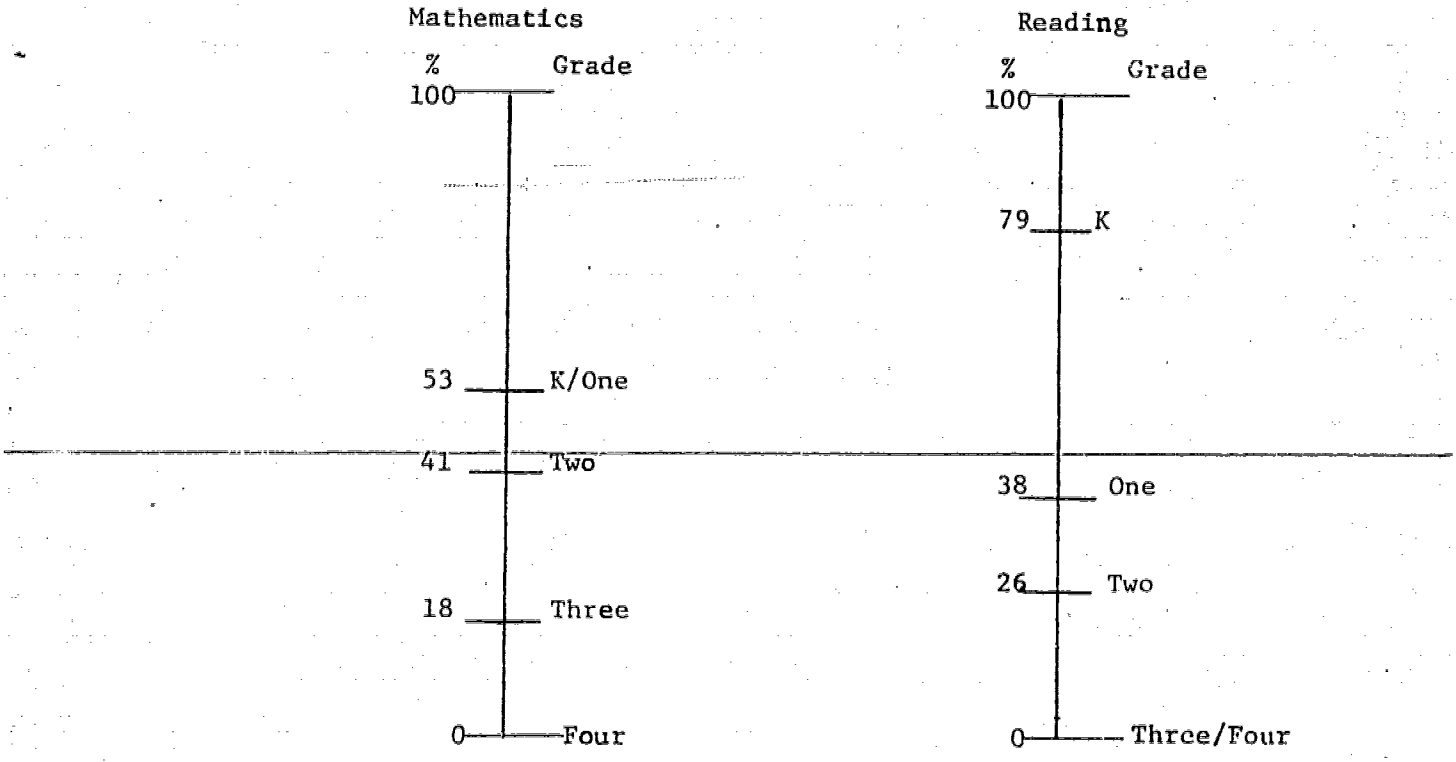
a. Table IIIa below, derived from Tables 1 through 4 in Appendix A displays the number of times the national percentile rank for each FT model equaled or exceeded the 50th percentile, by subject, across grades for the five year period, expressed as a percentage of the total possibilities. The display is approximately to scale, simultaneously ranking models and indicating relative distances between ranks.

Table IIIa.—Scaled Display of the Percentage of Times FT Models equaled or Exceeded the 50th Percentile, Across Grades for the five Year Period, 1971-1972 to 1975-1976.



b. Table IIIb below, also derived from Tables 1 through 4, displays the number of times the national percentile rank for each grade equaled or exceeded the 50th percentile, by subject, across model groupings for the five year period, expressed as a percentage of the total possibilities. The display is approximately to scale again, as for Table IIIa.

Table IIIb. Scaled Display of the Percentage of Times each Grade Equaled or Exceeded the 50th Percentile, Across Model Groupings for the Five Year Period, 1971-1972 to 1975-1976.



c. As shown in Table IIIa, the Behavior Analysis model equaled or exceeded the national mean at least one-half of the time for both subjects, while the Parent Implemented model did so for mathematics one-half of the time. Table IIIb reveals that Kindergarten classes (across models) equaled or exceeded the national mean a majority of times for both subjects, while Grade One did so for mathematics. Additionally, Table IIIb reveals a tendency for national percentile ranks to be lower for the higher grades.

2. Rankings by Percentages in Lower and Upper National Percentile Rank Intervals

a. Tables IIIc and IIId below are derived from Tables 5 through 8 in Appendix A and rank the model groupings on the basis of percentages of pupils in reading and mathematics scoring below the national 16th percentile and at or above the national 50th percentile, by grade, across the last three school years, 1973-1974 to 1975-1976. The rank for each model-grade combination was determined by obtaining yearly ranks, summing them across model-grade combinations, and ranking the results. The 'Across Grades' ranks were obtained by summing yearly ranks across grades and ranking the results. (Tie ranks were averaged, thus two model groupings tied for second are each given a rank of 2.5.)

Table IIIc. Ranks by Percentages Below the National 16th Percentile, in Mathematics (M) and Reading (R) Across the Last Three Years, 1973-1974 to 1975-1976

NOTE: A rank of 1 indicates the percentage was lowest; 7 the percentage was highest. Lower percentages below the 16th percentile are associated with higher performance.

	Kindergarten		Grade One		Grade Two		Grade Three		Grade Four		Across Grades	
	M	R	M	R	M	R	M	R	M	R	M	R
BS	2.5	4	2	5.5	4	5	5	3.5	2	1.5	3	4
BA	4	2	1	1	1	1.5	2	1	3	3	2	1
BI	6	7	7	7	7	7	7	7	5	7	7	7
EDC	7	6	4	4	5	4	4	5	6	5.5	6	6
FP	1	3	6	5.5	2.5	6	6	6	7	5.5	4	5
PI	2.5	1	3	3	2.5	1.5	1	2	1	1.5	1	2
PP	5	5	5	2	6	3	3	3.5	4	4	5	3

Table IIId. Ranks by Percentages at or above the National 50th Percentile in Mathematics (M) and Reading (R) Across the Last Three Years, 1973-1974 to 1975-1976.

NOTE: A ranking of 1 indicates the percentage was highest; 7 the percentage was lowest. Higher percentages at or above the 50th percentile are associated with higher performance.

	Kindergarten		Grade One		Grade Two		Grade Three		Grade Four		Across Grades	
	M	R	M	R	M	R	M	R	M	R	M	R
BS	3	4	3	3	3	5	4	4	1	4	3	4
BA	2	2.5	1	1	1	1	1.5	1	4	3	1	1
BI	6	7	7	6	7	6	7	7	6.5	6.5	7	7
EDC	7	6	5.5	5	4.5	4	5	5	3	5	6	5
FP	1	1	4	7	6	7	6	6	6.5	6.5	5	6
PI	4	2.5	5.5	4	2	3	1.5	2.5	2	2	2	3
PP	5	5	2	2	4.5	2	3	2.5	5	1	4	2

b. The ranking for each model-subject combination across grades and years ('Across Grades' column) in Table IIIc is quite consistent with the corresponding ranking in Table IIId. Additionally, within the 'Across Grades' column of each table, the ranking for mathematics is quite consistent withthat for reading for each model except for the Philadelphia Process Model, where the rank difference is two between the two subject areas in both tables.

Summary and Conclusions

A brief summary follows which makes particular reference to PART I findings, since these can be taken as representative of those found throughout the report. For the total program, and then for each model, summary data are included in the following order: (1) performance, K-3, on the basis of the percentile rank of mean scores attained over the five years, 1971-1972 through 1975-1976; (2) for the entire five year period, the percentage of comparisons (K-3 for the most part, but K-4 in 1974-1975 and 1975-1976) in which mean scores equaled or exceeded the national mean (50th percentile); (3) for the five year period also, the percentage of comparisons (K-3, but K-4 as noted immediately above) in which mean scores exceeded those of the appropriate Non-Follow Through (NFT) groupings; and (4) again for the five year period, the percentage of comparisons (K-3, but K-4 as noted above) in which mean scores exceeded those of the appropriate Total District (TD) groupings or the Total District 1 to 6 aggregate (TD1-6), or the Total City (TC).

Total Follow Through (TFT): (1) In both Mathematics and Reading, within each grade of the K-3 span, TFT shows an overall pattern of improvement in the national percentile rank corresponding to the mean across the five years. In Math in 1971-1972, percentiles ranged from a low of 20 (Grade 2) to a high of 40 (Grade 1); in 1975-1976, they ranged from a low of 45 (Grade 3) to a high of 64 (Grade K). In Reading in 1971-1972, percentiles ranged again from a low of 20 (Grade 2) to a high of 48 (Grade K); in 1975-1976, they ranged from a low of 39 (Grade 3) to a high of 77 (Grade K). Particularly noticable is the improvement in

performance in both Math and Reading recently in Grades 2 and 3. (2) For the five year period, percentiles equaled or exceeded the national mean in 36% of the comparisons in Math and in 41% of the comparisons in Reading across the program grades. (3) Over the 5 years, mean scores exceeded those of Total NFT in 69% of the Math comparisons and in 50% of those in Reading. (4) Comparable percentages with respect to TD1-6 were 33% in Math and 17% in Reading, while those in relation to TC were 11% and 6% in Math and Reading respectively.

Bank Street (BS): (1) Across the five years in the K-3 span, BS ranks second among the models in Math and third in Reading. In Math in 1971-1972, its lowest percentile rank was a 14 (Grade 2); its highest, a 32 (Grade 1). In 1975-1976, its lowest was a 37 (Grade 3); its highest, a 64 (Grade K). In Reading in 1971-1972, its lowest was also a 14 (Grade 2); its highest, a 42 (Grade K). In 1975-1976, its lowest was a 39 (Grade 3); its highest an 80 (Grade K). As one of the top three models, it contributed substantially to the continuous improvement in TFT at all grade levels, including Grades 2 and 3. (2) For the 5 years, BS percentiles equaled or exceeded the national mean in 36% of the Math comparisons and in 31% of the Reading comparisons across the program grades. (3) During the 5 years, its mean scores exceeded those of the Districts 2 and 5 NFT groupings in 84% of the Math comparisons and in 78% of those in Reading. (4) Comparable percentages resulting from comparisons with the two respective TD groupings were 58% in Math and 53% in Reading.

Behavior Analysis (BA): (1) Across Grades K-3 and across the 5 years, BA easily ranks first among the models in both Mathematics and Reading in mean score performance, far out-distancing any of the other models at these grade levels. In Math in 1971-1972, BA's lowest percentile rank was a 28 (Grade 2); its highest, a 52 (Grade 1). In 1975-1976, its lowest was a 62 (Grade 2); its highest, a 71 (Grade 1). In Reading in 1971-1972, BA's lowest percentile rank was a 23 (Grade 2); its highest, a 54 (Grade K). In 1975-1976, its lowest was a 49 (Grade 3); its highest, an 80 (Grade K). Much more than any other model, BA seems to be a prime factor in the improved performance of TFT at all grade levels, especially in Grades 2 and 3. (2) Over the 5 years, BA percentiles equaled or exceeded the national mean in 64% of the Math comparisons and 50% of those in Reading across the program grades. (3) Its mean scores for the 5 years exceeded those of Districts 2 and 4 NFT In 87% of the Math and 78% of the Reading comparisons. (4) Similar comparisons with the two TD groupings yielded figures of 86% in Math and 72% in Reading.

Bilingual (BI): (1) This model appears last in the K-3 rankings in both Math and Reading across the five years. It has to be recognized, however, that expectations regarding this model's performance cannot be reasonably set at the same level as that for other models whose target populations do not have to deal with a dual language problem. The model has definitely improved over the years particularly in Math. In Math in 1971-1972, BI's lowest percentile rank was an 18 (Grade 3); its highest, a 42 (Grade 1). In 1975-1976, its lowest percentile was a 34 (Grade 3); its highest a 72 (Grade K). In Reading in 1971-1972, BI's lowest percentile was a 16 (Grade 2); its highest, a 36 (Grade 1). In 1975-1976, its lowest was a 27 (Grade 3); its highest, a 68 (Grade K). (2) For the five year

period, BI percentiles equaled or exceeded the national mean in 5% of the Math and in 14% of the Reading comparisons, across the program grades. (3) Over the 5 years, its mean scores exceeded those of Districts 2 and 5 NFT groupings in 44% of the comparisons in Math and in 19% of those in Reading. (4) In similar comparisons with these two districts' TD groupings, BI showed higher means in 22% of the Math and in 3% of the Reading comparisons.

Educational Development Center (EDC): (1) This model ranked third in Math and fourth in Reading, looking across the 5 years at the K-3 level. Much of its standing in performance seems to be the result of improvement in the last two years. In Math in 1971-1972, EDC's lowest percentile rank was a 20 (Grade 2); its highest, a 44 (Grade K). In 1975-1976, its lowest percentile was a 38 (Grade 3), while its highest was a 59 (Grade 1). In Reading in 1971-1972, EDC's lowest percentile was a 16 (Grade 2); its highest, a 54 (Grade K). In 1975-1976, its lowest percentile was a 33 (Grade 3); its highest, a 72 (Grade K). (2) For the five year period, EDC percentiles equaled or exceeded the national mean in 36% of both the Math and Reading comparisons, across the program grades. (3) Over the 5 years, its mean scores exceeded those of the District 6 NFT grouping in 37% of the Math and 25% of the Reading comparisons. (4) In similar comparisons with this district's TD group, the results were 33% in Math, but 0% in Reading.

Florida Parent (FP): (1) The FP model ranked fourth in Math and fifth in Reading across Grades K-3 over the five years. It has improved, particularly in Math. In Math in 1971-1972, its lowest percentile rank was a 10 (Grade 1); its highest, a 32 (Grade K). In 1975-1976, FP's lowest percentile

was a 37 (Grade 3); its highest, a 76 (Grade K). In Reading in 1971-1972, FP's lowest percentile was a 14 (Grade 2); its highest, a 48 (Grade K). In 1975-1976, its lowest was a 33 (Grade 3); its highest, an 86 (Grade K). (2) Over the 5 years, FP's percentiles equaled or exceeded the national mean in 41% of the Math and 18% of the Reading comparisons across the program grades. (3) For the five year period, its mean scores exceeded those of the District 3 NFT grouping in 44% of the Math comparisons and in 25% of those for Reading. (4) When matched against this district's TD grouping, the results were 11% favoring FP in the Math and 0% in the Reading comparisons.

Parent Implemented (PI): This model (a single school) could not be ranked across the five years, because it was not tested in 1972-1973, as explained in the text. It would have ranked relatively high among the other models on the basis of its performance in 1971-1972, 1973-1974, and 1974-1975, but probably less on the basis of 1975-1976. In Math in 1971-1972, PI's lowest percentile was a 36 (Grade 1); its highest, a 44 (Grade K). In 1975-1976, its lowest percentile was 43 (Grade 1); its highest, a 58 (Grade K). In Reading in 1971-1972, PI's lowest percentile was a 16 (Grade 2); its highest, a 48 (Grade K). In 1975-1976, its lowest percentile was a 31 (Grade 1); its highest, a 72 (Grade K). (2) Over the 5 years, PI's percentiles equaled or exceeded the national mean in 50% of the Math and 39% of the Reading comparisons. (3) For the 5 year period, its mean scores exceeded those of the District 5 NFT grouping in 83% of the comparisons in both Math and Reading. (4) In comparison with the district's TD group, the respective results were 61% in Math and 72% in Reading.

Philadelphia Process (PP): (1) This model ranked fifth in Math, but second in Reading across Grades K-3 for the 5 year period. It's most noticeable improvement was in 1975-1976. In Math in 1971-1972, PP's lowest percentile rank was a 16 (Grade 2); its highest, a 38 (Grade K). In 1975-1976, its lowest was a 54 (Grades 2 and 3); its highest, a 66 (Grade 1). In Reading in 1971-1972, PP's lowest percentile was a 23 (Grade 2); its highest, a 58 (Grade K). In 1975-1976, its lowest percentile was a 42 (Grade 3) and its highest, an 80 (Grade K). (2) Over the 5 years, PP's percentiles equaled or exceeded the national mean in 32% of the Math and 41% of the Reading comparisons, across the grades. (3) For the 5 years, its mean scores exceeded those of the District 1 NFT grouping in 31% of the Math and 25% of the Reading comparisons. (4) In relation to this district's TD grouping, the respective results were 22% in Math and 33% in Reading.

From the summary statements above it is evident that the principal conclusion to be drawn is that, while the Total Program (TFT) shows continuous improvement in Grades K-3 across the five years, it is the Behavior Analysis Model (BA) which has produced the greatest positive effect on performance in these grades during this period. BA consistently ranks first among the models in both Math and Reading and by 1975-1976

had attained mean scores corresponding to the following national percentiles in Math across Grades K-3 respectively: 64, 71, 62 and 63, while the corresponding percentiles in Reading for these grades were: 80, 75, 61 and 49.

The Bank Street Model (BS) on the basis of its rankings (second in Math and third in Reading) across K-3 during this five year period, evidences the greatest positive effect after BA. In 1975-1976 it had attained the following percentiles in Math across K-3 respectively: 64, 63, 57 and 37, while its percentiles for these grades in Reading were: 80, 59, 50 and 39 respectively. (The Parent Implemented Model, (PI), found in one school only, could not be ranked over the five years, because it was not tested in 1972-1973; it had ranked high among the models recently on a year by year basis.)

The Philadelphia Process Model (PP) ranked second in Reading across the five years and across K-3, principally because of improved performance in 1975-1976. PP ranked fifth in Math, however. EDC ranked third in Math and fourth in Reading, having improved substantially since 1974-1975. The Florida Parent Model (FP) ranked fourth in Math and fifth in Reading. The Bilingual Model (BI) ranked last in both subject matter areas.

APPENDIX A

GENERAL SUMMARY TABLES

Explanation of Cell Information, Tables 1-4

The number in each cell preceding the dash represents the national percentile rank corresponding to the mean score attained by the grouping (in the left-hand margin) for the school year at the top of the column. In the case of six of the models (all except the Parent Implemented), an inter-model ranking for the indicated school year follows the dash.* (Because of space considerations in the tables, decimals have been omitted from tied rankings.) For example; Table 1 shows that the Bank Street model Kindergarten classes attained a mean mathematics score corresponding to a national percentile of 26 for the school year 1971-1972 and ranked 6th among the six models involved.

The letters shown in some cells indicate that the mean score attained by the Follow Through grouping in the left margin is greater (at a probability less than .05) than the mean score attained by certain other groupings. The letter code is as follows for the latter groupings:

A- appropriate Non-Follow Through district grouping; or both Non-Follow Through district groupings in the case of BS, BA, and BI.

a- one of two appropriate Non-Follow Through groupings.

B- appropriate Total District grouping; or both Total District groupings in the case of BS, BA, and BI.

b- one of two appropriate Total District groupings.

C- the Total Non-Follow Through grouping.

D- the Total District 1-6 grouping.

* In Tables 1-4 data for the Parent Implemented Model (PI) are presented separately below the main data table. The PI data do not include ranking information since the purpose of ranking is to capsulize model performance across all five years, and PI data were not available for one of these years (1972-1973). (Since there was no city-wide testing this year, data was obtained from national evaluation test files, which did not include PI.)

TABLE 1

NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES,
INTER-MODEL ANNUAL RANKINGS, AND MEAN SCORE DIFFERENCE COMPARISON INDICATORS

(Mathematics)

	KINDERGARTEN					GRADE ONE				
	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76[4] NPR-R	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76[4] NPR-R
BB	26-6	56-2 A	44-2 AB	64-2 aB	64-4 B	32-4	50-2 A	45-5	60-3 AB	63-3 B
BA	32-4 b	70-1 A	44-2 AB	58-3 Ab	64-4 B	52-1 B	62-1 A	67-1 AB	74-1 AB	71-1 B
BF	32-4 B	23-6	38-4 A	44-6 a	72-2 B	42-2 b	40-5	44-6	44-6	44-6
EDF	44-1 B	56-2 A	26-5	58-3 A	50-6	42-2	46-3	55-2 AB	52-5 AB	59-4 B
[illegible]	72-4	52-4 A	50-1 AB	76-1 A	76-1	10-6	42-4	50-4	66-2 AB	59-4
PP	[illegible]	38-5	26-5	50-5 A	64-4	28-5	40-5	52-3 A	53-4 A	66-2 B
D2F	38 B	56 A	50 AB	64 AB	72 B	40	50 A	55 AB	53 A	42
D4F	32	70 A	44 AB	58 A	64 B	50 B	58 A	65 AB	76 AB	74 B
D5F	26	38	38 A	58	58	40	48 A	51	57 A	59 B
TFT	32 D	52 C	38 C	58 C	64	40	48 C	55 C	59 CDE	60 DE
PI[3]	44- B		44- A	58-	58-	36-		67- AB	49-	43-

NOTES:

1. Data for Non-Follow Through groupings unavailable; hence no 'A', 'a', or 'C' comparisons.
2. No city-wide testing this year; hence no 'B', 'b', 'D' or 'E' comparisons.
3. Note that this model (PI) had no data for 1972-1973 and was not included in the rankings.
4. Expansion program absorbed Non-Follow Through groupings; hence no 'A', 'a', or 'C' comparisons.

TABLE 2

NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES,
INTER-MODEL ANNUAL RANKINGS, AND MEAN SCORE DIFFERENCE COMPARISON INDICATORS
(Mathematics)

	GRADE TWO					GRADE THREE					GRADE FOUR	
	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76 NPR-R	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76 NPR-R	74-75 NPR-R	75-76 NPR-R
BS	14-6	38-2 A	40-2 Ab	62-2 AB	57-2 AB	21-4	23-2 A	29-2 Ab	37-4 b	37-4 A	27-1 AB	29-1 A
BA	28-1 b	50-1 a	51-1 AB	69-1 AB	62-1 aB	35-1 B	32-1 A	47-1 AB	56-1 AB	63-1 AB	21-3 ab	26-3 a
BI	24-2 b	28-3 a	28-6	36-6 a	45-6 a	18-6	16-3 A	19-6 A	19-6	34-6 A	11-5	26-3 A
EDC	20-3	28-3	40-2	62-2 AB	54-4 AB	21-4	14-4	27-4	38-3	38-3	19-4	23-5
FP	16-4	20-5	38-4	57-4 A	54-4 A	28-2	10-6	22-5	27-5	37-4	7-6	18-6 A
PP	16-4	20-5	38-4	43-5	54-4	28-2	14-4	29-2 A	42-2 B	54-2 AB	22-2	27-2
D2F	28 B	28	40 AB	51 AB	45	21	23 A	26 A	31	37 A	17 A	26 A
D4F	28	58	47 B	69 AB	69 B	35 B	34 A	47 AB	57 AB	65 AB	23	24
D5F	16	34	38 A	54 AB	49 A	32 B	18 A	34 AB	34	42 AB	20	30 A
TFT	20	34	40	57 CD	54 C	25	18	31 C	40 D	45 CD	19	26 C
PI[3]	38- B		51- AB	65- AB	51- A	39- B		59- AB	56- AB	51- AB	31- A3	34- A

NOTES:

1. Data for Non-Follow Through groupings unavailable; hence no 'A', 'a' or 'C' comparisons.
2. No city-wide testing this year; hence no 'B', 'b', 'D' or 'E' comparisons.
3. Note that this model (PI) had no data for 1972-1973 and was not included in the rankings.

TABLE 3

NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES,
INTER-MODEL ANNUAL RANKINGS, AND MEAN SCORE DIFFERENCE COMPARISON INDICATORS
(Reading)

	KINDERGARTEN					GRADE ONE				
	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76[4] NPR-R	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76[4] NPR-R
BS	42-5	64-1 A	62-2 AB	80-2 AB	80-3 B	32-4	40-2 A	49-3 a	64-2 AB	59-3 B
BA	54-2	64-1 A	62-2 AB	80-2 Ab	80-3 B	46-1 B	56-1 A	66-1 AB	79-1 AB	75-1 B
BI	26-6	36-6	54-4	62-6 a	68-6	36-2 b	26-5	43-5	46-5	44-6
EDC	54-2	56-4	48-5	77-4 A	72-5	30-5	36-3 A	49-3	54-4 A	59-4
FP	48-4	56-4 A	62-2 A	86-1 A	86-1	30-5	23-6	35-6	42-6	49-5
PP	58-1 B	56-4	42-6	68-5	80-3 B	36-2	32-4	63-2 AB	59-3 AB	71-2 B
D2F	48	64 A	62 AB	80 AB	77	26	30	46	54	46
D4F	58 B	64 A	68 AB	77 A	86 B	50 B	50 A	68 AB	81 AB	78 B
D5F	42	46	54 AB	77	72 B	40 B	40 A	51 A	62 AB	54
TFT	48	56 C	58 C	77 C	77 D	36	36 C	54 C	62 CDE	62 D
PI[3]	48- B		58- A	80- AB	72-	30-		59- AB	64- AB	31-

NOTES:

1. Data for Non-Follow Through groupings unavailable; hence no 'A', 'a' or 'C' comparisons.
2. No city-wide testing this year; hence no 'B', 'b', 'D' or 'E' comparisons.
3. Note that this model (PI) had no data for 1972-1973 and was not included in the rankings.
4. Expansion program absorbed Non-Follow Through groupings; hence no 'A', 'a', or 'C' comparisons.

TABLE 4

NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES,
INTER-MODEL ANNUAL RANKINGS, AND MEAN SCORE DIFFERENCE COMPARISON INDICATORS
(Reading)

	GRADE TWO					GRADE THREE					GRADE FOUR	
	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76 NPR-R	71-72[1] NPR-R	72-73[2] NPR-R	73-74 NPR-R	74-75 NPR-R	75-76 NPR-R	74-75 NPR-R	75-76 NPR-R
BS	14-5	23-2 a	33-3 a	46-4 Ab	50-4 AB	18-5	14-4 a	25-2 a	28-4	39-3 AB	34-1 AB	34-2 AB
BA	23-1	34-1 a	47-1 aB	72-1 AB	61-2 aB	26-2	28-1 A	41-1 ab	49-1 AB	49-1 aB	31-3 ab	34-2 ab
BI	16-3	20-3 a	23-6	39-5 a	42-5 a	18-5	12-5	16-6	17-6	27-6 a	14-5	22-6 a
EDC	16-3	16-4	32-4	56-2 A	51-3	26-2	16-3	22-4	33-3	33-4	26-4	26-4
FP	14-5	12-6	24-5	35-6	42-5	23-4	8-6	22-4	22-5	33-4	13-6	24-5 A
PP	23-1	14-5	41-2	54-3	65-1 AB	29-1	24-2 A	25-2	37-2	42-2	32-2	34-2
D2F	14	23	35 A	42	40	16	20 A	21 A	22	34 B	20 A	27 A
D4F	28	38	46	76 AB	67 B	32	30 A	43	53 AB	49 B	32 A	34
D5F	16	23	32	48 A	50 AB	26 B	10	29 A	30	37 A	28	31 AB
TFT	20	23	35	53 C	54 C	26	20	27	33	39	26	29
PI[3]	16-		45- AB	60- AB	56- AB	41- B		43- AB	45- B	42- AB	34- B	34- AB

NOTES:

1. Data for Non-Follow Through groupings unavailable; hence no 'A', 'a' or 'C' comparisons.
2. No city-wide testing this year; hence no 'B', 'b', 'D' or 'E' comparisons.
3. Note that this model (PI) had no data for 1972-1973 and was not included in the rankings.

Explanation of Cell Information, Tables 5-8

The number in each cell represents the percentage of pupils in the left margin grouping whose test score placed them in the national percentile rank interval at the top of the column.

The letters shown in some cells indicate the percentage displayed is more favorable than the corresponding percentage for certain other groupings. That is, the presence of a letter(s) indicates the percentage displayed is less than the corresponding percentage if the cell is in the '%<16' column, or more than the corresponding percentage if the cell is in the '%≥50' column. The letter code is as follows for the reference groups in the comparisons;

A- appropriate Non-Follow Through grouping; or both Non-Follow Through groupings in the case of BS, BA, and BI.

a- one of two appropriate Non-Follow Through groupings.

B- appropriate District Summary grouping; or both District Summary groupings in the case of BS, BA, AND BI.

b- one of two appropriate District Summary groupings

C- the Total Non-Follow Through grouping.

D- the Total District (1 through 6) grouping.

E- the Total City grouping.

TABLE 5

PERCENTAGES OF PUPILS SCORING BELOW THE 16th AND AT OR ABOVE THE 50th NATIONAL PERCENTILE RANKS AND PERCENTAGE DIFFERENCE COMPARISON INDICATORS
(Mathematics)

	KINDERGARTEN						GRADE ONE					
	1973-1974		1974-1975		1975-1976[1]		1973-1974		1974-1975		1975-1976[1]	
	%<16	%≥50	%<16	%≥50	%<16	%≥50	%<16	%≥50	%<16	%≥50	%<16	%≥50
BS	20 AB	48 AB	10 AB	70 aB	12 B	66 B	18 a	44 a	8 AB	59 AB	10 B	62 B
BA	18 AB	55 AB	12 ab	64 AB	12 b	68 B	12 A	62 AB	8 AB	71 AB	13 b	61 B
BI	21 AB	45 AB	20 a	46 a	11 B	66 B	22	45 a	20	42	23	47
EDC	36	30	11 B	60 A	14	50	13 AB	53 B	13 B	48 A	13	57 B
FP	15 AB	56 AB	5 B	76 A	6	76 B	20	43	11 A	60 AB	14	58
PI	14 AB	42 AB	11 B	66 B	13	65 B	5 AB	69 AB	8 AB	47	18	44
PP	36	27	17 A	53 A	7 B	69 B	19	54 AB	15 A	52 AB	7 B	65 B
D2F	16 AB	55 AB	13 AB	66 AB	8 B	75 B	15 B	54 B	17	52 AB	24	39
D4F	19 AB	58 AB	14	61 A	13	68 B	13	60 A	7 AB	73 AB	12	62 B
D5F	22 AB	42 AB	12 B	63	14	60	17	49	10 A	52 A	12	60 B
TFT	25 C	43 C	12 CD	62 C	11 D	64 D	16 C	53 C	12 CD	56 CDE	13	58 DE

Expansion program absorbed Non-Follow Through groupings; hence no 'A', 'a' or 'C' comparisons.

TABLE 6

PERCENTAGES OF PUPILS SCORING BELOW THE 16th AND AT OR ABOVE THE 50th NATIONAL PERCENTILE RANKS AND PERCENTAGE DIFFERENCE COMPARISON INDICATORS

(Mathematics)

	GRADE TWO						GRADE THREE						GRADE FOUR			
	1973-1974		1974-1975		1975-1976		1973-1974		1974-1975		1975-1976		1974-1975		1975-1976	
	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50
BS	21 AB	37 Ab	10 AB	54 AB	9 AB	52 AB	30 AB	27 Ab	27 ab	38 AB	31 A	40 AB	31 AB	23 AB	29 AB	28 AB
BA	17 aB	52 AB	6 AB	69 AB	9 aB	56 aB	19 AB	44 Ab	16 AB	59 AB	9 AB	65 AB	41 ab	20 ab	36 ab	27 ab
BI	33 a	27 a	27 a	36 A	17 a	42 a	51 A	18 A	44	16	31 A	34 Ab	60	7	38 Ab	22 Ab
EDC	24 A	36	10 AB	59 B	15 A	51 AB	39	25	26	37	23	37	48	23	41	24
FP	20	30	10 AB	51 A	7 AB	49 A	43	19	34	21	26	35	74	8	44 A	11 A
PI	9 AB	53 AB	9 AB	57 AB	14 A	52 AB	8 AB	45 AB	10 AB	60 AB	13 AB	52 AB	27 AB	21 AB	18 AB	29 AB
PP	33	41 A	22	43	12 A	52	33 A	28 A	24	44 B	16 A	57 AB	38 A	19	39	25
D2F	23 AB	39 AB	19	50 AB	17	43	40 A	26 AB	35	34 B	28 A	38 AB	46 AB	15 A	41 AB	25 AB
D4F	19 B	51 AB	6 AB	69 AB	6 B	62 B	18 AB	45 AB	15 AB	58 AB	10 AB	65 AB	39 A	23	37	26
D5F	22 AB	37 A	15 A	47 A	13 AB	47 A	30 AB	29 AB	27	35 B	25 AB	45 AB	43	14	25 AB	27 AB
TFT	24	40 C	14 CD	53 CD	12 CD	51 CD	33 C	30 C	26 D	40 D	21 C	47 CD	46	18	37 C	24

TABLE 7

PERCENTAGES OF PUPILS SCORING BELOW THE 16th AND AT OR ABOVE THE 50th NATIONAL PERCENTILE RANKS AND PERCENTAGE DIFFERENCE COMPARISON INDICATORS
(Reading)

	KINDERGARTEN						GRADE ONE					
	1973-1974		1974-1975		1975-1976[1]		1973-1974		1974-1975		1975-1976[1]	
	%<16	%≥50	%<16	%≥50	%<16	%≥50	%<16	%≥50	%<16	%≥50	%<16	%≥50
BS	6 aB	66 AB	4 AB	83 AB	6 B	76 B	19	48 ab	10 AB	58 AB	13	58 B
BA	5 AB	69 AB	4 Ab	81 AB	3 B	81 B	8 A	59 Ab	4 AB	71 AB	4 B	66 B
BI	9 aB	52 a	12 a	59 a	8	60	21	42 a	20	42	18	43
EDC	10	43	5	81 AB	7	73	17	46	12 A	50 A	12	56
FP	7 A	67 AB	4	87 A	3	87 B	17	27	21	38	11	49
PI	0 AB	71 AB	2 AB	83 AB	2 B	72 B	4 AB	59 AB	10 AB	53 AB	23	20
PP	12	37	6	69 A	1 B	84 B	12 AB	58 AB	6 AB	62 AB	8 B	67 B
D2F	4 AB	66 AB	7 AB	76 AB	8	71	15 A	44 A	19	46	18	40
D4F	7	71 AB	4 A	77 A	2 B	81 B	7 AB	62 AB	3 AB	73 AB	5	68
D5F	7 AB	58 AB	5 AB	79 AB	5 B	71 B	17	50	10 AB	56 AB	14	51
DFT	8 CD	55 C	5 C	78 C	4 D	77	14 C	50 C	10 C	56 C	11	56

Expansion program absorbed Non-Follow Through groupings; hence no 'A', 'a', or 'C' comparisons.

TABLE 8

PERCENTAGES OF PUPILS SCORING BELOW THE 16th AND AT OR ABOVE THE 50th NATIONAL PERCENTILE RANKS AND PERCENTAGE DIFFERENCE COMPARISON INDICATORS
(Reading)

	GRADE TWO						GRADE THREE						GRADE FOUR			
	1973-1974		1974-1975		1975-1976		1973-1974		1974-1975		1975-1976		1974-1975		1975-1976	
	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50	<16	≥50
BS	29 a	31 A	17 a	48 Ab	13 ab	47 a	33 A	20 A	35	26 b	21 AB	31 Ab	22 aB	31 AB	23 AB	28 AB
BA	14 B	49 AB	7 AB	75 AB	11 ab	65 aB	23 ab	35 ab	18 aB	43 AB	16 ab	44 aB	26 Ab	29 Ab	24 ab	30 ab
BL	39	20	23 a	39	19 a	47 a	48	16 A	53	7	40 A	23 a	57	13	49 a	17
EDC	32	31	11 A	56 A	12 A	47	43	20	33	29	29	26	42	26	38	26
FP	28	10	21	29	16	37	41	16	36	13	31	31	55	11	35	24 A
PI	13 A	43 AB	9 AB	55 AB	11 AB	51 AB	27 AB	37 AB	19 B	32 B	20 AB	36 AB	25 B	34 AB	21 AB	29 AB
PP	26	38	13	61 B	7 B	67 AB	36	27	29	38 B	23	37	26	32	31	32
D2F	26 A	35 A	23	46	22	42	39 A	21 A	46	17	31 A	35 AB	42 A	20 A	39 A	21 A
D4F	16 B	47 AB	5 AB	80 AB	7 B	72 B	23	36	16 B	46 B	18	44 B	24 A	33 A	24	30
D5F	29	29	15	45	13	48	34 A	23 A	35	22	24 AB	28 A	33	24	27 A	26 A
TFT	26	34	14	55 C	12 C	54 C	35	25	32	29	25	33	36	25	32	27

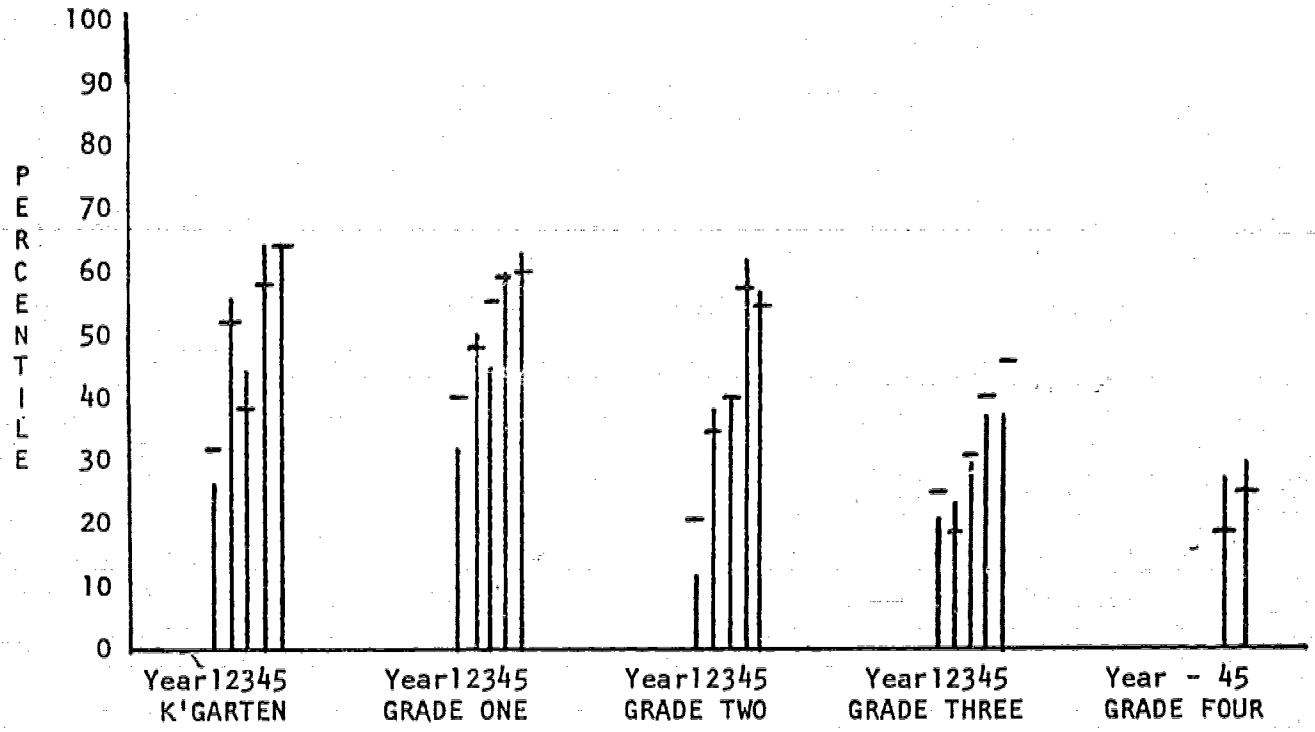
APPENDIX B

GRAPHS OF NATIONAL PERCENTILE RANKINGS
OF MODELS ACROSS THE FIVE YEARS 1971-1972
THROUGH 1975-1976

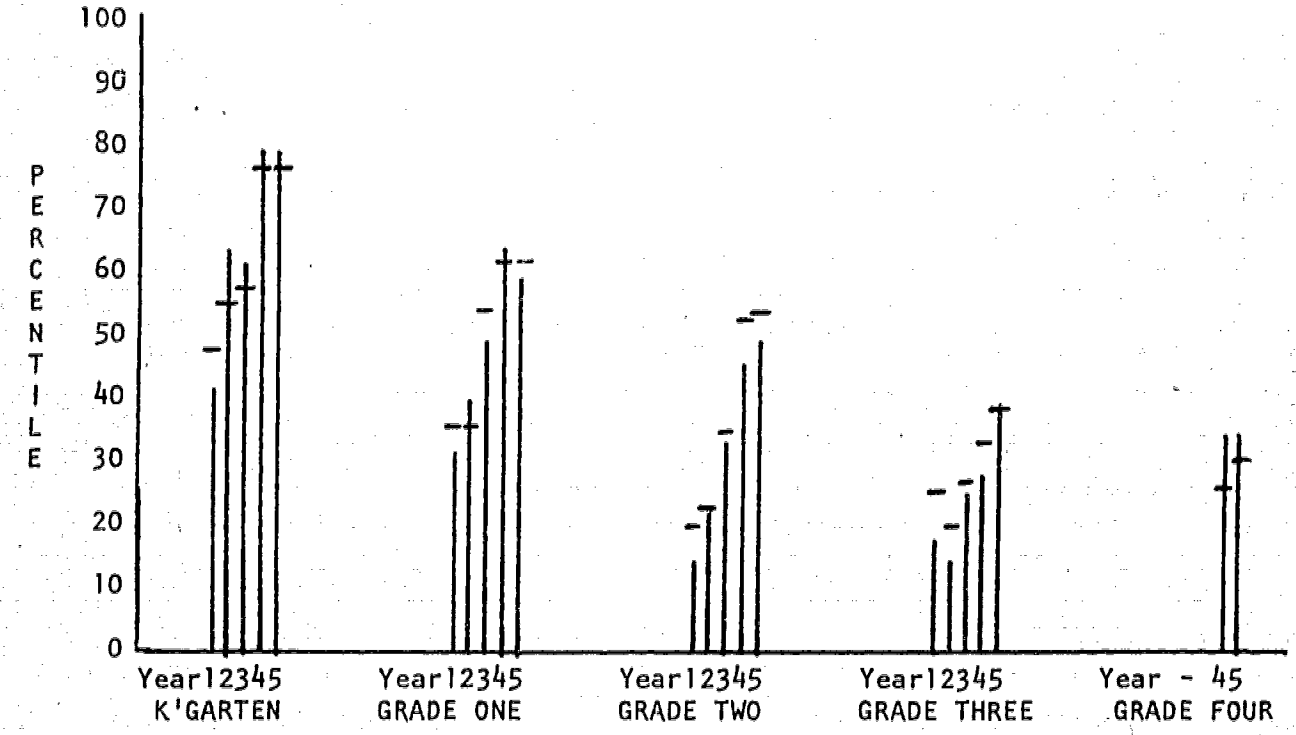
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

BANK STREET-MATHEMATICS



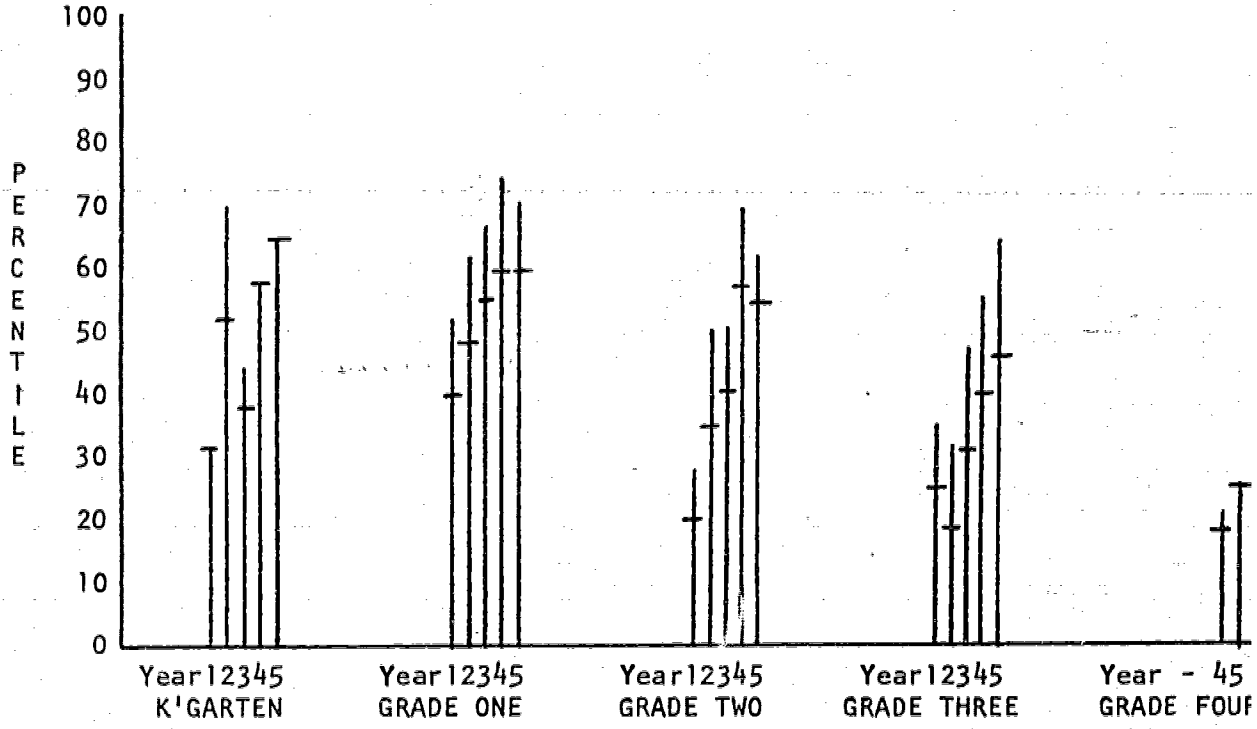
BANK STREET-READING



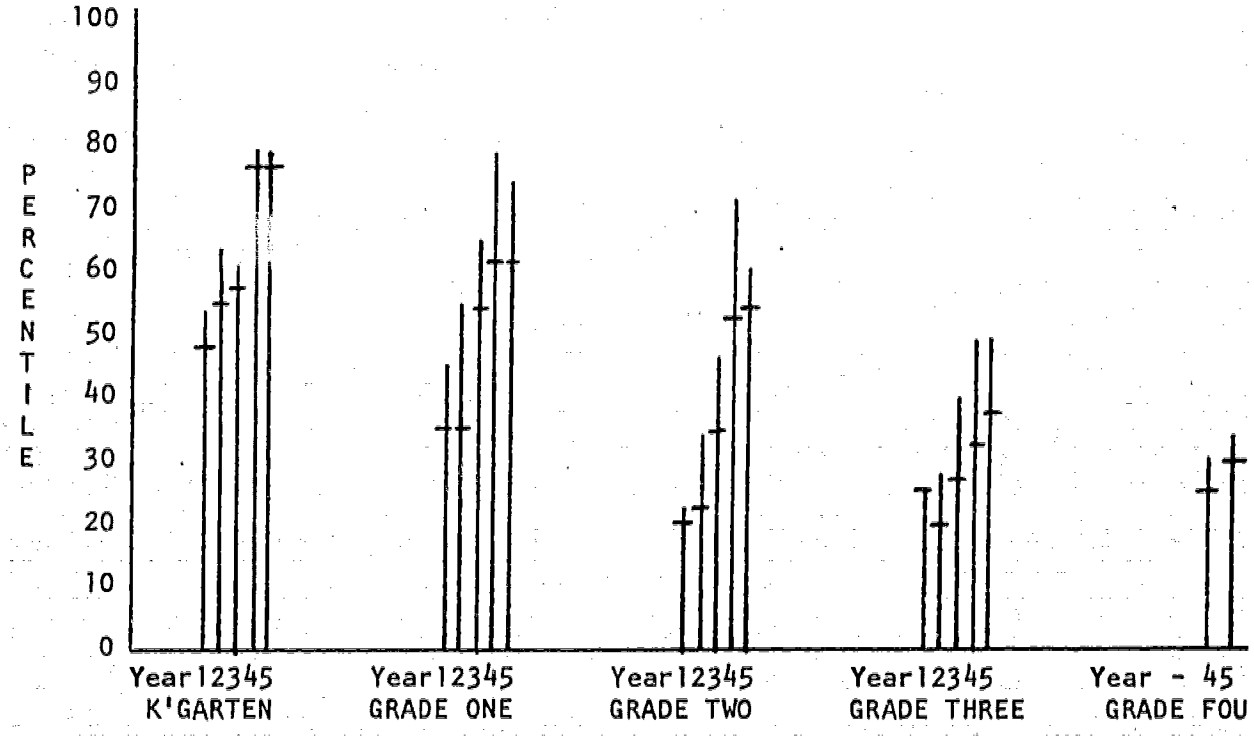
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

BEHAVIOR ANALYSIS-MATHEMATICS



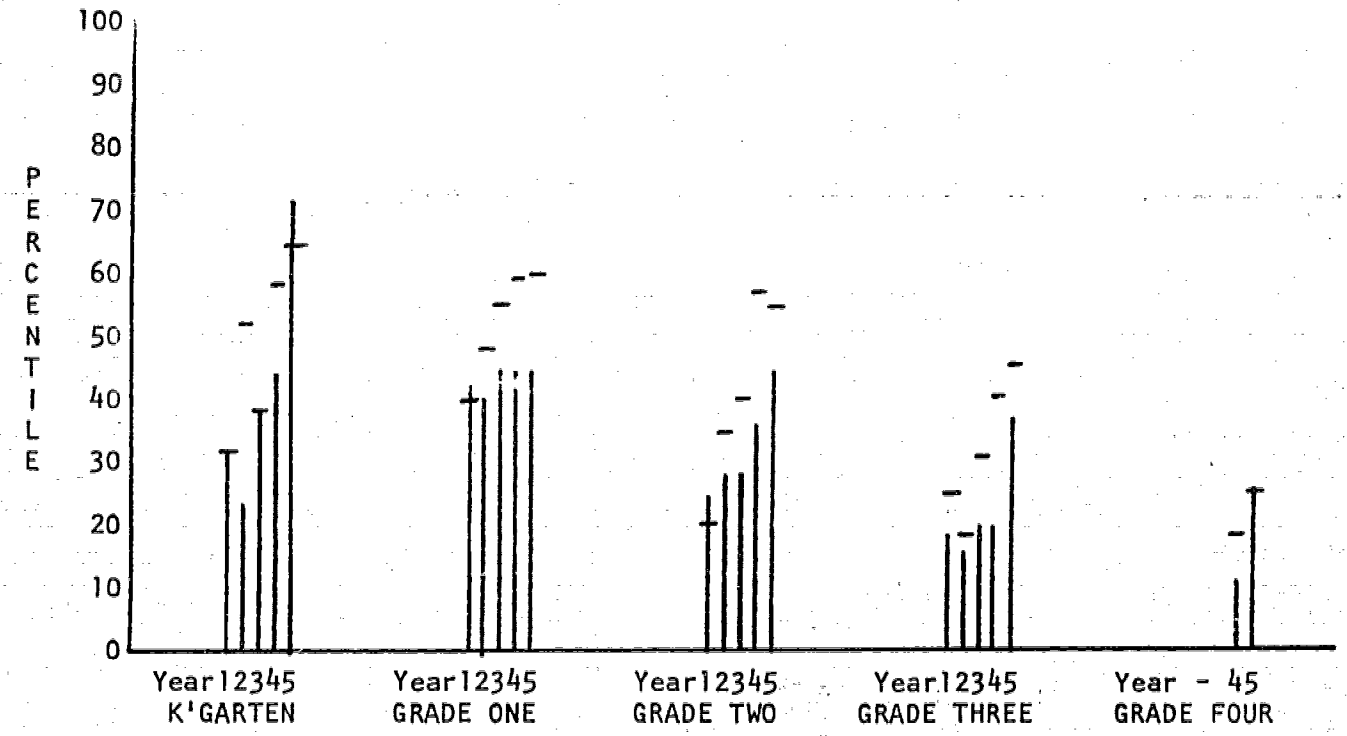
BEHAVIOR ANALYSIS-READING



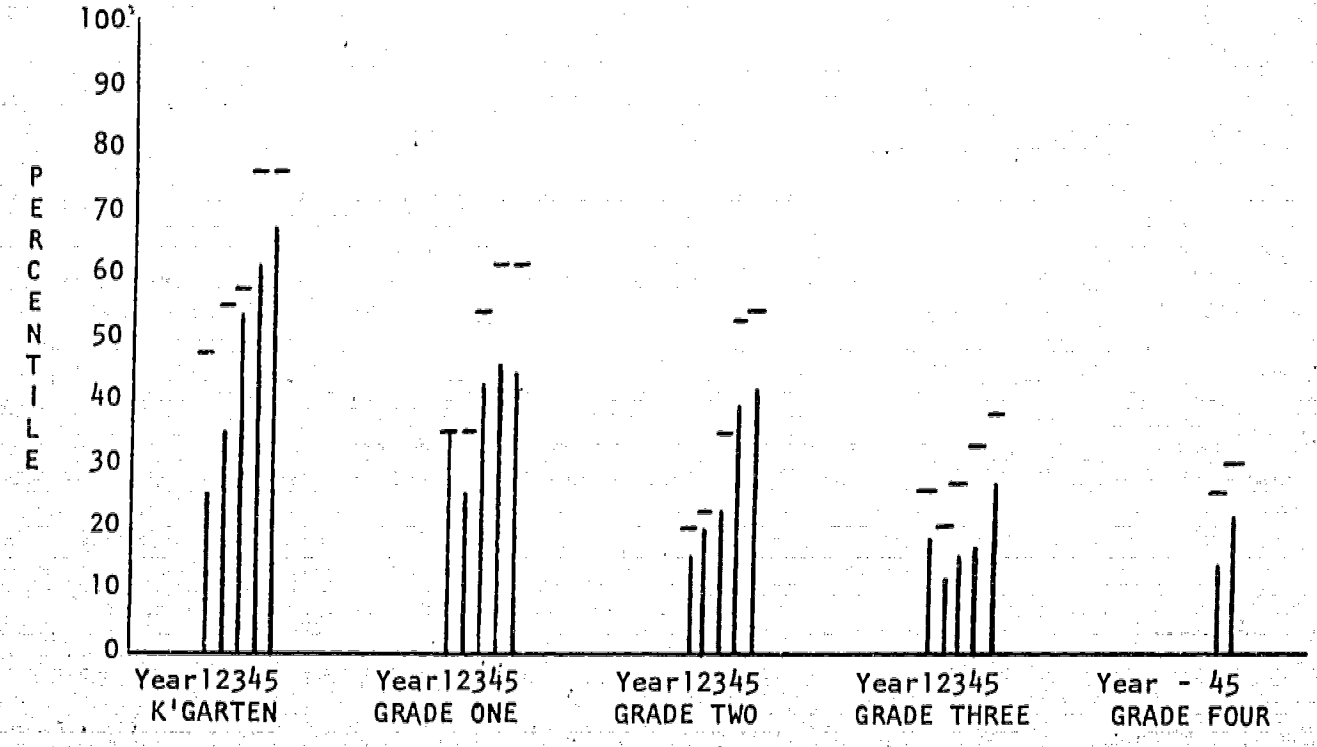
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

BILINGUAL-MATHEMATICS



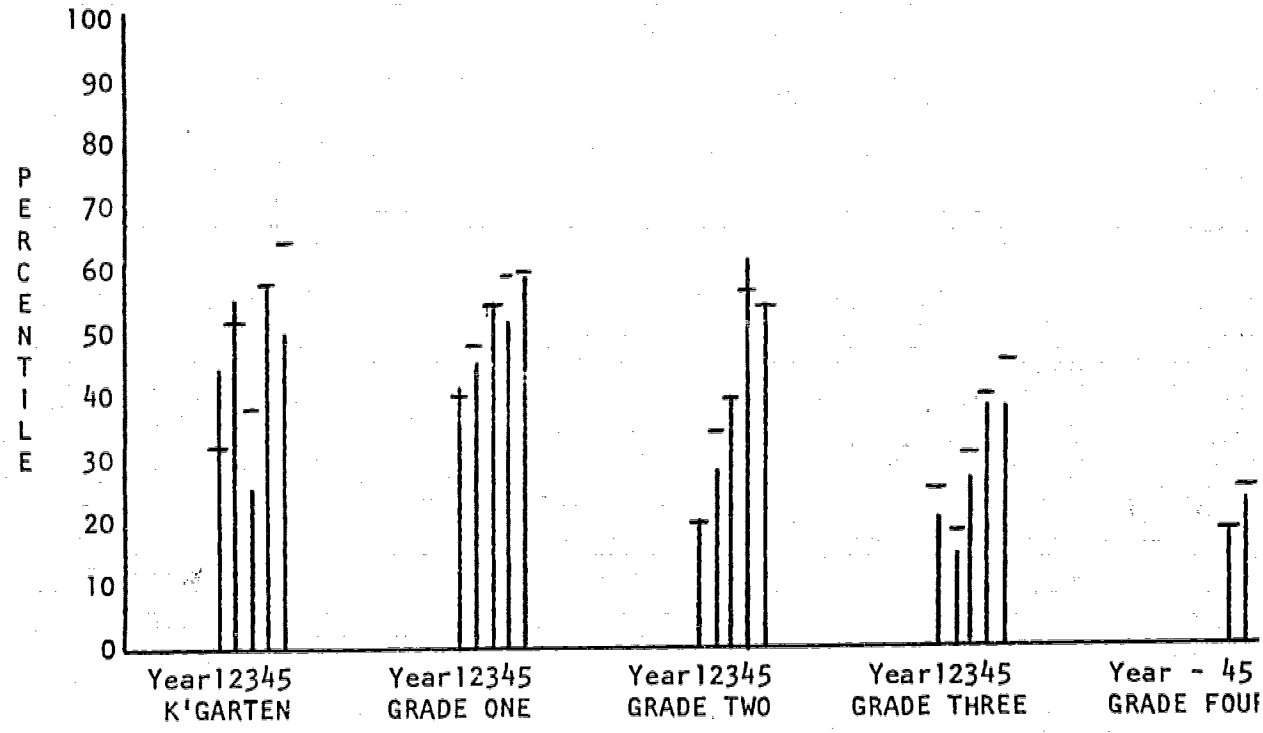
BILINGUAL-READING



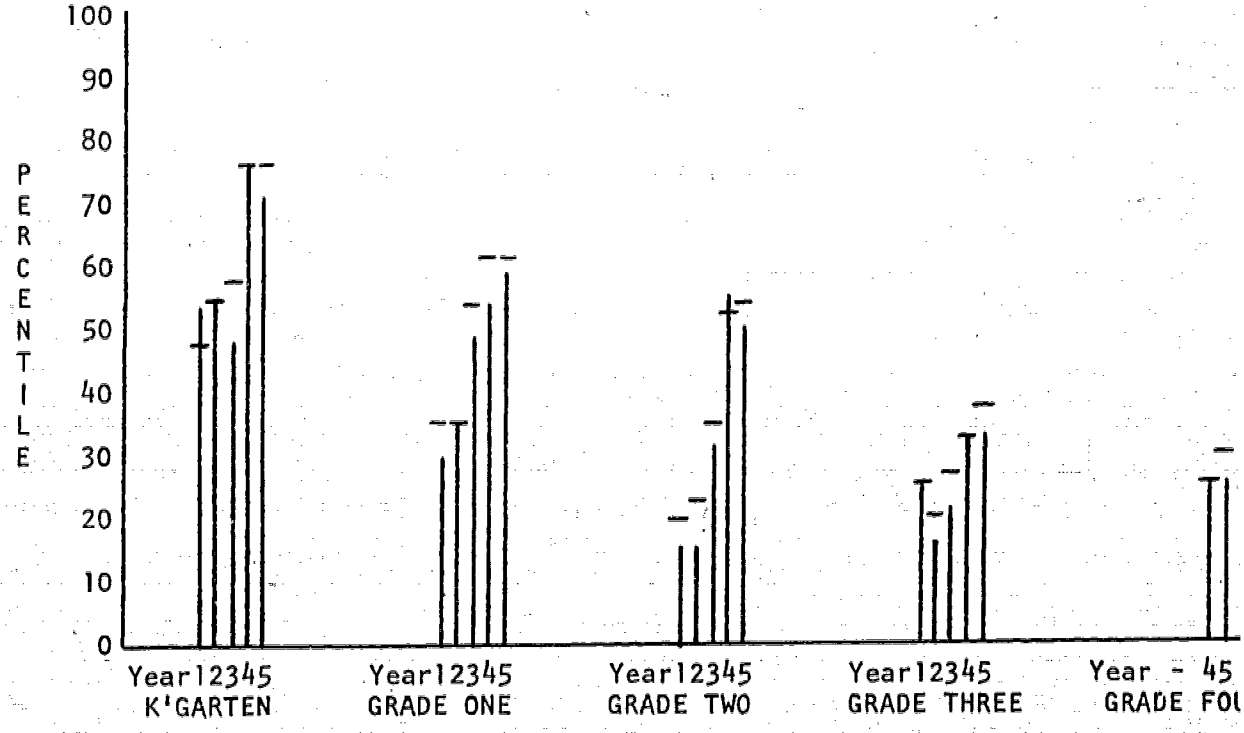
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

EDC-MATHEMATICS



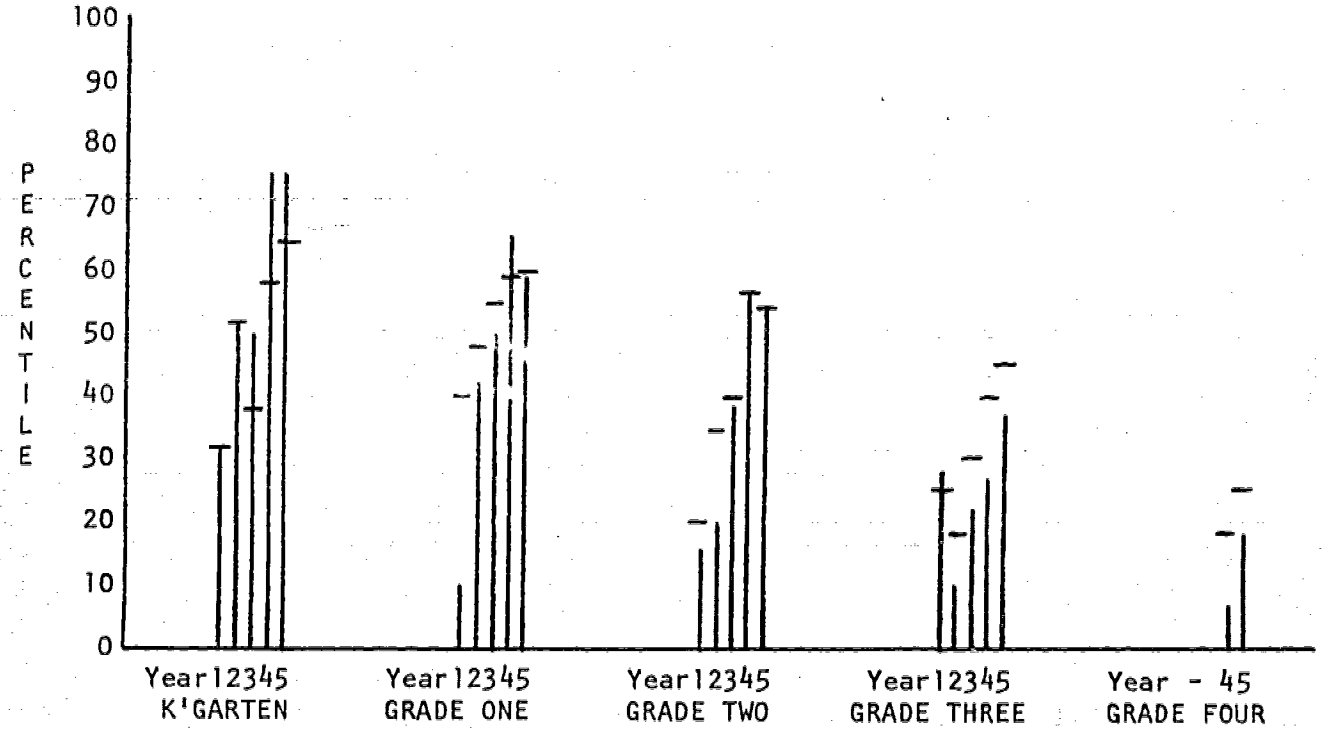
EDC-READING



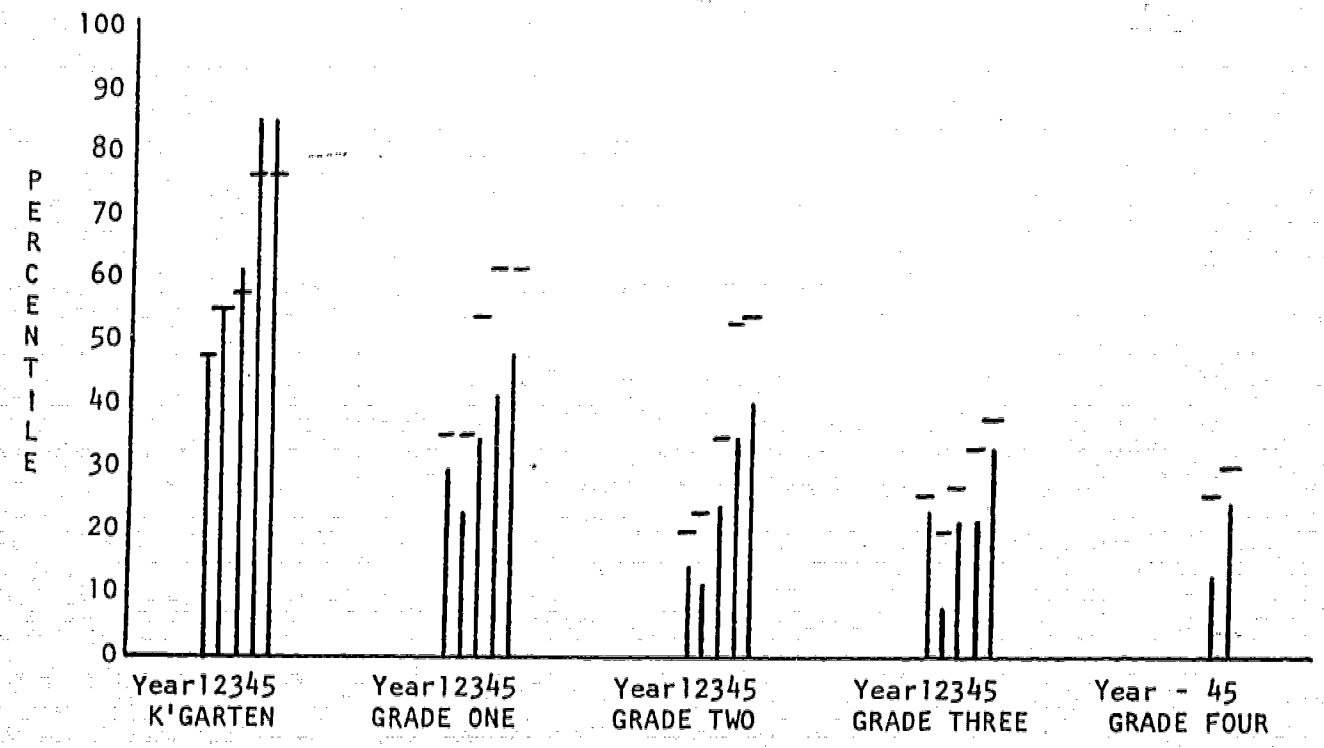
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

FLORIDA PARENT-MATHEMATICS



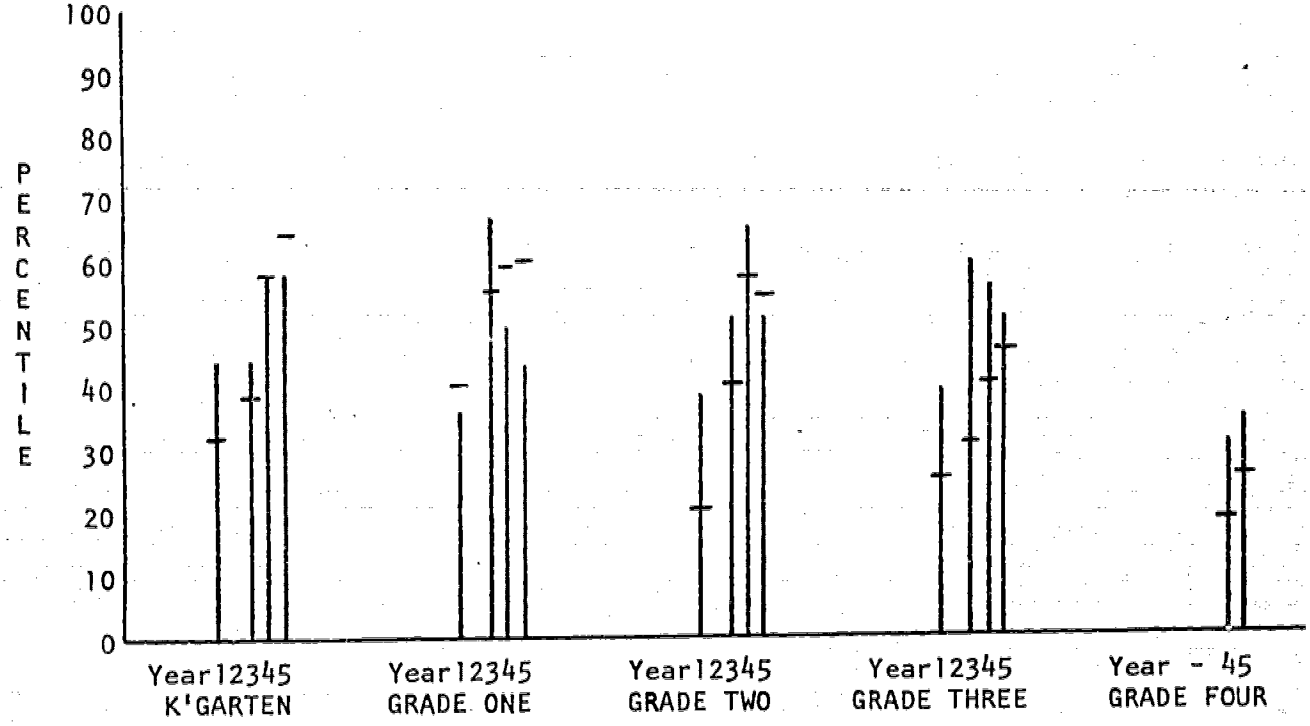
FLORIDA PARENT-READING



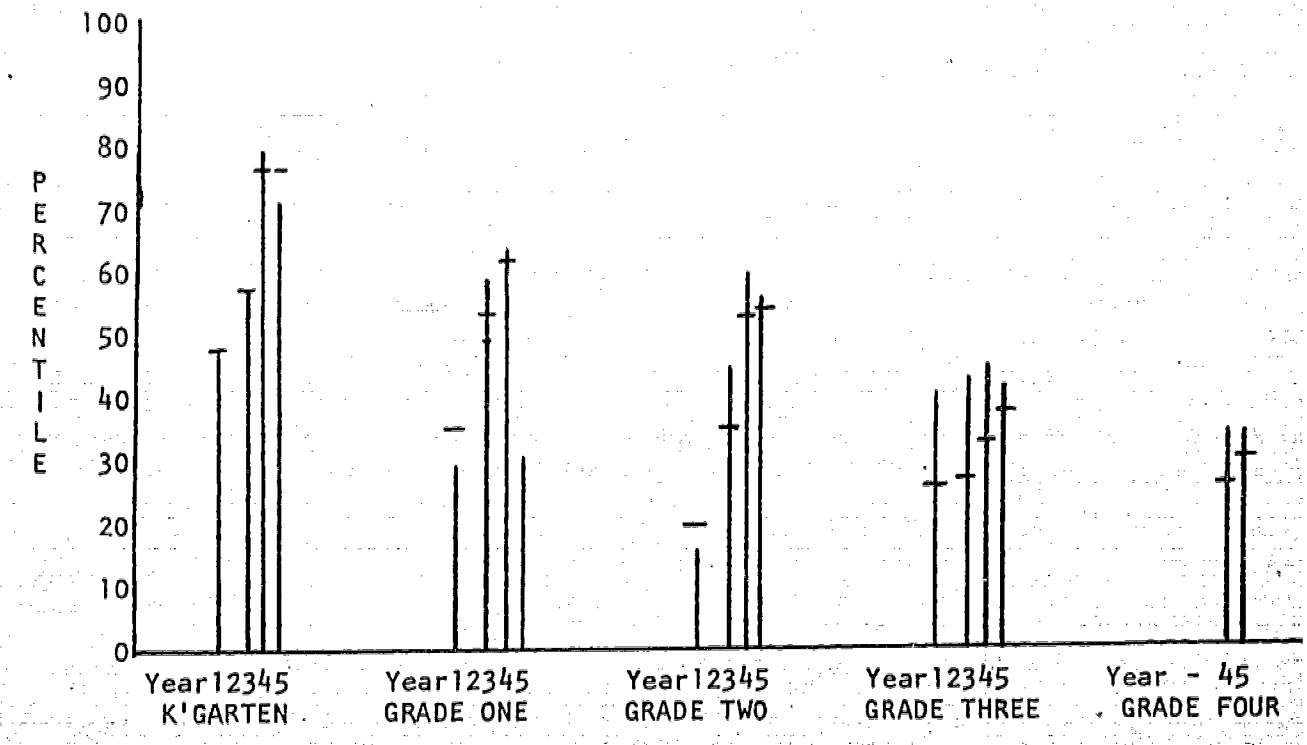
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

PARENT IMPLEMENTED-MATHEMATICS



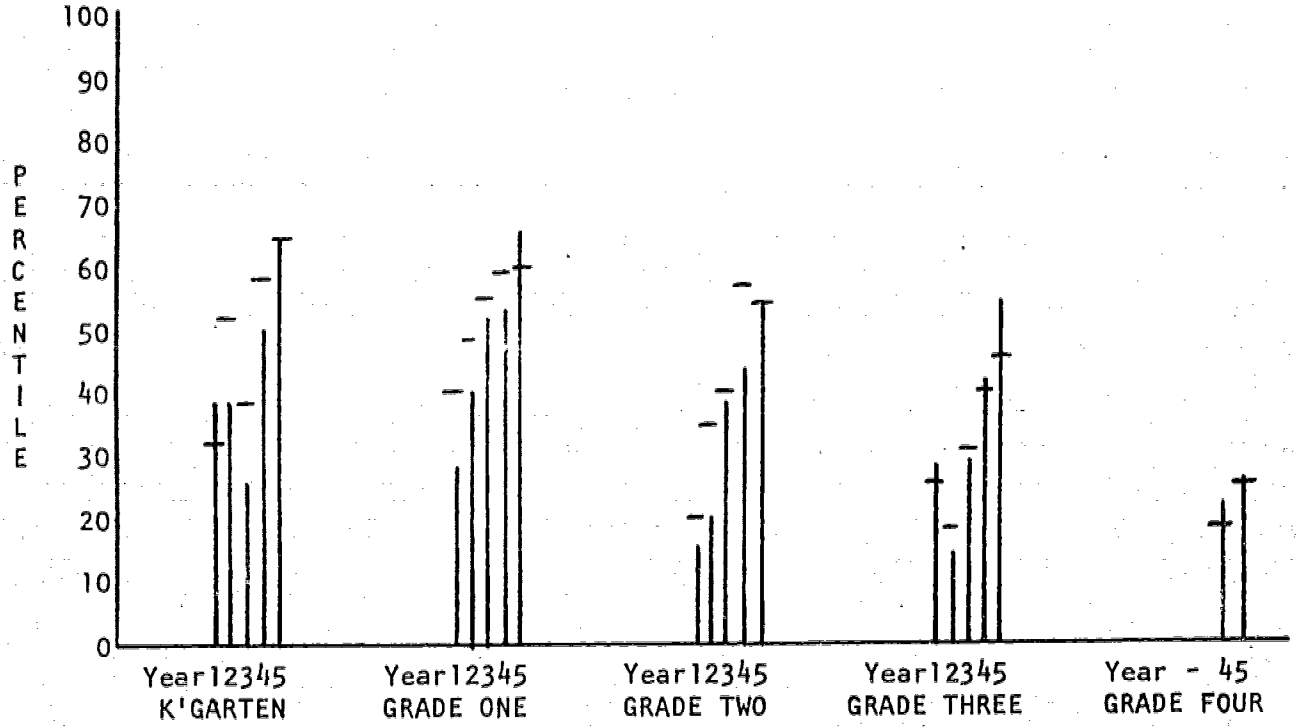
PARENT IMPLEMENTED-READING



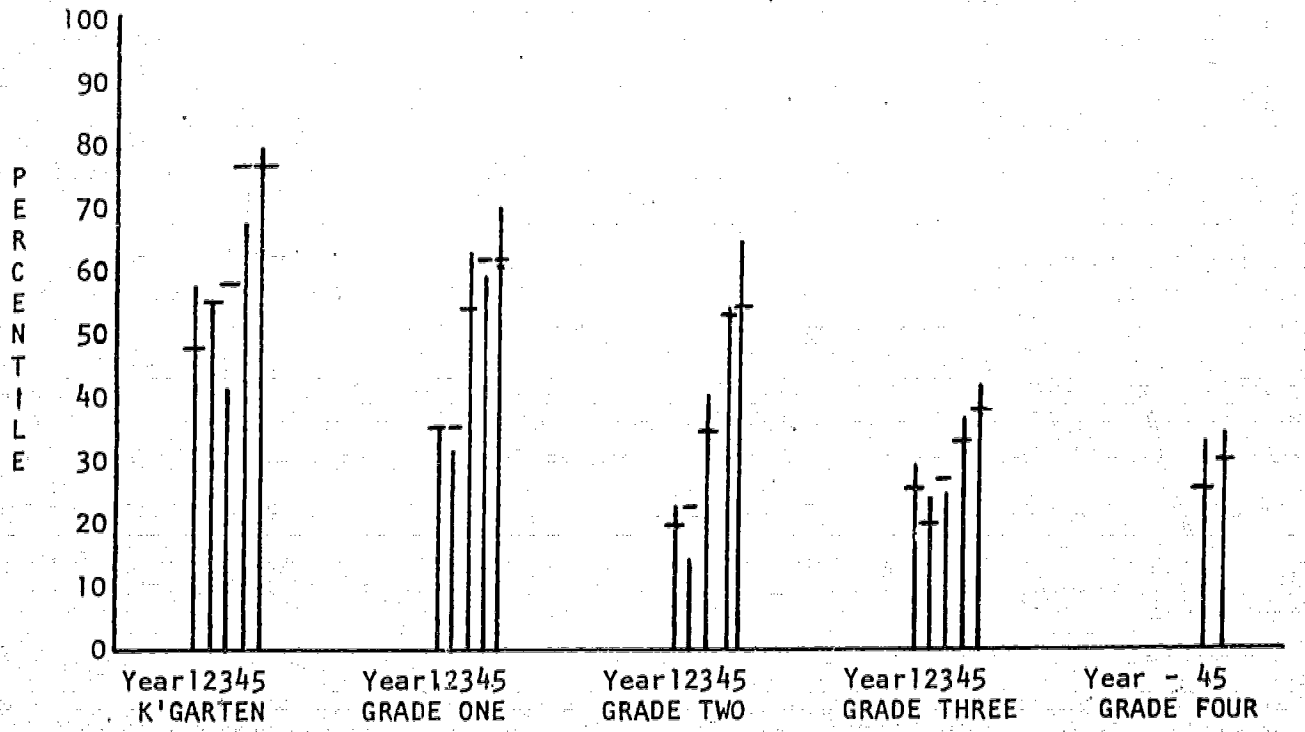
NATIONAL PERCENTILE RANKS CORRESPONDING TO MEAN SCORES, SCHOOL YEAR 1971-1972 (YEAR 1) THROUGH SCHOOL YEAR 1975-1976 (YEAR 5)

NOTE: The horizontal bar represents the percentile for the Total Follow Through grouping. The height of the vertical line represents the percentile for the particular model.

PHILADELPHIA PROCESS-MATHEMATICS



PHILADELPHIA PROCESS-READING



APPENDIX C

ABSTRACT OF TITLE I REPORT
1975-1976

FOLLOW THROUGH (ESEA TITLE I COMPONENT)
Abstract

ADMINISTRATOR:	Leontine D. Scott
HEADQUARTERS:	Room 510, 21st Street and Parkway
TELEPHONE:	299-7659
PBRS CODE:	611-01(02)-699, 611-01(02)-511, 611-14-748
OPERATING YEARS:	1968-1976
GRADES SERVED:	K-4
NO. OF PUPILS:	13,161
NO. OF SCHOOLS:	44
NO. OF EMPLOYEES:	Professional 116, Paraprofessional 419, Clerical 11
CURRENT BUDGET:	Regular $5,119,000, Summer $335,000, Total $5,454,000
SERVICE PROVIDED:	Seven of the 22 Follow Through models are represented in Philadelphia, each model-sponsor contracted to provide staff-development and consulting services for implementation of a specific instructional approach. Special funding is provided to develop effective levels of parent involvement and special supportive medical, dental, psychological, social, and nutritional services for pupils.
EVALUATION TEAM:	Thomas McNamara, Judith Goodwin, James Welsh, Anne Lukshus, Janice Atkins

OBSERVED ACTIVITIES

The intended mode of operation overall in the regular program was partially implemented. The Bank Street Model was well implemented in 1975-1976. The Behavior Analysis Model continued to function well also, particularly in two of the three schools; the third school was affected by some sponsor-consultant scheduling problems. Implementation in the Bilingual Model, through better sponsor support, was considerably improved over past years; however, one school continued to have serious problems with implementation. The EDC Model's implementation, though good overall, was affected by some theoretical disagreements regarding the appropriate form of emphasis on the basic skills. Improved scheduling of home visits by parent educators continued to produce better implementation in the Florida Parent Model. The two models using the Philadelphia Process instructional approach (Parent Implemented and Philadelphia Process) also showed improvements in implementation, due especially to better articulation of responsibilities among instructional specialists, expediters, principals, and classroom staff.

The parent-involvement component was again very well implemented overall; policy advisory committees (PACs) were active and the model-management system functioned smoothly. The combination of inflationary costs and retention of funding

levels from the previous year again affected the supportive services component most severely; prolonged negotiations to effect contracts again resulted in lack of services at the beginning of the school year. (Because one school did not submit the requested report forms, statements in this report about the attainment of Objectives 11-17--supportive services and parent involvement--are based on data from 17 schools instead of 18.)

The expansion program, already adversely affected by a "freezing" of Title I funds the previous year, experienced another long "freeze" period this year, which hampered the hiring of necessary staff in Grade 1 and the purchase of required instructional materials. By the end of the year, the project had attained satisfactory implementation in kindergarten, but first-grade implementation, attempted for the first time this year, was not fully satisfactory. Among various approaches, a local adaptation of the Bank Street curriculum and method ("Option 4") was the best implemented.

ATTAINMENT OF OBJECTIVES

Pupil Achievement

Objective 1: In the February 1976 citywide administration of the Stanford Early School Achievement Test (SESAT), all kindergarten pupils in each of at least five of the seven models in the regular program, and in at least 3/4 of the schools in the expansion program in each district, will obtain mean raw scores in the Letters and Sounds and Mathematics subtests that fall within the same national pupil stanine as those obtained by the total kindergarten group in the same models and schools on the SESAT administered in February 1975.

This objective was attained. Five of the seven models and 3/4 of the expansion schools scored at least as high as the same national stanine in these kindergarten subtests in 1976 as in 1975; a number of models and schools had higher stanines in 1976 than in 1975.

Objective 2: In the February 1976 citywide administration of the SESAT, all kindergarten pupils in each of at least five of the seven models in the regular program, and in at least 3/4 of the schools in the expansion program in each district, will obtain mean raw scores in the Letters and Sounds and Mathematics subtests that are significantly higher ($p<.05$) than those obtained by the total kindergarten group in each district in which the respective models and schools are located.

This objective was not attained. Only 2 of the 7 models and 6 of the 29 expansion schools had scores significantly higher than their respective total districts on these kindergarten subtests.

Objective 3: In the February 1976 citywide administration of the California Achievement Tests (CAT), all first-grade pupils in each of at least four of the seven models in the regular program, and in at least 2/3 of the schools in the expansion program in each district, will obtain mean Achievement Development Scale Scores (ADSSs) in Vocabulary or Total Reading, in Computation or Total Mathematics, and in Total Language or Spelling that fall within the same national pupil stanine as those obtained by the total first-grade group in the same models and schools on the CAT administered in February 1975.

This objective was attained. The same-stanine expectation was met by six of the seven models, and by more than 3/4 of the expansion schools. First graders in a number of the models and schools scored in higher stanines in 1976 than in 1975.

Objective 4: In the February 1976 citywide administration of the CAT, all first-grade pupils in each of at least four of the seven models in the regular program, and in at least 2/3 of the schools in the expansion program in each district, will obtain mean ADSSs in Vocabulary or Total Reading, in Computation or Total Mathematics, and in Total Language or Spelling that are significantly higher ($p<.05$) than those obtained by the total first-grade group in each district in which the respective models and schools are located.

This objective was not attained. Of the 7 models, 3 met the criterion, and among the 29 expansion schools, 6 exceeded their respective districts' first graders in a reading score, 11 in a mathematics score, and 8 in a language score.

Objective 5: In the February 1976 citywide administration of the CAT, all second-grade pupils in each of at least four of the seven models in the regular program will obtain mean ADSSs in Comprehension or Total Reading, in Concepts & Problems or Total Mathematics, and in Total Language or Total Battery that fall within the same national pupil stanine as those obtained by the total second-grade group in the same models on the CAT administered in February 1975.

This objective was attained. Second graders in four of the seven models scored at least as high as the same national stanine in 1976 as in 1975 in each of the three test areas. A number of models were in higher stanines in 1976 than in 1975.

Objective 6: In the February 1976 citywide administration of the CAT, all second-grade pupils in each of at least four of the seven models in the regular program will obtain mean ADSSs in Vocabulary or Total Reading, in Computation or Total Mathematics, and in Total Language or Spelling that are significantly higher ($p<.05$) than those obtained by the total non-Follow-Through (national comparison school) second-grade group in each district in which the respective models are located, and by all second graders in each district in which the respective models are located.

This objective was not attained. Only one model met the criterion with regard to non-Follow-Through schools, and only two met it in comparison with all second graders in their respective districts. However, no less than two models scored significantly higher than either reference group in any of the six test areas.

Objective 7: In the February 1976 citywide administration of the CAT, all third-grade pupils in each of at least four of the seven models in the regular program will obtain mean ADSSs in Comprehension or Total Reading, in Concepts & Problems or Total Mathematics, and in Total Language or Spelling that are significantly higher ($p<.05$) than those obtained by the total third-grade group in the same models in February 1975.

This objective was attained. Third graders in four of the seven models met the criterion of scoring significantly higher in 1976 than in 1975 in at least one reading, one mathematics, and one language test area.

Objective 8: In the February 1976 citywide administration of the CAT, all third-grade pupils in each of at least three of the seven models in the regular program will obtain mean ADSSs in Comprehension or Total Reading, in Concepts & Problems or Total Mathematics, and in Total Language or Spelling that are significantly higher ($p<.05$) than those obtained by the total non-Follow-Through (national comparison school) third-grade group, and by all third graders, in each district in which the respective models are located.

This objective was considered partially attained. Two models met the criterion with regard to non-Follow-Through schools and two models met it in comparison with their respective districts' third graders.

Objective 9: In the February 1976 citywide administration of the CAT, all fourth-grade pupils in each of at least four of the seven models in the regular program will obtain mean ADSSs in Comprehension or Total Reading, in Concepts & Problems or Total Mathematics, and in Total Language or Total Battery that are significantly higher ($p<.05$) than those obtained by the total fourth-grade group in the same models in February 1975.

This objective was attained. Fourth graders in four of the seven models met the criterion, scoring significantly higher in 1976 than in 1975 in each of the three test areas.

Objective 10: In the February 1976 citywide administration of the CAT, all fourth-grade pupils in each of at least three of the seven models in the regular program will obtain mean ADSSs in Comprehension or Total Reading, in Concepts & Problems or Total Mathematics, and in Total Language or Total Battery that are significantly higher ($p<.05$) than those obtained by the total non-Follow-Through (national comparison school) fourth-grade group, and by all fourth graders, in each district in which the respective models are located.

This objective was partially attained. Three of the seven models met this criterion with regard to non-Follow-Through schools, but only two of the models met it in comparison with their respective districts' fourth graders.

Supportive Services and Parent Involvement

Objective 11: The executive policy advisory committee (PAC) at each school will involve at least 15 other parents monthly in committee work to plan parent activities, and will work jointly with at least two community-action groups on projects during the school year. Information regarding these activities is to be drawn from PAC minutes and reported by each school quarterly on forms supplied by the Follow Through Evaluation office.

This objective was partially attained by the project as a whole. The criteria were fully met at 9 of the 17 Follow Through schools that reported, and partially met by 6 schools. Two schools did not meet either criterion.

Objective 12: At least 10% of the parent population for each school will attend an on-site open PAC meeting or a districtwide or citywide PAC meeting monthly; at least 20% of each school's parents will attend a Follow-Through-related meeting or affair monthly; and at least 70% of the parents in each school will attend one school meeting or affair during the school year. Schools will provide pertinent information quarterly on forms supplied by the evaluation unit.

This objective was not attained by the project as a whole. The criteria were not fully met at any of the 17 Follow Through schools that reported. However, they were partially met at 10 schools where at least one of the three criteria was fully met and at least 50% of the required percentage on the other two criteria was met.

Objective 13: In each school there will be at least one hour of parent volunteer time monthly to match the number of children in the program. Information to be supplied as for Objective 12.

This objective was not attained by the project as a whole. The criterion was fully met at 1 of the 16 Follow Through schools that reported regarding this objective. It was partially met at 4 schools where between 0.5 and 0.7 volunteer hours per pupil were provided monthly. The criterion was not met at 11 schools.

Objective 14: In each school 100% of the total enrollment will receive at least the type of screening for medical problems that is provided by school health services; no less than 80% of those pupils referred for medical assistance will be treated by either contracted or noncontracted services arranged by Follow Through personnel. Information to be provided as for Objective 12.

Attainment of this objective could not be determined in 1975-1976 because school health staff were assigned special additional responsibilities regarding the inoculation of children, and therefore were unable to regularly complete the Follow Through data forms related to this objective.

Objective 15: In each school 100% of the total enrollment will receive at least the type of screening for dental problems that is provided by school health services; no less than 80% of those referred for dental care will be treated through contracted or noncontracted services arranged by Follow Through personnel. Information to be provided as for Objective 12.

Attainment of this objective could not be determined in 1975-1976 because the inhibiting factors noted under Objective 14 nad a simultaneous effect on the evaluation team's efforts to secure dental information.

Objective 16: In each school at least 80% of those pupils referred for psychological services will be examined by either contracted or noncontracted agencies; either treatment or consultation for 100% of those examined will be provided by contracted or noncontracted agencies arranged by Follow Through personnel. Information will be provided as for Objective 12.

This objective was not attained by the project as a whole. The criteria were fully met at 3 of the 17 Follow Through schools that reported. They were partially met at 8 schools where at least one of the criteria was fully met; 4 of these schools may have met both criteria, but they did not include treatment information in their reports. Six schools did not meet either criterion.

Objective 17: At least 85% of each school's families will be visited at least once during the school year by the Follow Through school-community coordinator; the coordinator or social worker serving the school will identify all families in need of social services and will be consistently engaged in helping at least 50% of these families to secure the services needed from agencies in the community. Information to be provided as for Objective 12.

This objective was partially attained by the project as a whole. The criteria were fully met at 8 of the 17 Follow Through schools that reported. They were partially met by the 9 other schools where at least one of the criteria was fully met. Three of the 9 schools may have met the criteria fully, but their reports did not include information for April and May.

Special Conditions

Objective 18: To insure that teacher-retention rates are sufficiently high to allow the required continuity of treatment within Follow Through, it is expected that the rate of teacher continuance in the program for the four-year span 1972-1973 to 1975-1976 will be at least 60%. Data will be secured from School District records.

This objective was attained. Across all models for the four-year span 1972-1976 there was a 65% teacher-retention rate, which exceeded the 60% criterion.

Objective 19: To insure that pupil-retention rates are sufficiently high to provide for the program's planned longitudinal effect, it is expected that the overall rate of pupil continuance for the four years 1972-1973 to 1975-1976 will be at least 60%. Data will be secured by regular updating of the Follow Through pupil file from the School District's Pupil Directory System.

Attainment of this objective could not be determined for this report. Its determination requires a complete update of the computerized individual pupil file, not yet accomplished by the Office of Data Processing. (Previous four-year spans, through 1971-1975, consistently showed pupil-retention rates of at least 60%.)

IMPACT

In the regular Follow Through program, the Bank Street Model was well implemented, the Behavior Analysis Model maintained a very high level of functioning in two of its three schools, and the Bilingual Model continued to improve in implementation in two of its three schools. The EDC Model was well implemented in general, but experienced some disagreement over the type of stress to be given to basic skills. The Florida Parent, Parent Implemented, and Philadelphia Process Models continued to show improvements in all areas of implementation.

In the expansion program, a "freezing" of Title I funds plagued implementation again, particularly affecting the newly introduced program operations in first grade. A local adaptation of Bank Street curriculum and method was the best implemented option at both the kindergarten and first-grade levels.

Seven of the 10 achievement objectives (focused on both regular and expansion programs) were at least partially attained. Fully attained were the five objectives having to do with maintenance of basic skill levels in Grades K-2 and improved performance over the previous year in Grades 3 and 4. The two objectives dealing with project pupils' performance in Grades 3 and 4 in comparison with that of district non-Follow-Through groups and total districts were partially attained. The three objectives not attained concerned comparative performance in Grades K-2 of project pupils and total districts. As in the past, the Bank Street and Behavior Analysis Models were the highest-achieving overall. In 1975-1976 the Philadelphia Process Model generally exceeded the Parent Implemented Model, which in the past had ranked third among the models in performance.

The parent-involvement component continued to be well implemented, although there was little consistent evidence of success on the criteria included in the three applicable objectives.

Inflation, combined with no increase in funding over the previous year, again contributed to lower levels of implementation of supportive services in 1975-1976. Performance data regarding medical and dental services were not consistently available to the evaluation team.

Teacher-retention rates remained more than high enough to insure program continuity. Pupil continuance rates, not yet available, were expected to remain at a level conducive to the program's intended longitudinal effect.

The regular program and the expansion program functioned well overall, in spite of funding problems. In the regular program, the highest-achieving models continued to be Bank Street and Behavior Analysis, followed in 1975-1976 by Philadelphia Process and Parent Implemented.