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ABSTRACT

These analyses are part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta, Georgia. The evaluations focus on the rationale of ongoing programs, pupil needs, program goals, behavioral objectives, management and control, cost effectiveness, and communication and dissemination. Findings, conclusions, and recommendations relate specifically to reading achievement, self concept, and attendance in the following elementary schools: Fred A. Toomer, Walker Street, Jeremiah S. Gilbert, Jessie Mae Jones, J. C. Harris, John B. Gordon, and L. O. Kimberly. In most instances, it was found that such concerns as attendance and pupil mobility were not significant. Reading achievement in the various schools evaluated ranged from those that did not reveal any specific trend in total reading performance, to those in which pupils of some grades making a mean gain of one month for each month in the reading program, to those in which the mean reading gains were approximately one month's gain or better for every month in school for practically every grade level. (RT)

RESEARCH AND DEVELOPMENT REPORT

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FRED A. TOOMER ELEMENTARY SCHOOL

1970—71

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PREFACE

An analysis has been made of certain performances of pupils at F. A. Toomer Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
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I. RATIONALE

F. A. Toomer Elementary School is located in a low-income community. It is identified as a Title I school and receives some of the compensatory services provided by Title I funds. The services of a lead teacher are not provided in this school.

Many pupils from low-income communities do not perform up to the standards set by pupils from average or more affluent environments. This is the case at Toomer. According to a survey of reading levels conducted at the beginning of the school year, more than two-thirds of the pupils were reading below grade placement level. In view of this fact, the faculty decided that the pupils who were not realizing success under the existing educational environment could benefit more from a program which was highly individualized.

Special emphases were placed on meeting the needs of pupils who were identified as low achievers, thus aiding them in meeting the goals of the total school program. The performance of the second grade pupils will be looked at specifically. These pupils will be followed through the fifth grade (after which they leave Toomer) for longitudinal purposes.

The mobility index for Toomer for the 1968-69 school year was 0.24, which indicates that nearly one-fourth of the total active enrollment migrated into or out of the school community. The rate of mobility has continued to increase slightly over the past two years. The 1969-70 mobility index was 0.27, and the 1970-71 index was 0.28.

Supporting Projects

Through the provisions of the Atlanta Public Schools' regular budget and special projects, the following resources contributed to the total school program.

A. Comprehensive Instructional Program (CIP)

The purposes of this program are to insure growth in reading for each pupil through diagnostic teaching and inservice training for teachers; and to establish a minimum professional floor for teachers. During the first year of implementation, 1970-71, the program concentrated in grades 1 — 3 in reading. Inservice training was provided for teachers following the identification of problems by principals, coordinators, resource people, and teachers using the Georgia Education Model (GEM) evaluation instrument. This project did not specify the reading program to be followed in any school; rather each school was to implement a comprehensive reading program which would provide for continuous sequential development of word attack and comprehension skills. Accordingly, Toomer used the Macmillian Basal Reader Series.

B. Title I Program

The following services were provided through ESEA Title I:

1. Educational Aides — Title I educational aides were assigned on the basis of enrollment. Four educational aides were assigned to Toomer. They assisted teachers with planning and preparation of materials; supervised pupils working on special activities; worked with small groups of, or individual, pupils; counseled pupils with special problems and supervised pupils during play periods and other activities.

2. Social Worker — The services of the social worker were shared with four other schools. Consequently, she spent one day a week in Toomer, working mostly with attendance problems. Further, the social worker spent one hour per week supervising the Junior Girl Scouts.

C. Emergency School Assistance Program (ESAP) — Funds from ESAP were used to pay substitute teachers so that regular teachers on each level could be released for one hour to write minimum skills in language arts and mathematics for pupils on each level. Materials from the Atlanta and other school systems were used as resources. Each group of teachers presented the list of skills for that level to the total faculty. Suggestions and amendments were made by the faculty. Finally, a listing of skills for each level was established in language arts and mathematics.

D. Volunteers — A survey of parents was made to determine whether they would be available for and interested in providing volunteer services to the school. Many parents volunteered and provided assistance to the school. They performed such tasks as supervising pupils during lunch periods, at scout meetings, on school trips, etc. Further, they assisted in planning a community school banquet, and served as hostesses and recorders for small group sessions.

II. NEEDS OF PUPILS

The needs of the pupils were identified by the school staff as follows:

A. To experience success in performing assigned tasks, particularly in reading.

B. To receive encouragement and immediate reinforcement for efforts.

C. To develop a positive attitude toward school.

D. To develop self-direction and skill in performing independent tasks.

E. To learn their expected level of performance and individual capabilities and limitations.

III. GOALS OF THE PROGRAM

The following goals were based upon the foregoing identified needs:

A. To provide guidance and sufficient opportunities for each child to develop and demonstrate self-confidence needed to attack learning tasks successfully.

B. To provide learning experiences designed to meet individual needs, thus allowing each child to develop skill in performing independent tasks and to assume responsibility for his own learning.

C. To provide learning experiences through which pupils will develop specific reading skills needed to make satisfactory progress at individual rates.

D. To provide immediate reinforcement for pupils so that they will develop a more positive attitude toward school.

IV. BEHAVIORAL OBJECTIVES

The activities of the program were geared toward realization of the following objectives:

A. Pupils will make a month's gain in reading for each month in the program, based upon performance on the Metropolitan Achievement Tests (MAT).

Variable Measured: Academic achievement in reading.

B. Pupils in the program will show a positive attitude toward school as measured by the Student Attitude Toward School Inventory (SATSI).

Variable Measured: Attitude toward school.

In addition to the above stated objectives, Toomer, as a participating Career Opportunities Program (COP) school, worked toward meeting the following objectives as set forth by COP.

A. Pupils taught by COP teams will make a gain of more than one grade level annually in reading.

   Variable Measured: Academic achievement in reading.

B. Pupils taught by COP teams will make a significantly greater gain in reading than will pupils taught in self-contained classrooms.

   Variable Measured: Academic achievement in reading.

C. The low-income schools with COP teams will achieve significantly greater gains in pupil self-concepts annually than will non-COP schools.

   Variable Measured: Self-concept.

D. The low-income schools with COP teams will achieve, after one year of operation, more open climates than will non-COP schools.

   Variable Measured: Openness of climate.

V. MANAGEMENT AND CONTROL

Toomer School is organized according to a non-graded, or continuous progress, plan. There is not a lead teacher assigned to this school; therefore, the principal coordinates the program. She guides the total staff (librarian, teacher of the Educable Mentally Retarded (EMR) class, fifteen classroom teachers, four Title I educational aides, one full-time volunteer, one music teacher, and one art teacher) in studying and designing an instructional program to meet the needs of the pupils.

Once weekly for one hour, teachers were released to plan and organize for teaching. Further, the principal worked individually with teachers in planning, diagnosing, and prescribing for learning.

Management Problems

The following were listed by the faculty as problems encountered:

A. Limited planning time when teachers could plan, examine new material, and write performance contracts. Teachers were released for one hour each week to plan; however, this amount of time was considered insufficient.

B. Some teachers were unable to plan effective learning tasks to be carried out by pupils and educational aides.

C. The lack of a lead teacher or other resource personnel on a regularly scheduled basis to provide assistance for teachers with tasks of diagnosing and prescribing for learning limited the effectiveness of the program.

Personnel

The staff at Toomer included three teachers in each grade level (1 — 5), a teacher of EMR children, a librarian, a music teacher, an art teacher, four Title I educational aides, one full-time volunteer, and the principal. Ten elementary school tutors from grades six, seven, and eight at Coan Middle School contributed to the efforts of the staff by providing tutorial services for twenty-eight pupils in grades two and three during the school year.

Inservice Training

In the absence of a lead teacher, the principal was responsible for providing most of the inservice activities for the staff. Several sessions

dealt with writing behavioral objectives and student contracts. One teacher conducted a two-session workshop in construction and utilization of games in instruction. The librarian led the staff in the care and operation of audio visual equipment.

Three of the four Title I educational aides are COP participants. As such, they are attending an accredited institution of higher education and following a planned program leading to professional certification. The design of the program allows participants to complete the professional requirements first so that the relevancy of courses to on-the-job training will be high.

Decision-Making Process

The organizational pattern of Toomer allows the faculty to assume an active role in the decision-making process. A curriculum committee was appointed to study the curriculum and work directly with the principal in planning the curriculum. A grade chairman from each level served as the liaison between the principal and the teachers on each level. Ideas, problems, and/or decisions affecting the total faculty were presented in faculty meetings. Teachers participated freely in offering suggestions and making decisions.

Study of the Organizational Climate

Organizational climate has been used to describe the "personality" of the environment. Many studies may be found which support the theory that congruence between the goals established by organization management and the individual's perception of these goals, as related to his basic psychological needs, plays a major role in determining the degree of productivity of the organization. Therefore, efforts have been made to obtain data concerning the characteristics of the school climate over a period of years, beginning with the 1970-71 school year.

Toomer was one among fourteen Title I schools selected for the study of the organizational climate. During the latter part of the 1970-71 school year, a random sample of teachers was asked to complete, anonymously, the Organizational Climate Index (OCI), which was developed by George Stern of Syracuse University, to assess their perception of the organizational climate at their school. The OCI is strictly not a test or a criterion measure in the judgmental or evaluative sense. It is, however, an effort to provide feedback to the faculty on the school climate for analysis and discussion. Further, in sequential years, attempts will be made to determine if the climate of the school influences the achievement levels of the pupils.

Description of the Instrument

The OCI was used to assess teacher perception of the organizational climate of the school. The OCI is based on the need-press model postulated by Henry A. Murray and associates at Harvard University in 1938. The OCI presents teachers with three hundred statements which they are to mark true or false as applicable to their schools. After compilation, the items on the OCI provide data from the respondents on thirty of Murray's need-press scales. (See Table 1 on the following page.) Analysis of these data produces six OCI factors which are called first-order factors. The first five first-order factors together describe a second-order factor called "development press," which is the capacity of the organizational environment to support, satisfy, or reward self-actualizing behavior. A second-order factor, "control press," refers to those characteristics of environmental press which inhibit or restrict personal expressiveness.

The following are the six first-order factors and their definitions:

A. Development Press

1. Intellectual climate — This factors describes a concern with intellectual activity, social action, and personal effectiveness.

TABLE 1

DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence
2. Achievement: striving for success through personal effort
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion
4. Affiliation-rejection: friendliness versus unfriendliness
5. Aggression-blame avoidance: hostility versus disorganization

6. Change-sameness: flexibility versus routine
7. Conjunctivity-disjunctivity: planfulness versus organization
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal
9. Deference-restiveness: respect for authority versus rebelliousness
10. Dominence-tolerance: ascendance versus forebearance

11. Ego Achievement: striving for power through social action
12. Emotionality-placidity: expressiveness versus restraint
13. Energy-passivity: effort versus inertia
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness
15. Fantasied achievement: daydreams of extraordinary public recognition

16. Harm avoidance — risk-taking: fearfulness versus thrill seeking
17. Humanities-social sciences: interests in the humanities and the social sciences
18. Impulsiveness-deliberation: impetuosity versus reflection
19. Narcissism: vanity
20. Nuturance-rejection: helping others versus indifference

21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI)
22. Order-disorder: compulsive organization of details versus carelessness
23. Play-work: pleasure-seeking versus purposefulness
24. Practicalness-impracticalness: interest in practical activities versus indifference
25. Reflectiveness: introspective contemplation

26. Science: interest in the natural sciences
27. Sensuality-puritanism: interest in sensory and aesthetic experiences
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests
29. Supplication-autonomy: dependency versus self-reliance
30. Understanding: intellectuality

It is based on the scales for humanities, social science, science, reflectiveness, understanding, fantasied achievement, exhibitionism, and change. A school that scores high on this factor is one in which there is a high degree of intellectuality, heterosexual interests, flexibility, and attention seeking.

2. Achievement standards — This is the factor reflecting press for achievement. Schools high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

3. Practicalness — This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is a high interest in practical activity and a desire for helping others.

4. Supportiveness — This factor deals with aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, conjunctivity, supplication, blame avoidance, harm avoidance, and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, friendliness, and planfulness.

5. Orderliness — The components of this factor are concerned with the press for organizational structure, procedure,

orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order, narcissism, adaptability, conjunctivity, deference, and harm avoidance. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, acceptance of criticism, respect for authority, vanity, and planfulness.

B. Control Press

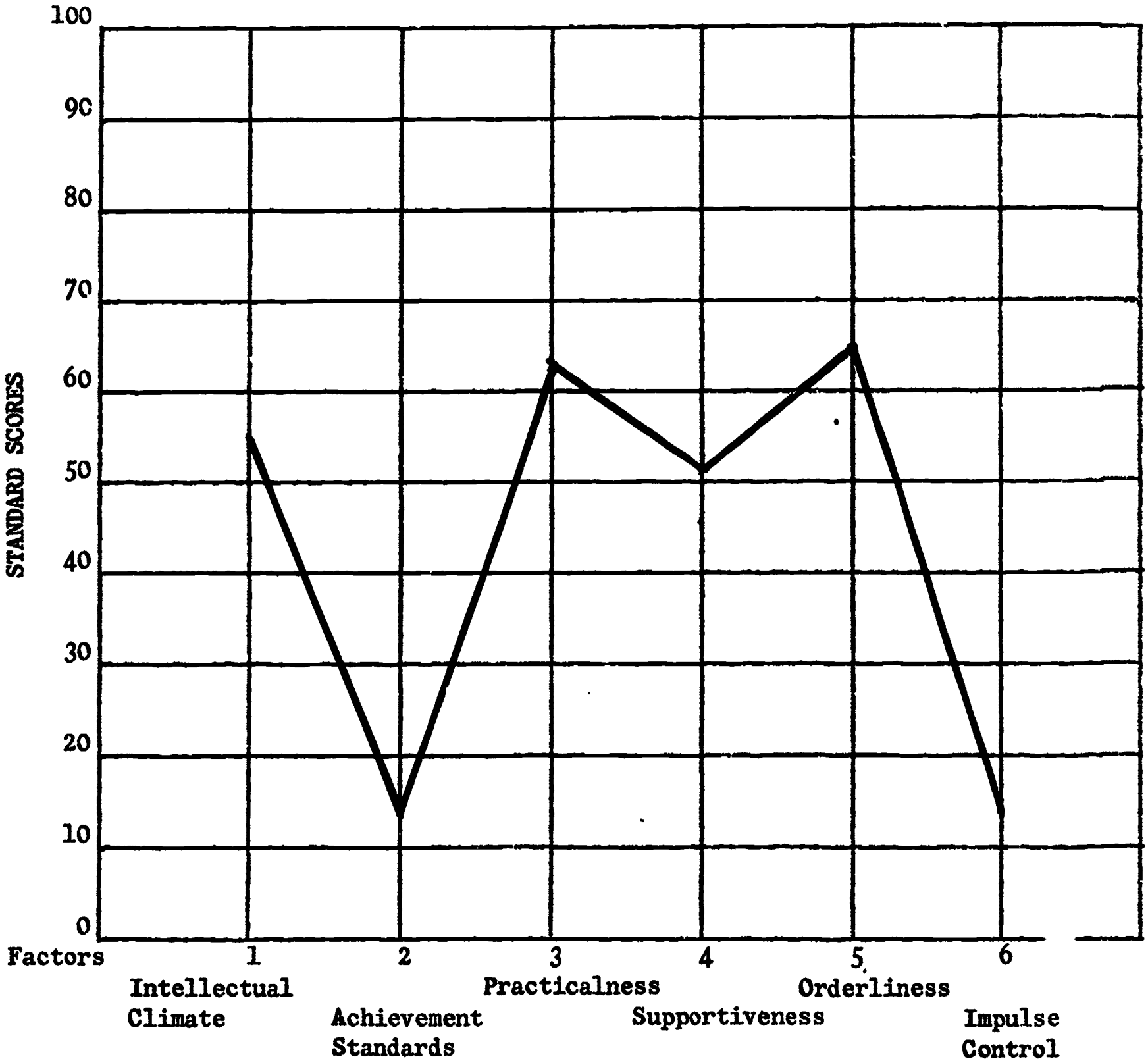
In addition to the reflection of factors (1) and (2) under Development Press, Control Press involves:

Impulse control — This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on work instead of play; prudishness versus sexuality; aggression versus blame avoidance; impulsiveness versus deliberation; emotionality versus placidity; and exhibitionism versus inferiority avoidance. A school that scores high on this factor is one in which the teachers feel there is a high degree of purposefulness, heterosexual interests, hostility, impetuosity, expressiveness, and restriving after failure.

Toomer's profile is presented in the table on the next page. The scores were converted to standard scores. On factor 6 before the conversion, a negative score would indicate an open climate on this factor. After conversion, the higher the score on each factor (including number 6) the more open the climate. The mean score is 50 and the standard deviation is 10.

TABLE 2

SCHOOL PROFILE OF STANDARD FACTOR SCORES
ON THE ORGANIZATIONAL CLIMATE INDEX



According to the data collected on the OCI, teachers at Toomer feel that the climate is open on each factor, except achievement standards and impulse control. Among the fourteen schools, Toomer ranked highest (number 1) on orderliness; number 6 on supportiveness; and lowest (number 14) on achievement standards and impulse control. The low rank on the achievement standards and impulse control factors indicates that the teachers feel there is not much press for achievement and there are few opportunities for self-expression.

VI. PROCESS

Reading was caught daily during a two-hour period in the morning. During this time, pupils were divided into groups according to reading level. These groups met simultaneously, and no one teacher had more than two levels. The Title I educational aides assisted the teachers with instructional tasks by working with individual or small groups of pupils within a level to reinforce skills and give further assistance to pupils who needed it.

Pupils, as they showed progress in the development of skills, moved from cluster to cluster for various activities designed to meet their individual needs. Those pupils who were identified as being behind in reading skills were given special attention.

The MacMillian Basal reading program was followed, using materials to accompany the series. Activities designed to improve the self-concept involved using the series of filmstrips on "Who Do You Think You Are?" "Our Families", etc.

In addition to the regular instruction in reading, twenty-eight pupils were tutored in reading by pupils in grades six, seven, and eight from Coan Middle School. There were ten tutors who worked with the twenty-eight pupils in small groups for one hour

and fifteen minutes after school. These sessions were held four days a week for nine weeks. One Title I educational aide served as center leader. As such, the aide supervised and assisted the tutors in planning, evaluating, and preparing materials. Further, the leader pointed out to the tutors specific skills that needed treating.

Supplies

Materials, supplies, and equipment used in the reading program included the following:

Basal reader and accompanying materials in the MacMillian Series
Talking Alphabet
Scott-Foresman Basal Reader Series — Language Experience Approach
Starter Concept Cards, ditto master, workbooks
Story Cards
Extensive Building Library
Dolch Word List
Tapes, films, filmstrips, overhead projector, opaque projector, tape recorder, listening station, and record player
Pictures that teach
Attribute blocks
Number lines
Quisenaire rods
Puppets
Tactile-Kinesthetic Alphabet

VII. EVALUATION

The pupil population at Toomer includes grades K - 5 and one EMR class. It was decided to look at the performance of pupils in grades two and three. Twenty-eight pupils in grades two and three were identified as being behind in reading skills. Aside from regular classroom instruction these pupils were tutored. Therefore, their performance on the MAT was observed specifically.

The MAT were used to assess achievement of all pupils in reading and the Student Attitude Toward School Inventory (SATSI), developed by the Philadelphia School System's Research and Development Division, was administered to a sampling of pupils to assess attitude toward school.

The pretest of the MAT was administered in October, 1970, and the posttest was administered in April, 1971. The period between pretest and posttest was approximately six months.

The SATSI was administered only once to those pupils in each grade who were identified as being slow learners. On this particular inventory, the pupil is given eighteen sets of three faces (smiling, plain, or sad). Eighteen questions concerning school activities are read one at a time. For each question, the pupil is asked to indicate how he feels about the question by marking the appropriate space to show his feelings. The sad face was assigned a value of one; the face without expression (plain) was assigned a value of two; and the smiling face was assigned a value of three. The possible score range for each pupil was 18 to 54, which means that the higher the score, the better the attitude.

VIII. FINDINGS

Table 3 on the following page shows the frequency distribution of total reading scores on the MAT posttest for the pre/post population. According to these data, in the second grade, six pupils (10.52 per cent) either made no gain or lost from two to nine months; thirty-three (57.90 per cent) made from one to four months gain; seven (12.28 per cent) made the expected six months gain; and eleven (19.29 per cent) made a gain of from seven to twelve months.

TABLE 3

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON THE METROPOLITAN ACHIEVEMENT TESTS*
(SECOND GRADE — N = 57)

No.	Per Cent	Gain (in Months)
1	1.75	- 9 — - 8
0	0.00	- 7 — - 6
0	0.00	- 5 — - 4
1	1.75	- 3 — - 2
4	7.02	- 1 — 0
13	22.81	1 — 2
20	35.09	3 — 4
7	12.28	5 — 6
9	15.79	7 — 8
1	1.75	9 — 10
1	1.75	11 — 12

*There was a period of six months between pretest/posttest.

The attendance figure for pupils in the second grade who took both pretest and posttest was ninety-five per cent between October 7, 1970, and April 14, 1971. Correlations were run between pretest, posttest, and gain scores on each of the MAT subtests and the per cent of attendance for those pupils who took both pretest and posttest. No significant correlation was found between attendance and any of the subtest scores.

TABLE 4

CORRELATION BETWEEN THE METROPOLITAN ACHIEVEMENT TESTS
SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE
(SECOND GRADE)

	Coefficients of Correlation			t-Ratio		
	Pre	Post	Gain	Pre	Post	Gain
Word Knowledge vs. Attendance	0.09	0.10	0.06	0.64	0.72	0.44
Word Analysis vs. Attendance	0.10	0.07	0.04	0.77	0.52	0.25
Reading vs. Attendance	0.21	0.04	-0.13	1.59	0.30	-0.97
Total Reading vs. Attendance	0.22	0.10	-0.07	1.68	0.75	-0.49
Mathematics vs. Attendance	0.12	0.12	0.07	0.91	0.90	0.50

Because of the mobility of the pupil population, a comparison was made to determine if there was any significant difference in the pretest scores of the second grade pupils who took only the pretest and those who took both pretest and posttest. Further, a comparison was made between the posttest scores of those who took only the posttest and those who took both pretest and posttest. The group which remained at Toomer and took both pretest and posttest scored higher on each subtest than did the group which took only the pretest; however, the difference was statistically significant at the .05 level on only two subtests, Word Analysis and Mathematics. There was no statistically significant difference between the posttest-only group and the group which took both pretest and posttest. (See Table 5 on the following page.)

Presented in Table 6 on the following page are the mean reading pre/post scores, gain, per cent of expected gain, gain score t-test, per cent of attendance, and coefficient of correlation between attendance and reading of pupils who took both pretest and posttest and pupils who were tutored. Even though all individual gains did not meet the objective of a one-month gain for each month in the program, there was a significant difference at the .001 level between the mean scores of each of the overall grades on the pretest and posttest. The difference between pretest and posttest scores of the tutored pupils was also statistically significant at the .001 level.

The second grade made an average gain of only about sixty per cent of the expected gain, while the third grade made eighty per cent of the expected gain. The fourth grade made slightly more than the expected gain; the average gain was approximately six and one-half months, or 104 per cent of the expected gain. The fifth grade made an average gain of four and one-half months, or seventy-one per cent of the expected gain. The tutees performed better than the total second grade, but they did not perform as well as the total third grade.

TABLE 5

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SECOND GRADE)

Subtest	Pretest Only			Pretest/Posttest			t-Score	Posttest Only			Pretest/Posttest			t-Score
	No.	Mean	S. D.	No.	Mean	S. D.		No.	Mean	S. D.	No.	Mean	S. D.	
Word Knowledge	8	1.24	0.13	56	1.46	0.33	-1.84	8	1.60	0.58	56	1.82	0.51	-1.14
Word Analysis	8	1.06	0.46	57	1.36	0.30	-2.41*	7	1.41	0.50	57	1.81	0.67	-1.51
Reading	8	1.34	0.16	57	1.54	0.52	-1.09	7	1.61	0.41	57	1.90	0.51	-1.19
Total Reading	8	1.31	0.16	57	1.51	0.30	-1.85	7	1.61	0.37	57	1.86	0.44	-1.44
Mathematics	9	1.09	0.14	56	1.29	0.24	-2.47*	7	1.70	0.53	56	1.69	0.48	0.04

*Significant at the .05 level.

TABLE 6

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS MEAN READING SCORES, GAIN, PER CENT OF EXPECTED GAIN, GAIN SCORE t-TEST, PER CENT OF ATTENDANCE, AND COEFFICIENT OF CORRELATION BETWEEN ATTENDANCE AND READING

(GRADES 2 — 5)

Grade	Number of Pupils	Mean Score		Gain in Months	Per Cent of Expected Gain	t-Test	Per Cent of Attendance	r
		Pre	Post					
2	57	1.51	1.86	0.35	56.0	8.51***	95.0	-0.06
3	50	2.11	2.62	0.51	81.0	6.20***	94.0	0.22
4	50	2.76	3.41	0.65	104.0	6.13***	94.0	-0.03
5	67	3.37	3.81	0.45	71.0	5.19***	97.0	-0.01
Tutees	23	1.68	2.03	0.45	71.0	5.21***		

***Significant at the .001 level.

The SATSI was administered to those pupils who, because of their reading levels, were taught reading in levels below their actual grade placement. These data are reported in Table 7 as baseline data for longitudinal purposes. As shown by these data, the mean score of each group was not very high. The second and third grade tutees had a mean score of forty-six out of a possible fifty-four; the fourth grade had a mean score of forty-two; and the fifth grade had a mean score of forty-one. The mean scores ranged from seventy-six per cent (fifth grade) of the possible score to eighty-five per cent (second and third grades).

TABLE 7

STUDENT ATTITUDE TOWARD SCHOOL INVENTORY MEAN SCORE RESULTS
(GRADES 2, 3, 4, and 5)

Grade	Number of Pupils	Mean Score	
		Actual	Per Cent of Possible Score
2 and 3 (Tutees)	16	46	85.0
4	34	42	78.0
5	30	41	76.0

Findings regarding the COP objectives were as follows:

A. There were four COP teams (one of the three COP aides worked with two grades) in Toomer. One aide was assigned to the second grade; one to the third grade; and one was assigned to the fourth and fifth grades. The COP objective called for more than one grade level of gain (10 months) annually. None of the groups of pupils who were taught by the COP teams completely met the objective; however, each group made gains that were statistically significant.

B. The COP aides assigned to the grades worked with all pupils in each of those grades. Therefore, no comparison could be made between the pupils in any of the grades. For the purposes of

COP, the gains of the second, third, fourth, and fifth grade pupils at Toomer will be compared to gains of pupils in other similar schools who were not taught by COP teams.

C. The organizational climate was assessed for baseline data, and comparisons will be made at the end of another year. Changes in the degree of openness will be noted.

D. Data concerning pupils' self-concept will be gathered for longitudinal purposes.

IX. COST EFFECTIVENESS

Cost analysis of reading gains was done to determine the relative cost for the amount of gain made in each grade. These data are presented in Table 8 on page 23. These data show the total school (K - 5) average daily attendance (ADA), the ADA by grade, and the ADA for the pre/post population for which gains are computed. The first grade was not included in this report; therefore, no analysis is reported for this grade.

The general funds budget was itemized to show the regular salary and non-salary expenditures, and the CIP salary and non-salary expenditures. These expenditures do not include the costs for food services, new equipment, or capital outlay. In order to appropriate the expenditures for each grade's pre/post population, the per cent of each grade's pre/post ADA of the total population was taken, and the salaries from general funds were appropriated accordingly. The funds for non-salary, which include the cost for materials and supplies and replacement and/or repair of old equipment, were appropriated likewise. These figures were taken from the June 30, 1971, General Funds Report, and the June 30, 1971, Trust and Agency Report. The per-pupil costs are not exact or finite; rather, broad estimates were made based upon information obtained from the school staff relative to the utilization of resources.

CIP provided inservice training for the principal and the teachers. Further, specific reading materials, excluding textbootks and equipment, were purchased through CIP. The cost for inservice is reported under CIP, salary, and the cost of materials and supplies is reported under CIP, non-salary.

Four special projects (Title I, Education Professions Development Act (EPDA), ESAP, and COP) were contributing resources and are reported either under the specific grade to which they contributed or prorated among grades.

The social worker provided services on a part-time basis and was available to all grades. Therefore, this salary was prorated according to the pre/post ADA of each grade. The remedial tutors worked only in grades 2 and three; the aides worked with grades 2, 3, 4, and 5; the teacher who received EPDA training was assigned to grade 5. Consequently, these salaries were prorated only within these grades.

COP, as a training program, contributed an average of $600 per trainee for one academic year. The COP fund, which was paid to the participating institution of higher education, is reported in the grades to which the trainee was assigned and is totaled under COP, salary.

The ESAP funds were prorated among the grades, according to the ADA of the pre/post population.

These data show the approximate per-pupil cost as paid by general funds and special funds, then the total expenditures by salary and non-salary. Further, the rate of reading gain, the mean reading level of each grade, and the projected cost for one-grade-unit of gain, based upon the present rate of gain and the cost for that gain, are given for each grade. According to these data, the approximate per-pupil cost was $839 for the second grade to make 56 per cent of the expected gain; $808 for the third grade to make 81 per cent of the expected gain; $726 for the fourth grade to make 103 per cent of the expected gain; and $753 for the fifth grade to make 71 per cent of

the expected gain, with an overall average cost of $781. Based upon these figures and the present rate of gain, an attempt was made to project the per-pupil cost for a one-grade-unit (10 months) of gain. According to the data, the cost for pupils to make a one-grade-unit of gain was $1,499 in the second grade; $998 in the third grade; $704 in the fourth grade; $1,061 in the fifth grade; and an overall average of $1,014 per pupil.

It should be noted that the ending reading level of each grade was below the actual grade placement, according to the pupils' performance on the MAT posttest. The range of the deficit was from 1.14 in the second grade to 2.19 in the fifth grade. Even though the fourth grade made one hundred per cent of the expected gain between the pretest/posttest, the mean reading level was still 1.59 below the actual grade placement.

X. COMMUNICATION AND DISSEMINATION

Following several conferences with the principal, a prospectus was developed and submitted to the principal for review by the school faculty. Periodic visits were made to the school by the research assistant for the purpose of gathering information.

The final report was submitted to the school and to the area office for review and then circulated throughout the local school system.

TABLE 8

COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE (ADA)

	GRADES				
	Second	Third	Fourth	Fifth	TOTAL
ADA for Grade	63	71	64	76	274
ADA Pre/Post Population	52	46	48	65	211
Per Cent of Total Population	14.0	12.0	12.0	17.0	55.0
Expenditures — Pre/Post Population					
A. General Funds					
1. Regular					
a. Salary	$33,951	$29,100	$29,100	$41,226	$133,377
b. Non-salary	3,423	2,934	2,934	4,150	13,447
2. CIP					
a. Salary	$ 235	$ 202	$ 202	$ 286	$ 925
b. Non-salary	126	108	108	154	496
3. Total General Funds					
a. Salary	$34,186	$29,302	$29,302	$41,512	$134,302
b. Non-salary	3,549	3,042	3,042	4,310	13,943
c. TOTAL GENERAL FUNDS	$37,735	$32,344	$32,344	$45,822	$148,245

TABLE 8 (Cont'd.)

	GRADES				
	Second	Third	Fourth	Fifth	TOTAL
B. Special Funds					
1. Title I					
a. Salary					
(1) Social Worker	$ 343	$ 343	$ 343	$ 343	$ 1,372
(2) Remedial Tutor	896	701	-0-	-0-	1,597
(3) Aides	3,960	3,101	1,790	2,052	10,903
b. Non-salary	18	18	18	18	72
c. TOTAL TITLE I	$ 5,217	$ 4,165	$ 2,151	$ 2,413	$ 13,944
2. EPDA					
Salary	$ -0-	$ -0-	$ -0-	$ 320	$ 320
3. ESAP					
a. Salary	$ 57	$ 57	$ 57	$ 57	$ 228
b. Non-salary	11	11	11	11	44
c. TOTAL ESAP	$ 68	$ 68	$ 68	$ 68	$ 272
4. COP					
Salary	$ 600	$ 600	$ 300	$ 300	$ 1,800
5. Total Special Funds					
a. Salary	$ 5,856	$ 4,802	$ 2,490	$ 3,072	$ 16,220
b. Non-salary	29	29	29	29	116
c. TOTAL SPECIAL FUNDS	$ 5,885	$ 4,831	$ 2,519	$ 3,101	$ 16,336

TABLE 8 (CONT'D.)

	GRADES				
	Second	Third	Fourth	Fifth	TOTAL
Total Expenditures — Pre/Post Population					
A. Salaries	$40,042	$34,104	$31,792	$44,584	$150,522
B. Non-salary	3,578	3,071	3,071	4,339	14,059
C. TOTAL EXPENDITURES — PRE/POST POPULATION	$43,620	$37,175	$34,863	$48,923	$164,581
Cost per Pre/Post Pupil					Overall Average
A. General Funds					
1. Salary	$ 657	$ 637	$ 610	$ 639	$ 637
2. Non-salary	68	66	63	66	66
3. TOTAL GENERAL FUNDS	$ 725	$ 703	$ 673	$ 705	$ 703
B. Special Funds					
1. Salary	$ 113	$ 104	$ 52	$ 47	$ 77
2. Non-salary	1	1	1	1	1
3. TOTAL SPECIAL FUNDS	$ 114	$ 105	$ 53	$ 48	$ 78
Total Expenditures per Pre/Post Pupil					
A. Salaries	$ 770	$ 741	$ 662	$ 686	$ 714
B. Non-salary	69	67	64	67	67
C. TOTAL EXPENDITURES PER PRE/POST PUPIL	$ 839	$ 808	$ 726	$ 753	$ 781
Rate of Reading Gain (Per Cent)	56	81	103	71	77
Ending Reading Level (Grade)	1.86	2.62	3.41	3.81	
Projected Cost for One-Grade-Unit of Gain					
A. General Funds	$ 1,295	$ 868	$ 653	$ 993	$ 912
B. Special Funds	204	130	51	68	101
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 1,499	$ 998	$ 704	$ 1,061	$ 1,014

XI. CONCLUSIONS

Only the pupils in the fourth grade made a mean gain of one month for each month in the program in reading. However, the mean gains in reading made by the other grades were statistically significant at the .001 level.

The data collected about the self-concept of pupils can only be used as baseline data inasmuch as no pre/post design was used this year.

There were indications, in general, that attendance did not affect achievement. In the second grade, which was used for analysis, the pupils who stayed at Toomer for pretest and posttest scored higher on all subtests than did the pretest-only and the posttest-only groups. The difference was statistically significant at the .05 level only on Word Analysis and Mathematics.

CIP contributed directly to the instructional program by directing systematic diagnosis of reading in grades one through three and by purchasing reading materials and supplies other than textbooks. However, the CIP objective for reading improvement was achieved only in grade four.

Efforts are being made to determine if there is any significant correlation between achievement and organizational climate. The data obtained thus far indicate that the climate at Toomer is rather practical, friendly, organized, and promotes self-confidence and respect for authority. There were also indications that there is not much press for achievement and that freedom to be self-expressive is inhibited. A longitudinal study should reveal the amount of change toward openness in the climate and/or whether change toward openness is to be desired.

Inasmuch as the tutees performed nearly as well as the overall third grade pupils and better than the overall second grade pupils, it seems that tutoring did affect the performance of the tutees.

The effects of the services of the educational aides were not measured in that the aides did not work specifically with the same group of pupils throughout the school year.

The cost effectiveness index by grades ranges from a low of $704 in the fourth grade for pupils to make a one-grade-unit of gain to a high of $1,499 in the second grade, with an average of $1,014 for all grades. There was little similarity among costs in any of the grades. Further, the index indicates a rate of effectiveness in pupil performance, when based on reading, of seventy-seven per cent.

XII. RECOMMENDATIONS

It is recommended that careful consideration be given to the beginning performance of pupils in all grades in order to determine if the beginning levels on the MAT are commensurate to the past year's ending levels.

Special attention should be given to the present fifth grade so that the pupils might continue to gain at the rapid rate which was achieved in the fourth grade.

A thorough analysis should be made of the rather wide variation in pupil performance which exists among the various grades. Successful practices in certain grades might very well enhance pupil progress in other grades in which progress is lagging.

In general, Toomer made commendable strides toward the accomplishment of the objectives pursued by the staff. It is recommended that the members of the staff continue to seek new methods of remediation as well as of presenting innovative ideas according to the strengths and weaknesses of the pupils.

RESEARCH AND DEVELOPMENT REPORT

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WALKER STREET ELEMENTARY SCHOOL

1970-71

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PREFACE

An analysis has been made of certain performances of pupils at Walker Street Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
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I. RATIONALE

Walker Street Elementary School is located near the heart of downtown Atlanta and is surrounded by business firms and light industry. The pupils come from homes where, on the average, the yearly income is less than $3,000. Most of these children are underachievers whose fundamental lack of proficiency in achievement is especially reflected in their poor reading performance. Pupils have been diagnosed as being retarded in basic reading skills varying from one year to four years. This was attributed to a lack of sensory learning experiences that could help them associate printed symbols with words and ideas. Despite the fact that Walker is an inner-city school, the rate of mobility reflects a decrease in migration from 0.24 in 1969-70 to 0.14 in 1970-71. This indicates that the shift in population is becoming more stable.

Supporting Services

During the fiscal year, 1971 (FY '71), Walker utilized several sources of funds as resources for the reading program in addition to the funds provided through the general funds regular budget. The sources were as follows:

A. Comprehensive Instructional Program (CIP)

The purposes of this program are to insure growth in reading for each pupil through diagnostic teaching and inservice training for teachers. During the first year of implementation, 1970-71, the program concentrated in grades 1 — 3 in reading. Inservice training was provided for teachers following the identification of problems by principals, coordinators, resource people, and teachers using the Georgia Education Model (GEM) evaluation instruments. This project did not specify the reading program to be followed in any school. However, each school was to implement a comprehensive reading program which would provide for continuous

sequential development of word attack and comprehension skills. Accordingly, Walker used the Sheldon Basic Reading Series (a basal series).

Inservice activities were designed to insure gain for each pupil through diagnostic teaching and training for teachers. Initially, the principal and the lead teacher participated in a two-week workshop in July, 1970. The lead teacher served as one of the group leaders of the workshop. This workshop provided specific experiences to acquaint the participants with what constitutes a reading program. Further, they were charged with the responsibility of going back to their respective schools and, with the help and cooperation of the total faculty and the area resource teacher, developing a reading program which would meet the needs of the pupils.

The lead teacher was primarily responsible for the reading and testing programs; however, assistance from the area office was available upon request.

During the school year, two teachers were involved in inservice training provided by CIP.

B. Title I Program

During the 1970-71 school year, 41.3 per cent of the pupils who attended Walker were from families whose incomes were $2,000, or less. This factor qualified it as a Title I School; thus, compensatory services were provided through the following personnel:

1. Lead Teacher -- The lead teacher worked with the instructional program, particularly designing activities to raise the levels of educationally deprived pupils.

2. Educational Aides -- Two aides were assigned on the basis of the enrollment. These aides worked with small groups and did individual instruction, assisted teachers in planning

and preparing materials, supervised pupils working on special activities, read and told stories to pupils, operated audio-visual equipment, supervised pupils during play periods and other activities. Both of these aides were Career Opportunities Program (COP) participants. COP is a training program wherein its participants are enrolled in accredited college courses leading toward professional certification. The COP participants were involved in instructional tasks so as to reduce the teacher-pupil ratio and give pupils more opportunities to relate to an adult in the classroom.

C. Emergency School Assistance Program (ESAP)

During the 1970-71 school year, the faculty, in conjunction with the Emergency School Assistance Program (ESAP) of the Atlanta Public Schools, identified the following problem:

> Insufficient channels of communication or dialogue among staff members, pupils, and community representatives, including various individuals (particularly the four white teachers in this school) with different cultural backgrounds.

Among the many strategies used to solve this problem, the involvement of parents in school activities was directly related to the instructional program. Parents were used as aides to assist teachers in providing individualized instruction, supervising field trips and the cafeteria, and in clerical duties. Further, tutorial services were provided for those pupils in grades 1 -- 3 who were diagnosed as having very limited reading skills. These pupils were selected by their classroom teachers and were tutored after school by other pupils under the supervision of a teacher.

II. NEEDS OF PUPILS

The pupils were identified as having low reading skills, low perceptual abilities, and low cognitive abilities. Consequently, the pupils would need:

A. To acquire sensory experiences that can help them associate printed symbols with words and ideas.

B. To use dramatization accompanied by discussion to elicit responses that will aid them in utilizing context clues in reading.

C. To participate in field trips to cultural events and to relate these experiences to school experiences.

D. To learn to work together in a group situation.

E. To learn to take advantage of individualized instruction and tutoring.

F. To develop word attack skills leading to independence in reading.

G. To develop the ability to read silently with efficiency and satisfactory speed.

H. To develop the ability to read effectively for differing purposes, adapting the rate of reading to specific purposes.

I. To acquire an ever-increasing vocabulary.

J. To develop the attitude that reading is thinking.

K. To become familiar with the various forms and styles and to develop literary tastes and applications.

III. GOALS OF THE PROGRAM

The selected goals are based on the identified needs of the pupils. These goals are as follows:

A. To provide a comprehensive reading program which will utilize a variety of teaching strategies and techniques geared toward compensation of the pupil's deficiencies, particularly in the area of reading.

B. To utilize media materials which will enhance the pupil's abilities of using many to acquire mastery of identified information.

C. To provide the motivation for permanent interest in functional and recreational reading.

IV. OBJECTIVES

The following objectives served as guides for the activities of the program and as the basis for evaluating the performance of the pupils:

A. Pupils will achieve an average of one month gain in reading for each month in the program as measured by the Metropolitan Achievement Tests (MAT).

B. The same percentage of first graders who scored "C" or above on the Metropolitan Readiness Tests (MRT) (pretest) will score 1.6 or higher on the Metropolitan Achievement Tests (MAT) (posttest).

C. The pupils will show a statistically significant increase (at the .05 level) in positive attitudes toward school as measured by the Student Attitude Toward School Inventory (SATSI).

The following objectives are specifically related to COP:

A. Pupils taught by COP teams will make a gain of more than one grade grade level (10 months) annually.

B. Pupils taught by COP teams will make a statistically significantly greater annual gain in reading than similar pupils taught in self-contained classrooms.

C. The low-income schools with COP teams will achieve significantly greater gains in pupil self-concepts annually than will the non-COP schools.

D. The low-income schools with COP teams will achieve, after one year of operation, significantly more open climates than will non-COP schools.

Variables to be Measured

The critical variables identified from the previously stated objectives are as follows:

A. Academic achievement

B. Attitude toward school

C. Openness of school climate

D. Pupils' self-concept.

V. MANAGEMENT AND CONTROL

The enrollment included grades K - 7; however, the major thrust of the program at Walker for this year was to raise the reading levels of pupils in grades 1 - 3 by at least one month for each month in the program. This emphasis on these grades was due to the inception of the Comprehensive Instructional Program (CIP) which was geared toward grades 1 - 3. The performance of these grades will be studied yearly as the pupils progress from one grade to the next, so that a longitudinal study can be done.

Personnel

The organizational pattern was based on the self-contained classroom concept with modified teams in grades two and three. The staff included the principal, the lead teacher, the librarian, 12 classroom teachers, two educational aides, one physical education teacher twice a week, one social worker for one full day a week, a speech teacher one full day a week, an art teacher two days a week, a music teacher two days a week, and a band teacher two days a week.

The principal coordinated the total program of the school, supported individual and group activities, supervised professional development activities, and tended the administrative aspects of the school program.

The lead teacher was primarily concerned with the instructional aspects of the program. She worked in conjunction with the classroom teachers, the aides, and the principal to design the instructional program and to provide specific activities for pupils who were diagnosed as educationally deprived. The duties of the lead teacher further included providing inservice training for teachers, which was done in informal sessions.

Study of the Organizational Climate

Organizational climate has been used to describe the "personality" of the environment. Many studies may be found which support the theory that congruence between the goals established by organization management and the individual's perception of those goals, related to his basic psychological needs, plays a major role in determining the degree of productivity of the organization. Therefore, efforts have been made to obtain data concerning the characteristics of the school climate over a period of years, beginning with the 1970-71 school year.

Walker was one among fourteen Title I schools selected for the study of the organizational climate. During the latter part of the 1970-71 school year, a sample of teachers at Walker was asked to complete, anonymously, the Organizational Climate Index (OCI) developed by George Stern of Syracuse University to assess their perception of the organizational climate at their school. The OCI is strictly not a test or a criterion measure in the judgmental or evaluative sense. It is, however, an effort to provide feedback on the school climate for analysis and discussion. Further, in sequential years attempts will be made to determine if the climate of the school influences the achievement levels of the pupils.

Description of the Instrument

The OCI presents teachers with 300 statements which they are to mark true or false as applicable to their schools. After compilation, the items on the OCI provide data from the respondents on thirty of Murray's need-press scales. (Table 1, page 8.) Analysis of these data produces six OCI factors, which are listed with their definitions. The first five factors describe the "development press," which is the capacity of the organization to support, satisfy, or reward self-actualizing behavior. The sixth factor describes the "control press," which refers to those characteristics of the environment which inhibit or restrict personal expressiveness.

TABLE 1

DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence
2. Achievement: striving for success through personal effort
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion
4. Affiliation-rejection: friendliness versus unfriendliness
5. Aggression-blame avoidance: hostility versus disorganization

6. Change-sameness: flexibility versus routine
7. Conjunctivity-disjunctivity: planfulness versus organization
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal
9. Deference-restiveness: respect for authority versus rebelliousness
10. Dominence-tolerance: ascendance versus forebearance

11. Ego Achievement. striving for power through social action
12. Emotionality-placidity: expressiveness versus restraint
13. Energy-passivity: effort versus inertia
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness
15. Fantasied achievement: daydreams of extraordinary public recognition
16. Harm avoidance — risk-taking: fearfulness versus thrill seeking
17. Humanities-social sciences: interests in the humanities and the social sciences
18. Impulsiveness-deliberation: impetuosity versus reflection
19. Narcissism: vanity
20. Nuturance-rejection: helping others versus indifference

21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI)
22. Order-disorder: compulsive organization of details versus carelessness
23. Play-work: pleasure-seeking versus purposefulness
24. Practicalness-impracticalness: interest in practical activities versus indifference
25. Reflectiveness: introspective contemplation

26. Science: interest in the natural sciences
27. Sensuality-puritanism: interest in sensory and aesthetic experiences
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests
29. Supplication-autonomy: dependency versus self-reliance
30. Understanding: intellectuality

A. Development Press

1. Intellectual climate — This factor describes a concern with intellectual activity, social action, and personal effectiveness. It is based on the scales for humanities, social science, science, reflectiveness, understanding, fantasied achievement, exhibitionism, and change. A school that scores high on this factor is one in which the teachers feel that there is a high degree of intellectuality, heterosexual interests, flexibility, and attention seeking.

2. Achievement standards — This is the factor reflecting press for achievement. Schools high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

3. Practicalness — This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is a high interest in practical activity and a desire for helping others.

4. Supportiveness — This factor deals with aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, conjunctivity, supplication, blame avoidance, harm avoidance,

and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, friendliness, and planfulness.

5. Orderliness — The components of this factor are concerned with the press for organizational structure, procedure, orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order, narcissism, adaptability, conjunctivity, harm avoidance, and deference. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, acceptance of criticism, respect for authority, vanity, and planfulness.

B. Control Press

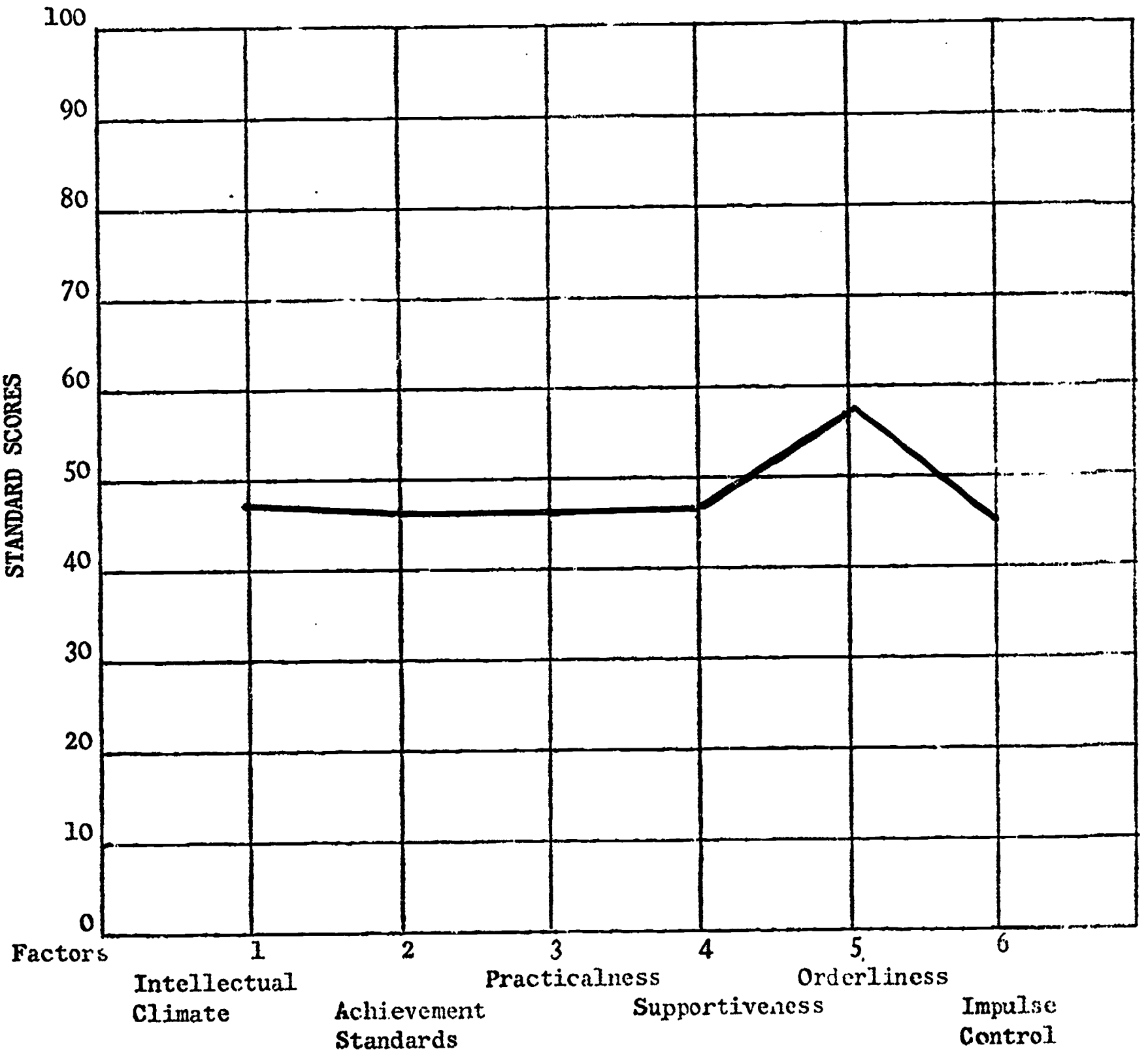
In addition to the reflection of factors 1 and 2 under "Development Press," Control Press involves:

Impulse control — This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on work instead of play; prudishness versus sexuality; aggression versus blame avoidance; impulsiveness versus deliberation; emotionality versus placidity; and exhibitionism versus inferiority avoidance. A school that scores high on this factor is one in which the teachers feel there is a high degree of purposefulness, heterosexual interests, hostility, impetuosity, expressiveness, and striving after failure.

Walker's profile is presented in Table 2, page 11. The scores were converted to standard scores. The mean score is 50, and the standard deviation is 10.

TABLE 2

SCHOOL PROFILE OF STANDARD FACTOR SCORES ON
THE ORGANIZATIONAL CLIMATE INDEX



According to the data collected on the OCI, among the fourteen schools included in the study, Walker ranked 9 on intellectual climate and practicalness; 13 on achievement standards and control press; 11 on supportiveness; and 5 on orderliness. The mean rank for development press was 12. As shown in the profile, the scores fell very near the mean score. Based on the definitions reported in the context of this report, these data indicate that the teachers feel that the climate neither lends itself very extensively nor strictly inhibits self-actualizing behavior.

VI. PROCESS

Reading skills were taught approximately 75 per cent of the day in all phases of instruction; that is, reading was especially emphasized in civics, geography, mathematics, etc. Much emphasis was placed on individualization of instruction. The educational aides worked with small groups of, and individual, pupils to assist teachers in further individualizing instruction.

Materials used included the Sheldon Basic Reading Series; Science Research Associates (SRA) Laboratory; the Language Experience in Reading Series; Phonics We Use Games Kit; teacher-made games; Webster's Classroom Reading Clinic; Dolch Vocabulary Cards; tape recorders; overhead projectors; listening stations; Listen, Mark, and Say Readiness Books; television; the Talking Alphabet; Peabody Kits; Behavioral Research Readiness Books; high interest-low vocabulary books; and library materials such as encyclopedias, dictionaries, newspapers, and magazines. Field trips to such places as the High Museum of Art, the Civic Center, Atlanta University Complex, Stone Mountain, and the airport were used for additional sensory and learning experiences.

VII. EVALUATION

The Metropolitan Readiness Tests (MRT), the Metropolitan Achievement Tests (MAT), and the Student Attitude Toward School Inventory (SATSI) were used as evaluative instruments.

The MRT was administered as the pretest to all first grade pupils in October, 1970; and the MAT, Primary I Battery, Form G, was administered as the posttest in April, 1971. The MAT, Primary, Intermediate, and Advanced Batteries, was administered as pretest and posttest in grades two through seven.

The SATSI, developed by the Philadelphia School System's Research and Development Division, was administered as pretest and posttest in grades one through three. On this particular instrument, the pupils were given eighteen sets of three faces (sad, plain, and smiling). Eighteen questions concerning school activities were read one at a time. For each question the pupils were asked to indicate how they felt about the question by marking the appropriate face to show their feelings. The sad face was assigned a value of one; the plain (no expression) face was assigned a value of two; and the smiling (happy) face was assigned a value of three. The possible score range for each pupil was from eighteen to fifty-four, which means the higher the score, the more positive the attitude.

VIII. FINDINGS

In October, 1970, the Metropolitan Readiness Tests (MRT) were administered to all first grade pupils. This test did not give grade equivalents; rather, letter ratings were assigned to corresponding total scores. Table 3, page 14, shows the distribution of scores. Subjects who scores "C" or above were considered ready for first grade work. Eighteen pupils out of a total of twenty-five scored "C" or above.

TABLE 3

DISTRIBUTION OF LETTER RATING AND READINESS STATUS CORRESPONDING TO VARIOUS RANGES OF TOTAL SCORE ON THE METROPOLITAN READINESS TESTS

Number of Pupils	Score Range	Letter Rating	Readiness Status	Significance
4	Above 76	A	Superior	Apparently very well prepared for first grade work. Should be given opportunity for enriched work in line with abilities indicated.
9	64 - 76	B	High Normal	Good prospects for success in first grade work, provided indications such as health, emotional factors, etc., are consistent.
5	45 - 63	C	Average	Likely to succeed in first grade work. A careful study should be made of specific strengths and weaknesses of pupils in this group and their instruction planned accordingly.
7	22 - 44	D	Low Normal	Likely to have difficulty in first grade work. Should be assigned to slow section and given more individualized help.
0	Below 24	E	Low	Chances of difficulty high under ordinary instructional conditions. Further readiness work, assignment to slow section, or individualized work is essential.

The MAT was administered as the posttest in April, 1971. There was an interval of six months between pretest and posttest; therefore, in order to realize the objective of a one-month gain for each month in the program, it was expected that pupils who scored "C" or above on the MRT should score at least 1.6 on the MAT. Table 4 on the following page shows the number and per cent of pupils showing at least a one-month gain for each month in the program. All pupils did not meet this objective. Eleven pupils, or 61 per cent of those who scored "C" or above on the MRT, scored 1.6 or above on the MAT.

TABLE 4

NUMBER OF PUPILS SHOWING AT LEAST A ONE-MONTH GAIN IN READING FOR EACH MONTH IN THE PROGRAM AS MEASURED BY THE METROPOLITAN READINESS TESTS (PRETEST) AND THE METROPOLITAN ACHIEVEMENT TESTS (POSTTEST)

Number of Pupils	MRT Scored "C" or Above		MAT Scored 1.6 or Above	
	No.	Per Cent	No.	Per Cent
25	18	72.0	11	61.0

Table 5 shows the frequency distribution of the total reading scores on the MAT. One pupil scored above 1.9, 40 per cent (10 pupils) of the total population scored from 1.6 to 1.9, and more than one-half (56 per cent) scored from 1.2 to 1.5.

TABLE 5

FREQUENCY DISTRIBUTION OF TOTAL READING SCORES ON THE METROPOLITAN ACHIEVEMENT TESTS

Grade Equivalent	Number	Per Cent
2.0 — 2.3	1	0.04
1.6 — 1.9	10	40.0
1.2 — 1.5	14	56.0

The second grade was used for in-depth analysis. Shown for this grade are: frequency analysis of total reading gain (Table 6, page 16); correlation between MAT subtest scores and attendance (Table 7, page 17); comparison of the MAT subtest scores of pupils who took only the pretest with subtest scores of pupils who took both pretest and posttest, and comparison of subtest scores of pupils who took only posttest with subtest scores of pupils who took both pretest and posttest (Table 8, page 17).

According to the data, after six months in the program fourteen pupils, or 56 per cent, gained from two to five months; eight pupils, or 32 per cent, made the expected gain of six months; and three pupils, or 12 per cent, gained from eight to nine months.

TABLE 6

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON THE METROPOLITAN ACHIEVEMENT TESTS
(SECOND GRADE — N = 25)

No.	Per Cent	Gain (in Months)
6	24.0	2 — 3
8	32.0	4 — 5
8	32.0	6 — 7
3	12.0	8 — 9

The attendance figure for those pupils who took both pretest and posttest was 83 per cent for the period between October 7, 1970, and April 14, 1971. Correlations were run between pretest, posttest, and gain scores on each of the MAT subtests and the per cent of attendance for pupils taking both pretest and posttest. The data revealed positive correlations between the posttest scores on each of the subtests and attendance, which were statistically significant at the .05 level. Between word analysis and attendance and total reading and attendance, there was statistical significance at the .01 level. (Table 7, page 17.)

A comparison was made between the pretest subtest scores of the pupils who took only the pretest and the pretest subtest scores of the pupils who took both pretest and posttest. Only one pupil took only the pretest and left before the posttest; therefore, no comparison could be made. The posttest scores of pupils who took only the posttest were compared with the posttest scores of those who took both pretest and posttest. The two groups performed similarly; there was no statistically significant difference between any of the subtest scores. Therefore, mobility did not significantly influence achievement. (Table 8, page 17)

TABLE 7

CORRELATION BETWEEN THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(SECOND GRADE)

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	0.37	0.47*	0.34	1.93	2.58*	1.75
Word Analysis vs. Attendance	0.31	0.57**	0.56**	1.55	3.34**	3.20**
Reading vs. Attendance	0.23	0.45*	0.40*	1.12	2.39*	2.08**
Total Reading vs. Attendance	0.45	0.56**	0.46*	2.40*	3.26**	2.47*
Mathematics vs. Attendance	0.39	0.44*	0.21	2.00	2.33*	1.01

*Significant at the .05 level.
** Significant at the .01 level.

TABLE 8

COMPARISON OF THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST
(SECOND GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Score	Posttest Only			Pretest/Posttest			t Score
	No.	Mean	S. D.	No.	Mean	S. D.		No.	Mean	S. D.	No.	Mean	S. D	
Word Knowledge	1	1.1	—	25	1.38	0.16	———	3	1.70	0.66	25	1.68	0.26	0.11
Word Analysis	1	1.0	—	25	1.27	0.19	———	3	2.13	0.67	25	2.01	0.61	0.31
Reading	1	1.7	—	25	1.47	0.18	———	3	1.83	0.55	25	1.98	0.34	-0.68
Total Reading	1	1.4	—	25	1.46	0.14	———	3	1.73	0.55	25	1.88	0.27	-0.78
Mathematics	1	1.1	—	25	1.53	0.40	———	3	2.03	0.47	25	1.87	0.54	0.50

In the second and third grades several pupils were identified as being behind in basic skills and needing additional help beyond the regular classroom experiences. These pupils participated in a tutorial program. A comparison was made between those pupils who were tutored and those who were not tutored. There was no statistically significant difference between the performance of the tutored and the non-tutored pupils in either the second or the third grade. Even though the tutored pupils had been identified as being behind the non-tutored pupils in basic skills, the posttest performance of the two groups was similar. Evidently the tutoring helped the lower performing pupils to attain a level of achievement similar to the initially higher performing pupils. These data are presented in Table 9 for the second grade, and in Table 10, page 19, for the third grade.

TABLE 9

COMPARISON OF MEAN READING SCORES ON THE METROPOLITAN ACHIEVEMENT TESTS (PRETEST AND POSTTEST) FOR TUTORED AND NON-TUTORED PUPILS

(SECOND GRADE)

	Treatment	Error	Total
Sum of Squares: X (Pretest)	0.01	0.47	0.48
Sum of Squares: Y (Posttest)	0.00	1.70	1.71
Sum of Products	-0.01	0.67	0.66
Degrees of Freedom	1.00	23.00	24.00
Adjusted Sum of Squares: Y	0.03	0.76	0.79
Degrees of Freedom for Adjusted Sum of Squares	1.00	22.00	23.00
Variance Estimates	0.03	0.03	

F = 1.0012

Adjusted Mean of Y1 = 1.9509 (Tutored)

Adjusted Mean of Y2 = 1.8573 (Non-tutored).

TABLE 10

COMPARISON OF MEAN READING SCORES ON THE METROPOLITAN ACHIEVEMENT TESTS (PRETEST AND POSTTEST) FOR TUTORED AND NON-TUTORED PUPILS

(THIRD GRADE)

	Treatment	Error	Total
Sum of Squares: X (Pretest)	0.62	2.05	2.67
Sum of Squares: Y (Posttest)	1.24	8.28	9.51
Sum of Products	0.88	1.48	2.36
Degrees of Freedom	1.00	29.00	30.00
Adjusted Sum of Squares: Y	0.22	7.20	7.42
Degrees of Freedom for Adjusted Sum of Squares	1.00	28.00	29.00
Variance Estimates	0.22	0.26	

F = 0.87203

Adjusted Mean of Y1: 2.1347 (Tutored)

Adjusted Mean of Y2: 2.3669 (Non-tutored).

The SATSI was administered in a pretest/posttest design. The pretest was given in February, 1971, and the posttest in May, 1971, to pupils in grades one through three. The data, presented in Table 11, revealed the attitude of the pupils in the first and second grades to be less positive on the posttest than on the pretest. The difference was statistically significant at the .05 level only in the first grade. There was no change in attitude in the third grade. Hence, the development of attitude in grades one through three might be said to be nil or negative.

TABLE 11

STUDENT ATTITUDE TOWARD SCHOOL INVENTORY
MEAN SCORES RESULTS AND t-TEST

(GRADES 1 - 3)

Grade	No. of Pupils	Mean Score Pre	Mean Score Post	t Test
1	16	48.6	45.6	-2.434*
2	17	45.6	43.8	-0.437
3	38	45.3	45.3	-0.152

*Significant at the .05 level.

Table 12 presents the overall reading performance of each grade (2 - 7) on the pretest and posttest. These data show the number of pupils who took both pretest and posttest, the mean reading pre/post scores, gain, per cent of expected gain, gain score t-test, per cent of attendance, and coefficient of correlation between attendance and reading.

According to the data, as a grade, only the third grade pupils performed as was expected. The mean gain in the third grade was more than six months, or one month for each month in the program. The gain was nine months, or 142 per cent of the expected gain. The gains in the fourth, fifth, and seventh grades were similar, approximately five months. The second grade made less than the expected gain; however, the gain was significant at the .001 level. The sixth grade made nearly two months gain, which was not statistically significant. There was statistical significance at the .05 level between attendance and reading in grades two and six.

TABLE 12

COMPARISON OF THE METROPOLITAN ACHIEVEMENT TESTS MEAN READING SCORES, GAIN, PER CENT OF EXPECTED GAIN, GAIN SCORE t-TEST, PER CENT OF ATTENDANCE, AND COEFFICIENT OF CORRELATION BETWEEN ATTENDANCE AND READING

(GRADES 2 - 7)

Grade	Number of Pupils	Mean Score Pre	Mean Score Post	Gain in Months	Per Cent of Expected Gain	t Test	Per Cent of Attendance	r
2	25	1.46	1.88	0.42	67.0	11.09***	83.0	0.46*
3	35	1.28	2.18	0.90	142.0	10.94***	92.0	0.11
4	22	2.70	3.18	0.48	76.0	3.65**	94.0	-0.23
5	21	3.54	4.05	0.51	80.0	3.01**	94.0	0.16
6	24	4.30	4.48	0.18	28.0	1.39	92.0	0.46*
7	33	5.20	5.72	0.52	81.0	2.02*	89.0	-0.23

*Significant at the .05 level.
** Significant at the .01 level.
***Significant at the .001 level.

Findings regarding the COP objectives were as follows:

A. There were three COP teams in Walker. The two COP trainees were shared among the first, second, and third grades. The pupils in the third grade nearly met the COP objective, which calls for more than one grade level of gain annually. The second grade did not come close to the objective.

B. The gains of the second and third grade pupils at Walker will be compared to the gains of pupils in other similar schools not taught by COP teams.

C. The organizational climate was assessed for baseline data, and a comparison will be made at the end of another year.

D. Data concerning pupils' self-concept will be gathered for longitudinal purposes.

IX. COST EFFECTIVENESS

Cost analysis of reading gains was done to determine the relative cost for the amount of gain made in each grade, beginning with the second grade. These data, as presented in Table 13, page 24, show the total school (K-7) average daily attendance (ADA), the ADA by grade, the ADA for the pre/post population, the total expenditures from general funds and special projects, the per-pupil cost from general funds and special funds, the rate of reading gain, and the projected cost per grade-unit of gain for the pre/post population.

In order to make an approximate analysis, expenditures were separated into two sections: (1) General Funds, salary and non-salary; and (2) Funds, salary and non-salary. These expenditures do not include cost for food services, new equipment, or capital outlay. The figures were taken from the June 30, 1971, General Funds Financial Report, and the June 30, 1971, Trust and Agency Report. The per pupil costs are not exact or finite; rather, broad

estimates were made, based upon information obtained from the school staff relative to the utilization of resources.

General Funds expenditures were appropriated across each grade according to the per cent of the pre/post population representated by the total ADA. The appropriations for each grade are reported under salary and non-salary.

Comprehensive Instructional Program (CIP) provided inservice training for the principal, the lead teacher, and the teachers. The main thrust of CIP was a diagnostic testing program which was used to enable teachers to do prescriptive teaching. Further, specific reading materials, excluding textbooks and equipment, were purchased through CIP. The cost for inservice training is reported under CIP, salary.

Three special projects (Title I, Emergency School Assistance Program [ESAP], and Career Opportunities Program [COP]) were used as sources of funds. If the project contributed to all grade levels, the funds were prorated among all the grades. If the project contributed to a specific grade level, the funds are reported under the appropriate grade level.

The lead teacher worked with the educationally deprived in all grade levels; therefore, this salary was prorated among all grades. The remedial tutors worked in grades two and three; consequently, these salaries are reported in those grades.

ESAP funds were used across grade levels and are so reported.

COP, as a training program, contributed an average of $600 per trainee for one academic year. The COP fund, which was paid to the participating institution of higher education, is reported under COP in the grades where the aides worked and is totaled under Special Funds, salary.

According to the data, the approximate per-pupil cost was $1,420 for the second grade to made 67 per cent of the expected gain; $1,395 for the third grade to make 142 per cent of the expected gain; $1,238 for the fourth grade to make 76 per cent of the expected gain; $1,201 for the fifth grade to make 80 per cent of the expected gain; $1,214 for the sixth grade to make 28 per cent of the expected gain; and $1,195 for the seventh grade to make 81 per cent of the

expected gain. The overall average per-pupil cost for an average gain of 7) per cent was $1,270.

Based upon these figurcs and the present rate of gain, an attempt was made to project the per-pupil cost for a one-grade-unit (10 months) of gain. According to these data, the cost for pupils to make a one-grade-unit of gain ranged from a low of $982 in the third grade, to a high of $4,336 in sixth grade, with an overall average cost of $1,568. The per-pupil cost in the second, fourth, fifth, and seventh grades was similar.

It should be noted that the ending reading level for each grade was from seven months to approximately two-grade-levels behind the actual grade placement. The second grade was approximately seven months behind; the third and fourth grades were nearly one year and five months behind; and the sixth and seventh grades were approximately two years behind actual grade placement.

X. COMMUNICATION AND DISSEMINATION

Following several conferences with the principal and the lead teacher, a prospectus was developed and submitted to the principal for review by the school faculty. Periodic visits and telephone calls were made to the school by the research assistant to gather information.

The final report was submitted to the school and to the area office for review, and then circulated throughout the local school system.

TABLE 13

COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE (ADA) — N = 229 (K-7)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
ADA for Grade	28	33	32	25	29	36	183
ADA Pre/Post Population	18	29	29	23	25	30	154
Per Cent of Total Population	8.0	13.0	13.0	10.0	11.0	13.0	68.0
Expenditures—Pre/Post Population							
A. General Funds							
1. Regular							
a. Salary	$18,277	$30,513	$30,513	$23,472	$25,819	$30,513	$159,607
b. Non-salary	2,185	3,551	3,551	2,732	3,005	3,551	18,575
2. CIP							
a. Salary	$ 98	$ 160	$ 160	$ 123	$ 135	$160160	$ 837
b. Non-salary	91	148	148	114	125	148	774
3. Total General Funds							
a. Salary	$18,875	$30,673	$30,673	$23,595	$25,954	$30,673	$160,443
b. Non-salary	2,276	3,699	3,699	2,846	3,130	3,699	19,349
c. TOTAL GENERAL FUNDS	$21,151	$34,372	$34,372	$25,441	$29,084	$34,372	$179,792
B. Special Funds							
1. Title I							
a. Salary							
(1) Lead Teacher	$ 853	$ 1,386	$ 1,386	$ 1,066	$ 1,172	$ 1,386	$ 7,249
(2) Remedial Tutors	372	525	-0-	-0-	-0-	-0-	897
(3) Aides	2,507	3,426	-0-	-0-	-0-	-0-	5,933
b. TOTAL TITLE I	$ 3,732	$ 5,337	$ 1,386	$ 1,066	$ 1,172	$ 1,386	$ 14,079
2. ESAP							
a. Salary	$ 58	$ 95	$ 95	$ 73	$ 80	$ 95	$ 496
b. Non-salary	24	40	40	31	34	40	209
c. TOTAL ESAP	$ 82	$ 135	$ 135	$ 104	$ 114	$ 135	$ 705
3. COP							
Salary	$ 600	$ 600	$ -0-	$ -0-	$ -0-	$ -0-	$ 1,200
4. Total Special Funds							
a. Salary	$ 4,390	$ 6,032	$ 1,481	$ 1,139	$ 1,252	$ 1,481	$ 15,775
b. Non-salary	24	40	40	31	34	40	209
c. TOTAL SPECIAL FUNDS	$ 4,414	$ 6,072	$ 1,521	$ 1,170	$ 1,286	$ 1,521	$ 15,984

TABLE 13 (Cont'd.)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	T[illegible]
Total Expenditures—Pre/Post Population							
A. Salaries	$23,265	$36,705	$32,154	$24,734	$27,206	$32,154	$1[illegible],218
B. Non-salary	2,300	3,739	3,739	2,877	3,164	3,739	19,558
C. TOTAL EXPENDITURES—PRE/POST POPULATION	$25,565	$40,444	$35,893	$27,611	$30,370	$35,893	$195,776
							Overall Average
Cost per Pre/Post Pupil							
A. General Funds							
1. Salary	$ 1,049	$ 1,058	$ 1,058	$ 1,026	$ 1,038	$ 1,022	$ 1,041
2. Non-salary	126	128	128	124	125	123	126
3. TOTAL GENERAL FUNDS	$ 1,175	$ 1,186	$ 1,186	$ 1,150	$ 1,163	$ 1,145	$ 1,167
B. Special Funds							
1. Salary	$ 244	$ 208	$ 51	$ 50	$ 50	$ 49	$ 102
2. Non-salary	1	1	1	1	1	1	1
3. TOTAL SPECIAL FUNDS	$ 245	$ 209	$ 52	$ 51	$ 51	$ 50	$ 103
Total Expenditures—Pre/Post Pupil							
A. Salaries	$ 1,293	$ 1,266	$ 1,109	$ 1,076	$ 1,088	$ 1,071	$ 1,143
B. Non-salary	127	129	129	125	126	124	127
C. TOTAL EXPENDITURES—PRE/POST PUPIL	$ 1,420	$ 1,395	$ 1,238	$ 1,201	$ 1,214	$ 1,195	$ 1,270
Rate of Reading Gain (Per Cent)	67	142	76	80	28	81	79
Ending Reading Level (Grade)	1.88	2.18	3.18	4.05	4.48	5.72	
Projected Cost for One-Grade-Unit of Gain							
A. General Funds	$ 1,754	$ 835	$ 1,561	$ 1,438	$ 4,154	$ 1,414	$ 1,441
B. Special Funds	366	147	68	64	182	62	127
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 2,120	$ 982	$ 1,629	$ 1,502	$ 4,336	$ 1,476	$ 1,568

XI. CONCLUSIONS

The results of the study at Walker seemingly did not reveal any specific trend in total reading performance of the pupils. Only the third grade pupils realized the objective of a one month gain for each month in the program. All the grades, with the exception of the sixth grade, made gains that were statistically significant even though the gains were not as high as was expected.

It seems that tutoring did affect the performance of those pupils in grades two and three who were tutored. Despite the fact that the tutees were diagnosed as being much slower than other pupils in the grades, tutored pupils performed as well as the non-tutored pupils on the posttest.

The data collected on pupils' attitude toward school seemingly indicated that the pupils tended to develop less positive attitudes toward school as the school year passed.

There were indications that, in general, neither attendance nor mobility significantly affected achievement.

The Comprehensive Instructional Program (CIP) contributed directly to the instructional program by directing systematic diagnosis of reading in grades one through three and by providing funds for purchasing reading materials and supplies other than textbooks. Only the third grade pupils met the CIP objective for reading.

Efforts are being made to determine if there is any significant correlation between achievement and organizational climate. The data obtained thus far indicated that the climate is neither very open nor closed. It fell just below the mean score on all factors except orderliness. Walker's score on orderliness indicated that the teachers felt there was concern for organizational structure, procedure, and respect for authority. Further, according to these data, it seems that the climate slightly inhibits self-expressiveness. A longitudinal study should reveal whether the climate increases in openness or whether openness in climate is to be desired.

The cost effectiveness index by grades ranges from a low of $982 for the third grade to make a one-grade-unit of gain to a high of $4,336 for the sixth grade to make a one-grade-unit of gain, with an overall average of $1,568. The cost for a one-grade-unit of gain was similar for all grades, except the third (which was rather low because of the tremendous amount of gain) and the sixth (which was very high because of the very low amount of gain).

XII. RECOMMENDATIONS

It is recommended that attention be given to the performance of pupils on the Metropolitan Achievement Tests (MAT) to determine if the beginning levels are nearly the same as the previous year's ending levels.

Special attention should be given to the present fourth grade so that the pupils might continue to gain at the rapid rate which was achieved in the third grade.

It is further recommended that attention be given to designing specific activities geared toward improving pupils' attitudes toward school.

The staff should intensify its efforts to identify and share ideas, techniques, or successful practices which might have contributed to pupil progress in certain grades and perhaps could be used to upgrade low performances in other grades. Specific attention should be given to the product which is resulting from the techniques used in the grades where pupil progress has been significant. Attention should also be given to establishing appropriate levels of expectancy and to the type of product desired.

The faculty is to be commended for its efforts to provide a planned program of studies to meet the needs of the pupils, and should also be urged to move further toward a realistic program of individualized instruction.

RESEARCH AND DEVELOPMENT REPORT

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JEREMIAH S. GILBERT ELEMENTARY SCHOOL

1970-71

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PREFACE

An analysis has been made of certain performances of pupils at J. S. Gilbert Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
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I. RATIONALE

Jeremiah S. Gilbert Elementary School, which is funded by Title I, is located in the southwest section of Atlanta. The residents of the area are primarily low-income apartment dwellers; in fact, 60.4 per cent of the pupils were found to be from families with incomes of less than $2,000 a year. For this reason, the school qualified for aid under Title I. ESEA Title I provided the salaries for a lead teacher and five educational aides. An additional aide was paid through General Funds, making a total of six educational aides at Gilbert. Three of the six aides were participants in the Career Opportunities Program (COP), a training program through which the aides attend classes in accredited colleges and serve as aides in the Atlanta Public Schools, following a planned program leading to professional certification.

Gilbert also qualified for assistance under Title II and the Emergency School Assistance Program (ESAP), a program to facilitate integration in the schools. The Education Professions Development Act (EPDA) contributed funds for the principal to attend a training session designed for administrators.

A large percentage of the pupils who come from a low socioeconomic background do not perform successfully in the traditional school program. One main problem of many pupils is the inability to read at grade level. Recognizing this problem in all disadvantaged areas of the Atlanta system, a city-wide plan, Comprehensive Instructional Program (CIP), was initiated to upgrade the reading instruction in the first three grades. Each elementary school developed its own plan for meeting the needs of its pupils.

In an effort to provide a reading curriculum to meet the specific needs of the pupils at Gilbert, the principal, the lead teacher, and the departmental reading teacher for grades 5 - 7 considered an individualized reading program. However, to measure the success of the program, a pilot

study was conducted utilizing an experimental research design. The design involved pretesting and posttesting of experimental and comparison groups. From the data collected over the entire period beginning in September, 1970, and extending through June, 1971, the study was formally evaluated.

II. NEEDS OF THE PARTICIPANTS

The participants in the study included all the pupils in the first three grades. These primarily disadvantaged pupils were recognized as having special emotional as well as academic needs. Four needs were identified and are as follows:

A. To indicate a positive attitude toward reading experiences.

B. To develop proficiency in listening skills.

C. To increase the vocabulary.

D. To acquire and increase silent and oral reading skills at a rate which will reinforce positive attitudes.

III. GOALS OF THE PROGRAM

The purpose of the pilot study was to compare the individualized instructional method of teaching reading with the traditional group method.

The pertinent information gained from the study will be used in the development of a reading curriculum which meets the specific needs of the pupils at Gilbert.

Three main goals were stressed throughout the study:

A. To compensate for the learning deficiencies of disadvantaged pupils by means of specialized instruction so that the pupils

would improve in reading skills at a rate corresponding to their grade levels.

B. To provide successful experiences in reading for each of the pupils by first determining the reading level of each pupil, and then providing reading material for that level.

C. To improve the attitude toward learning of all the pupils.

IV. BEHAVIORAL OBJECTIVES

A. The same percentage of first grade pupils who scored "C" or above on the Metropolitan Readiness Tests (MRT) would score 1.6 or above on the posttest, the Metropolitan Achievement Tests (MAT). The 1.6 indicates a grade level of first grade, six months.

B. For the second and third grade pupils, there would be a reading gain of one month for each month in school, as indicated by the Metropolitan Achievement Tests (MAT), administered as pretest/posttest.

C. All pupils would indicate a positive attitude on the Student Attitude Toward School Inventory (SATSI).

V. VARIABLES

The following variables were recognized:

A. Attitude:

1. toward self,
2. toward classmates,
3. toward teacher, and
4. toward reading.

B. Reading skills.

C. Mobility.

D. Organizational climate.

VI. PROCESS

All pupils in the first, second, and third grades at Gilbert were included in the study. These 212 pupils formed nine classes with approximately twenty-five pupils in each class. Since there was no ability grouping at Gilbert, the pupils were randomly assigned to the classes (with the exception of one class which contained both second and third grade pupils).

The experimental group was taught by individualized instruction using the Sullivan Program. This group included six classes: three first grades, two second grades, one third grade, and one combination second/third grade. The second and third grade pupils placed in the combination class were those who performed most poorly on an informal inventory conducted by the lead teacher. There were eleven second grade pupils and fourteen third grade pupils in this class. The mean pretest score on the Metropolitan Achievement Tests (MAT) of both the second and the third grade pupils in the combination class was 1.4, which was equivalent to a reading level of first grade, four months.

Two classes were chosen for comparison of reading ability with the experimental group. This comparison group consisted of one first grade and one third grade, making a total of forty-five pupils. These pupils were taught in groups with basal readers, using the Houghton-Mifflin series.

The experimental and the comparison groups were taught reading for one hour each day. Both groups had access to the following audio-visual

equipment: language master and language master cards, record players, film strip projectors, listening stations, Science Research Associates (SRA) Laboratory, tape recorders, and overhead projector. Supplementary material included: flash cards, puzzles, reading games, pictures, and reading workbooks. In addition, one-half hour was allocated each day for library time. The libraries were maintained within the classrooms, and materials such as dictionaries and childrens' magazines, as well as books, were available for reading.

VII. MANAGEMENT AND CONTROL

A. Coordinating the Program

The lead teacher served to coordinate the activities of the teachers in grades one through seven. However, she stressed the importance of the reading program in the primary grades. She planned sessions for instructing the faculty on the procedures of the study and, working with the classroom teachers, devised methods for management and control of the program.

1. The lead teacher gave the inservice training session to all the first, second, and third grade teachers prior to the study.

2. Continued instruction and feedback were made possible by monthly planning sessions in which attendance was required. Professional reading consultants addressed the classroom teachers involved in the study, the lead teacher, and the principal at these meetings, which lasted for approximately two hours after which discussions were held.

3. A total of nine classroom teachers were involved in the study; two taught the comparison group, and the remaining seven taught the experimental group. Each teacher was in charge of approximately twenty-five pupils.

4. The principal served as a controlling agent by frequently observing each classroom to determine the progress of pupils.

5. The lead teacher controlled the materials and supplies and made them readily available to the classroom teachers. In addition, teachers were given access to the varied audio-visual equipment as it was needed in the classroom.

6. Classroom libraries were maintained, and the pupils were encouraged to read.

7. The six educational aides worked directly under the classroom teachers. They served to reinforce teacher instruction by giving additional help to slower pupils. They performed other useful tasks for teachers, such as making copies of supplementary materials.

8. Reading was taught from 9:00 a.m. to 10:00 a.m. in the first grade, from 10:00 a.m. to 11:00 a.m. in the second grade, and from 11:00 a.m. to 12 noon in the third grade. This schedule made it possible for one aide to serve the same three first, second, and third grade teachers each day.

B. Study of the Organizational Climate

Organizational climate has been used to describe the "personality" of the environment. Many studies may be found which support the theory that congruence between the goals established by organization management and the individual's perception of those goals, related to his basic psychological needs, plays a major role in determining the degree of productivity of the organization. Therefore, efforts have been made to obtain data concerning the characteristics of the school climate over a period of years, beginning with the 1970-71 school year.

Gilbert was one of 14 Title I schools selected for the study of the organizational climate. During the latter part of the 1970-71 school year, a sample of teachers at Gilbert was asked to complete, anonymously, the Organizational Climate Index (OCI), developed by George Stern of Syracuse University, to assess their perception of the organizational climate at their school. The OCI is strictly not a test or criterion measure in the judgmental or evaluative sense. It is, however, an effort to provide feedback on the school climate for analysis and discussion. Further, in sequential years, attempts will be made to determine if the climate of the school influences the achievement levels of the pupils.

1. Description of the Instrument

The OCI presents teachers with 300 statements which they are to mark true or false as applicable to their schools. After compilation, the items on the OCI provide data from the respondents on 30 of Murray's need-press scales, definitions of which are on page 8. Analysis of the data produces six OCI factors, which are listed below with their definitions. The first five factors describe the "development press," which is the capacity of the organization to support, satisfy, or reward self-actualizing behavior. The sixth factor describes the "control press," which refers to those characteristics of the environment which inhibit or restrict personal expressiveness.

a. Development Press

(1) Intellectual climate — This factor describes a concern with intellectual activity, social action, and personal effectiveness. It is based on the scales for humanities, social science, science, reflectiveness, understanding, fantasied achievement, exhibitionism, and change. A school which scores high on this factor is one in which the teachers feel there is a high degree of intellectuality, heterosexual interests, flexibility, and attention seeking.

TABLE 1

DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence
2. Achievement: striving for success through personal effort
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion
4. Affiliation-rejection: friendliness versus unfriendliness
5. Aggression-blame avoidance: hostility versus disorganization

6. Change-sameness: flexibility versus routine
7. Conjunctivity-disjunctivity: planfulness versus organization
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal
9. Deference-restiveness: respect for authority versus rebelliousness
10. Dominance-tolerance: ascendance versus forbearance

11. Ego Achievement: striving for power through social action
12. Emotionality-placidity: expressiveness versus restraint
13. Energy-passivity: effort versus inertia
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness
15. Fantasied achievement: daydreams of extraordinary public recognition

16. Harm avoidance--risk-taking: fearfulness versus thrill seeking
17. Humanities-social sciences: interests in the humanities and the social sciences
18. Impulsiveness-deliberation: impetuosity versus reflection
19. Narcissism: vanity
20. Nurturance-rejection: helping others versus indifference

21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI)
22. Order-disorder: compulsive organization of details versus carelessness
23. Play-work: pleasure-seeking versus purposefulness
24. Practicalness-impracticalness: interest in practical activities versus indifference
25. Reflectiveness: introspective contemplation

26. Science: interest in the natural sciences
27. Sensuality-puritanism: interest in sensory and aesthetic experiences
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests
29. Supplication-autonomy: dependency versus self-reliance
30. Understanding: intellectuality

(2) Achievement standards — This is the factor reflecting press for achievement. Schools high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

(3) Practicalness — This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is a high interest in practical activity and a desire for helping others.

(4) Supportiveness — This factor deals with the aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, conjunctivity, blame avoidance, harm avoidance, supplication, and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, planfulness, and friendliness.

(5) Orderliness — The components of this factor are concerned with the press for organizational structure, procedure, orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order, narcissism, adaptability, deference,

conjunctivity, and harm avoidance. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, respect for authority, acceptance of criticism, vanity, and planfulness.

b. Control Press

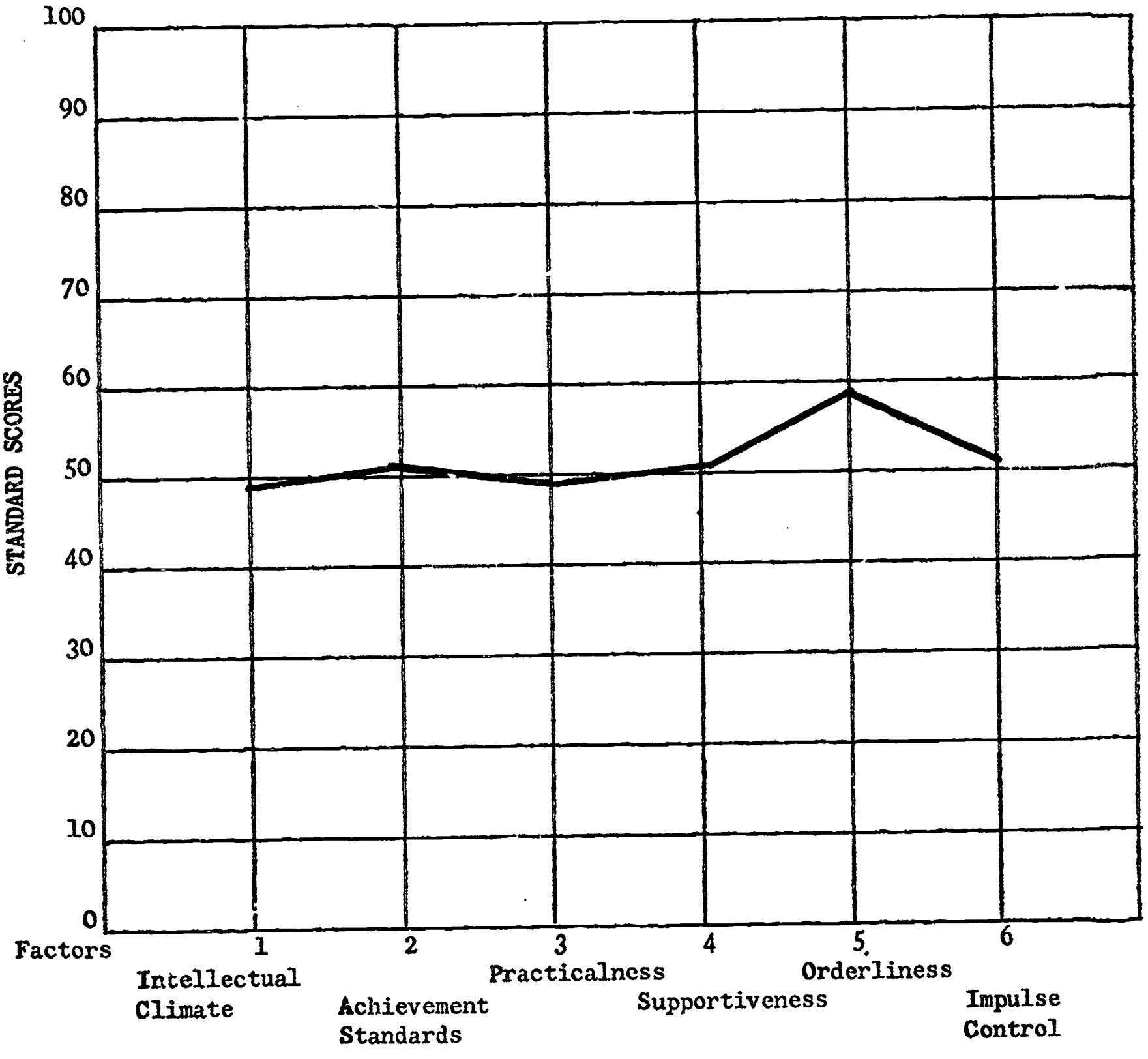
In addition to the reflection of factors 1 and 2 of Development Press, Control Press also involves:

Impulse control — This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on work instead of play, prudishness versus sexuality, aggression versus blame avoidance, impulsiveness versus deliberation, emotionality versus placidity, and exhibitionism versus inferiority avoidance. A school that scores high on this factor is one in which the teachers feel there is a high degree of purposefulness, heterosexual interests, hostility, impetuosity, expressiveness, and restriving after failure.

Gilbert's profile, which is presented in Table 2, page 11, is in terms of standard scores. The mean score is 50 and the standard deviation is 10. As indicated by the table, the scores on the various items did not exceed the standard deviation from the mean. According to the data, teachers at Gilbert feel that the climate is rather open, which implies a reasonable degree of practicalness, supportiveness, and orderliness, as well as a normal concern with intellectual activity, social action, and personal effectiveness; an adequate press for achievement, and an opportunity for self-expressiveness.

TABLE 2

SCHOOL PROFILE OF STANDARD FACTOR SCORES ON
THE ORGANIZATIONAL CLIMATE INDEX



When compared with the organizational climate of the other thirteen schools in the study, Gilbert ranked fourth on orderliness, sixth on practicalness, seventh on intellectual climate, eighth on supportiveness, and tenth on achievement standards and impulse control.

VIII. DIAGNOSIS

The general plan for the evaluation of the pilot study was to measure reading skills in September, 1970, and again in April, 1971. The following instruments were administered:

A. The Metropolitan Readiness Tests (MRT) were given to beginning first grade pupils, and used as a pretest only.

B. The Metropolitan Achievement Tests (MAT) are standardized tests for measuring reading skills, and are given city-wide. Special forms were used as the posttest for the first grade, and as pretest and posttest for the second and third grades.

C. The Student Attitude Toward School Inventory (SATSI) was administered to the first three grades to determine the attitude of each pupil toward himself, school, and reading.

D. In addition, each class was analyzed separately so that the reading progress of the pupils could be compared. Attendance records, I. Q. data, and the effects of the inservice program were factors of the analysis.

Future plans for the reading program will be based on the analysis of the study.

IX. EVALUATION

The study was evaluated on the basis of the pretest/posttest of the Metropolitan Readiness Tests (MRT) and the Metropolitan Achievement Tests (MAT), and the Student Attitude Toward School Inventory (SATSI). A comparison of gains in reading skills was made between the groups and among the classes within the groups.

A. First Grade

There were three classes within the experimental group: Class A, 20 pupils, with 14 taking both pretest and posttest; Class B, 21 pupils, with 20 taking both pretest and posttest; Class C, 21 pupils, with 17 taking both pretest and posttest. There was only one class of 22 pupils in the comparison group, 17 of whom took both pretest and posttest. The percentage of pupils in the experimental and comparison groups who remained in the program throughout the school year and made reading gains is shown in Table 3, page 14. A larger percentage (58.8) of the comparison group scored "C" or above on the MRT; however, the experimental group far exceeded the comparison in the percentage of pupils who scored 1.6 or higher on the MAT (41.1 per cent for the experimental group and 5.8 per cent for the comparison group). It should be noted that a gain of six months met the objective since there were six months between pretest and posttest. Of the total number in the experimental group (62 pupils), 51 took both pretest and posttest, with 23 scoring "C" or above on the pretest. Seventeen pupils in the comparison group took both pretest and posttest.

An analysis of covariance, a statistical test that compensates for initial differences in scores, was performed using the MAT data. The experimental group scored higher (significant at the .01 level); the data is in Table 4, page 14.

TABLE 3

COMPARISON OF MEAN READING SCORES ON THE METROPOLITAN READINESS TESTS AND THE METROPOLITAN ACHIEVEMENT TESTS BETWEEN THE FIRST GRADE EXPERIMENTAL AND COMPARISON GROUPS

Group	Class	Number In Class	No. Taking MRT and MAT	Pupils Who Scored "C" or Above on MRT		Pupils Who Scored 1.6 Or Above on MAT (Gain of One Month for Each Month in the Program)		Pupils Who Scored From 1.1 - 1.5 On MAT (Gain of From One to Five Months)	
				No.	Per Cent	No.	Per Cent	No.	Per Cent
Experimental	A	20	14	6	42.8	6	42.8	8	57.1
	B	21	20	10	50.0	9	45.0	11	55.0
	C	21	17	7	41.1	6	35.2	11	64.7
Comparison	Comparison	22	17	10	58.8	1	5.8	16	94.1

TABLE 4

COMPARISON OF MEAN READING SCORES (SULLIVAN VS. BASAL) ON THE METROPOLITAN READINESS TESTS (PRE) AND THE METROPOLITAN ACHIEVEMENT TESTS (POST)
(FIRST GRADE)

	Treatment	Error	Total
Sum of Squares: X (Pretest)	7.47	14,753.15	14,760.62
Sum of Squares: Y (Posttest)	0.22	3.59	3.81
Sum of Products	1.30	77.89	79.18
Degrees of Freedom	1.00	64.00	65.00
Adjusted Sum of Squares: Y	0.21	3.18	3.39
Degrees of Freedom for Adjusted Sum of Squares	1.00	63.00	64.00
Variance Estimates	0.21	0.05	

F = 4.1842**

Adjusted Mean of Y1: 1.4207 (Comparison [Basal])

Adjusted Mean of Y2: 1.5500 (Experimental [Sullivan])

B. Second Grade

Both second grade classes and the combination second/third grade class were included in the experimental group; there was no comparison group for the second grade. In Class A, 23 pupils took both pretest and posttest. Of these 23, eight pupils (34.7 per cent) met the objective of a one month gain for each month in the program; and 15 pupils (65.2 per cent) gained from one to five months. In Class B, 19 pupils took pretest and posttest, with three pupils (15.7 per cent) meeting the objective, 15 pupils (68.9 per cent) making a gain of from one to five months, and one (5.2 per cent) making no gain or loss. Of the 19 pupils in the combination class, 12 (63.2 per cent) met the objective, and seven (36.8 per cent) gained from one to five months. (Table 5.)

TABLE 5

READING GAINS OF THE SECOND GRADE EXPERIMENTAL GROUP ON THE METROPOLITAN ACHIEVEMENT TESTS (PRETEST/POSTTEST)

Class	Number In Class	No.Taking Pretest/ Posttest	No.Gaining One Mo.for Each Mo. In the Program		No. Gaining 1 - 5 Months		Number Showing No Improvement	
			No.	Per Cent	No.	Per Cent	No.	Per Cent
A	26	23	8	34.7	15	65.2	—	—
B	27	19	3	15.7	15	68.9	1	5.2
Combination 2nd/3rd Class	25	19	12	63.2	7	36.8	—	—

There was a total of 47 pupils in the second grade classes. Only one pupil failed to make any gain during the pre/post period, and one pupil gained from 15 to 16 months. Eleven pupils (23.4 per cent) made the objective of a one month gain for each month in the program, five (10.6 per cent) made gains of from seven to eight months, and three (6.4 per cent) made gains of from nine to ten months. The remaining 26 pupils gained from one to five months. (Table 6.)

TABLE 6

FREQUENCY ANALYSIS OF TOTAL READING GAIN ON THE METROPOLITAN ACHIEVEMENT TESTS*

(SECOND GRADE — N = 47)

Number	Per Cent	Gain (In Months)
1	2.1	0
15	31.9	1–2
11	23.4	3–4
11	23.4	5–6
5	10.6	7–8
3	6.4	9–10
0	0.0	11–12
0	0.0	13–14
1	2.1	15–16

*There were six months between pretest/posttest.

There was an average attendance of 93 per cent for the pupils who took both pretest and posttest, based on a 188-calendar-day period between October 7, 1970, and April 14, 1971. Correlations were run between pretest, posttest, and gain scores on each of the MAT subtests and the per cent of attendance for pupils taking both pretest and posttest. However, no significant correlation was found between achievement and attendance. Table 7, page 17.

TABLE 7

CORRELATION BETWEEN THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE (SECOND GRADE — N = 47)

	Coefficients of Correlation			t-Ratio		
	Pretest	Posttest	Gain	Pre	Post	Gain
Word Knowledge vs. Attendance	0.06	-0.08	-0.04	0.38	-0.08	-0.28
Word Analysis vs. Attendance	-0.07	0.03	0.07	-0.49	0.22	0.47
Reading vs. Attendance	0.02	0.14	0.13	0.16	0.97	0.91
Total Reading vs. Attendance	0.18	0.13	0.06	1.20	0.86	0.38
Mathematics vs. Attendance	0.01	0.16	0.18	0.01	1.05	1.19

C. Third Grade

There were two third grade classes, an experimental and a comparison. These classes were evaluated by using the MAT and the SATSI. In addition, they were given the California Test of Mental Maturity (CTMM). The experimental class, with a total of 21 pupils, had a mean I. Q. of 85; and the comparison class, with 23 pupils, had a mean I. Q. of 77.

In the experimental class, seventeen pupils took both pretest and posttest. Of these seventeen, eight (47.0 per cent) met the objective of a one month gain for each month in the program. In the comparison class, nineteen pupils took both pretest and posttest. Six pupils, or 31 per cent, met the objective of a one month gain for each month in the program. In the experimental class, five pupils, or 29.4 per cent, made gains of from one to five months, and four pupils, or 23.5 per cent, made no gain. In the comparison class, nine pupils, or 47.3 per cent, made gains of from one to five months, and four pupils, or 21 per cent, made no gain. Table 8, page 18, shows the data for reading gains.

TABLE 8

READING GAINS OF THE THIRD GRADE EXPERIMENTAL AND COMPARISON GROUPS ON THE METROPOLITAN ACHIEVEMENT TESTS (PRETEST/POSTTEST)

Group	Number in Class	Number Taking Pretest/ Posttest	No. Gaining One Mo. for ea. Mo. in the Program		No. Gaining 1 - 5 Months		Number Showing No Improvement	
			No.	Per Cent	No.	Per Cent	No.	Per Cent
Experimental	21	17	8	47.0	5	29.4	4	23.0
Comparison	23	19	6	31.0	9	47.3	4	21.0

There was a total of 36 pupils in the third grade who took both pretest and posttest (17 experimental and 19 comparison). One pupil in the experimental group made a gain of 43 months and one in the comparison group made a gain of 30 months. Three pupils in each group made gains of from nine to 11 months. Six pupils in the two groups made gains of from six to eight months, while five experimental and nine comparison made gains of from one to five months. Four pupils from each group failed to make any gain. Individual gains by months for each of the two groups are shown in Table 9.

TABLE 9

FREQUENCY ANALYSIS OF TOTAL READING GAIN FOR EXPERIMENTAL AND COMPARISON GROUPS ON THE METROPOLITAN ACHIEVEMENT TESTS (THIRD GRADE — N = 36)

Experimental Group		Comparison Group		Gain (In Months)
No.	Per Cent	No.	Per Cent	
4	23.5	4	21.0	0
1	5.8	1	5.2	1
2	11.7	-0-	0.0	2
2	11.7	4	21.0	3
-0-	0.0	4	21.0	5
1	5.8	-0-	0.0	6
2	11.7	-0-	0.0	7
4	23.5	5	26.2	8—11
-0-	0.0	1	5.2	30
1	0.0	-0-	0.0	43

There was an average attendance of 94 per cent for the pre/post pupils, based on a 188-calendar-day period between October 7, 1970, and April 14, 1971. Correlations were run between pretest, posttest, and gain scores on each of the MAT subtests and the per cent of attendance. There was statistical significance at the .05 level between spelling and attendance and between mathematical problem solving and attendance. Complete correlation data are presented in Table 10.

TABLE 10

CORRELATION BETWEEN THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE (THIRD GRADE --- N = 36)

	Coefficients of Correlation			t Ratio		
	Pre	Post	Gain	Pre	Post	Gain
Word Knowledge vs. Attendance	0.06	0.09	0.05	0.35	0.57	0.28
Word Analysis vs. Attendance	0.32	0.01	-0.31	2.03	0.09	-1.95
Reading vs. Attendance	0.08	0.21	0.19	0.50	1.20	1.16
Total Reading vs. Attendance	-0.03	-0.19	-0.26	-0.21	-1.14	-1.60
Spelling vs. Attendance	-0.07	0.31	0.42	-0.43	1.97	2.79*
Math Computation vs. Attendance	0.06	-0.01	-0.09	0.35	-0.07	-0.53
Math Concepts vs. Attendance	-0.05	0.08	0.12	0.33	0.47	0.72
Math Problem Solving vs. Attendance	0.03	0.24	0.34	0.21	0.78	2.23*
Total Math vs. Attendance	0.10	0.13	0.09	0.63	0.78	0.56

*Significant at the .05 level.

Because of the mobility of the pupil population, an additional test was run in the second and third grades to determine if there was any difference in the prestest scores of pupils who took only the pretest and those who took both pretest/posttest. A comparison was also made between the posttest scores of pupils who took only the posttest and those who took both pretest/posttest. In the second grade, no significance was found between the scores of pupils who took only the pretest or posttest and those who took both pretest/posttest. In the third grade, there was significant difference at the .01 level in total reading scores of pupils taking pretest/posttest and those taking only pretest, and at the .05 level for those taking only posttest. Comparison data are presented in Tables 11 and 12, page 20.

TABLE 11

COMPARISON OF THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST (SECOND GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S. D.	Score	No.	Mean	S.D.	No.	Mean	S. D.	Score
Word Knowledge	12	1.29	0.50	45	1.46	0.30	-1.50	12	1.66	0.60	45	1.97	0.80	-1.30
Word Analysis	12	1.26	0.40	45	1.36	0.30	-1.10	12	1.67	0.70	45	1.93	0.70	-1.10
Reading	12	1.22	0.22	45	1.20	0.20	0.30	12	1.70	0.60	45	1.65	0.40	-0.30
Total Reading	12	1.30	0.20	47	1.34	0.20	-0.60	10	1.68	0.60	47	1.77	0.40	-0.50
Mathematics	13	1.19	0.60	44	1.44	0.30	-2.00	12	1.70	0.40	44	2.02	0.60	-1.70

TABLE 12

COMPARISON OF THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST (THIRD GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S. D.	Score	No.	Mean	S.D.	No.	Mean	S. D.	Score
Word Knowledge	14	2.17	0.53	76	2.26	0.55	-0.58	12	2.23	0.85	76	2.56	0.99	-1.07
Word Analysis	13	1.96	0.63	77	1.99	0.75	-0.12	12	2.02	0.74	77	2.39	0.89	-1.40
Reading	15	1.85	0.88	75	2.05	0.55	-1.10	12	2.24	0.73	75	2.55	1.04	-0.99
Total Reading	25	1.17	1.05	62	2.18	0.79	-4.88**	15	2.23	0.83	62	2.92	1.12	-2.24*
Spelling	17	1.79	0.89	75	2.09	0.68	-1.53	10	2.57	0.80	75	2.67	0.98	-0.29
Math Computation	15	1.97	0.80	75	2.07	0.70	-0.52	12	2.36	0.15	75	2.55	0.84	-0.65
Math Concepts	15	2.21	0.82	74	2.40	0.79	-0.84	13	2.21	0.84	74	2.47	0.79	-1.08
Math Problem Solving	14	2.13	0.53	77	2.13	0.72	-0.05	11	2.32	1.01	77	2.44	0.75	-0.48
Total Math	12	2.22	0.43	78	2.12	0.55	-0.57	12	2.19	0.82	78	2.52	1.07	-1.00

*Significant at the .05 level.
**Significant at the .01 level.

On the SATSI, which was developed by the Philadelphia School System's Research and Development Division, the pupils were given eighteen sets of three faces (sad, plain, and smiling). Eighteen questions concerning school activities were read one at a time. For each question the pupils were to indicate how they felt about the question by marking the appropriate face. The sad face was assigned a value of one; the plain (no expression) face was assigned a value of two; and the smiling face was assigned a value of three. The possible score range for each pupil was from eighteen to fifty-four, which means the higher the score the more positive the attitude.

The average score for the first grade experimental group was 42.3, and for the first grade comparison group the score was 41.5. The average score for the second grade was 43.9. For the combination second/third grade class it was 41.5; and for the third grade, the average score for the experimental group was 43.1, and for the comparison group, 45.1. (Table 12.) Therefore, it would seem that all of these pupils had a relatively high score, or a rather positive attitude toward school.

TABLE 13

MEAN SCORE RESULTS OF EXPERIMENTAL AND COMPARISON GROUPS ON THE STUDENT ATTITUDE TOWARD SCHOOL INVENTORY

(GRADES 1, 2, and 3)

	Experimental Group		Comparison Group	
Grade	Class	Score	Class	Score
1	A	43.9	—	—
1	B	42.8	B	41.5
	C	40.3	—	—
2	A	46.9	—	—
	B	40.9	—	—
2 and 3	Combination	41.5	—	—
3		43.1		45.1

X. COST EFFECTIVENESS

The total amount spent at Gilbert for the 1970-71 school year included the general funds from the Atlanta Public Schools and funds from Title I, Title II, Emergency School Assistance Program,(ESAP), Education Professions Development Act (EPDA), Comprehensive Instruction Program (CIP), and Career Opportunities Program (COP).

A cost analysis of reading gains was performed in order to determine the approximate cost per grade level for a one-grade-unit of gain. The gains were computed for pupils taking both pretest and posttest.

Expenditures were separated into General Funds, salary and non-salary; and Special Funds, salary and non-salary. These expenditures did not include the cost for food services, new equipment, or capital outlay.

The figures used in this analysis were obtained from the June 30, 1971, General Funds Financial Report, and the June 30, 1971, Trust and Agency Report. The per-pupil costs are not exact, but are broad estimates based on information supplied by the lead teacher.

The principal and the lead teacher attended a CIP workshop during the summer of 1970. The money they received for participation in the workshop was divided evenly across the grades.

Title I non-salary funds were spent for the Sullivan reading materials which were used in the first grade. These are indicated accordingly.

Because this analysis is based on reading gains, only the cost of the pupils in the second through the seventh grades who took both pretest/posttest was found. The first grade was excluded because the pupils took the Metropolitan Readiness Tests (MRT) as a pretest. The per-pupil cost of the identified pre/post population in the second grade was $791; in the third grade, $796; in the fourth grade, $792;

in the fifth grade, $764; in the sixth grade, $764; and in the seventh grade, $765. The overall average per-pupil cost was $778.

The reading goal was a gain of one month for each month in the program. If a grade level achieved an average gain of one month for each month in the program, the rate of reading gain for that grade level was 100 per cent. Based on this definition, the grade levels demonstrated the following rates of reading gains: second grade, 72 per cent; third grade, 66 per cent; fourth grade, 169 per cent; fifth grade, 55 per cent; sixth grade, 21 per cent; and seventh grade, 16 per cent. The overall average gain was 67 per cent.

Since it costs a specified amount at each level to achieve a certain gain, what would be the cost at each grade level to gain one whole unit? Using this criterion, it would cost the following amounts at each grade level for pupils to gain one month for each month in the program: second grade, $1,099; third grade, $1,206; fourth grade, $469; fifth grade, $1,389; sixth grade, $3,638; and seventh grade, $4,781, with an overall average of $1,161. (Table 13, page 24.)

XI. CONCLUSIONS

The pupils at Gilbert were recognized as needing to develop listening skills, increase their vocabularies, and to develop silent and oral reading skills. It was hoped that the fulfillment of these needs would result in increased reading ability. Therefore, the objectives of the experimental reading process were to have the first grade pupils who scored "C" or above on the Metropolitan Readiness Tests (MRT) to demonstrate a gain of one month for each month in the program on the Metropolitan Achievement Tests (MAT), and to have all second and third grade pupils make this gain.

TABLE 14

COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE (ADA)
K — 7 = 415

	GRADES						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
ADA for Grade	60	56	47	40	39	37	279
ADA Pre/Post Population	42	39	30	29	29	29	198
Per Cent of Total Population	10.1	9.4	7.2	6.9	6.9	6.9	47.7
Expenditures—Pre/Post Population							
A. General Funds							
1. Regular							
a. Salary	$23,013	$21,418	$16,405	$15,721	$15,721	$15,721	$107,999
b. Non-salary	4,745	4,415	3,378	3,252	3,252	3,252	22,294
2. CIP							
a. Salary	$ 146	$ 136	$ 104	$ 100	$ 100	$ 100	$ 686
b. Non-salary	67	62	48	46	46	46	315
3. Total General Funds							
a. Salary	$23,159	$21,554	$16,509	$15,821	$15,821	$15,821	$108,685
b. Non-salary	4,812	4,477	3,426	3,298	3,298	3,298	22,609
c. TOTAL GENERAL FUNDS	$27,971	$26,031	$19,935	$19,119	$19,119	$19,11[illegible]	$131,294
B. Special Funds							
1. Title I Regualr							
a. Salary	$ 3,938	$ 3,665	$ 2,807	$ 2,690	$ 2,690	$ 2,690	$ 18,480
b. Non-salary	854	854	732	-0-	-0-	-0-	2,440
c. TOTAL TITLE I REGULAR	$ 4,792	$ 4,519	$ 3,539	$ 2,690	$ 2,690	$ 2,690	$ 20,920

TABLE 14 (Cont'd)

	GRADES						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
2. Title I Summer							
a. Salary	$ 17	$ 16	$ 12	$ 12	$ 12	$ 12	$ 81
b. TOTAL TITLE I SUMMER	$ 17	$ 16	$ 12	$ 12	$ 12	$ 12	$ 81
3. COP							
a. Salary	$ 420	$ 420	$ 270	$ 315	$ 315	$ 360	$ 2,100
b. TOTAL COP	$ 420	$ 420	$ 270	$ 315	$ 315	$ 360	$ 2,100
4. ESAP							
a. Salary	$ 12	$ 11	$ 9	$ 8	$ 8	$ 8	$ 56
b. TOTAL ESAP	$ 12	$ 11	$ 9	$ 8	$ 8	$ 8	$ 56
5. Title II							
a. Non-salary	$ 1	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ 1
b. TOTAL TITLE II	$ 1	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ 1
6. EPDA							
a. Salary	$ 15	$ 14	$ 11	$ 10	$ 10	$ 10	$ 70
b. TOTAL EPDA	$ 15	$ 14	$ 11	$ 10	$ 10	$ 10	$ 70
7. Total Special Funds							
a. Salary	$ 4,402	$ 4,126	$ 3,109	$ 3,035	$ 3,035	$ 3,080	$ 20,787
b. Non-salary	855	854	732	-0-	-0-	-0-	2,441
c. TOTAL SPECIAL FUNDS	$ 5,357	$ 4,980	$ 3,841	$ 3,035	$ 3,035	$ 3,080	$ 23,228

TABLE 14 (Cont'd)

	GRADES						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
Total Expenditures—Pre/Post Population							
A. Salaries	$27,561	$25,680	$19,618	$18,856	$18,856	$18,901	$129,472
B. Non-salary	5,667	5,331	4,158	3,298	3,298	3,298	25,050
C. TOTAL EXPENDITURES—PRE/POST POPULATION	$33,227	$31,011	$23,776	$22,154	$22,154	$22,199	$154,522
Cost per Pre/Post Pupil							
							Overall Average
A. General Funds							
1. Salary	$ 551	$ 553	$ 550	$ 545	$ 545	$ 545	$ 548
2. Non-salary	115	115	114	114	114	114	114
3. TOTAL GENERAL FUNDS	$ 666	$ 667	$ 664	$ 659	$ 659	$ 659	$ 662
B. Special Funds							
1. Salary	$ 105	$ 106	$ 104	$ 105	$ 105	$ 106	$ 105
2. Non-salary	20	22	24	-0-	-0-	-0-	11
3 TOTAL SPECIAL FUNDS	$ 125	$ 128	$ 128	$ 105	$ 105	$ 106	$ 116
Total Expenditures—Pre/Post Pupil							
A. Salaries	$ 656	$ 659	$ 654	$ 650	$ 650	$ 651	$ 653
B. Non-salary	135	137	138	114	114	114	125
C. TOTAL EXPENDITURES—PRE/POST PUPIL	$ 791	$ 796	$ 792	$ 764	$ 764	$ 765	$ 778
Rate of Reading Gain (Per Cent	72	66	169	55	21	16	67
Ending Reading Level (Grade)	1.6	2.0	3.8	3.8	4.0	4.7	
Projected Cost for One-Grade-Unit of Gain							
A. General Funds	$ 925	$ 1,012	$ 393	$ 1,198	$ 3,138	$ 4,119	$ 988
B. Special Funds	174	194	76	191	500	662	173
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 1,099	$ 1,206	$ 469	$ 1,389	$ 3,638	$ 4,781	$ 1,161

Forty-nine per cent of the first grade pupils achieved the objective. Viewing the second grade as a whole, thirty-eight per cent of the pupils achieved the objective, and thirty-nine per cent of the total third grade achieved the goal.

The total evaluation of the study conducted at Gilbert indicates that the individualized instruction of the Sullivan Program was superior to the basal method of teaching at the first and third grade levels. Since all second grade classes were included with the experimental group, no comparison of groups could be made at this level.

Viewing the study as a whole, the greatest success was achieved by the individualized instructional method in the combination second/third grade class. Both the second and the third grade pupils in this class were originally reading far below grade level. However, 63.2 per cent of the class gained at least one month for each month in the program.

Another recognized need of the pupils was to develop positive attitudes toward reading. This was made an objective of the program and the Student Attitude Toward School Inventory (SATSI) was administered to the first three grades at the end of the school year. The results showed that as a group the pupils had moderately positive attitudes toward learning.

There was indication that attendance at school did affect the spelling and mathematical problem solving abilities of the third grade pupils. It was also indicated that the third grade pupils who remained at Gilbert throughout the school year were superior in total reading ability to those who transferred into or out of Gilbert during the school year.

The organizational climate at Gilbert was found to be open. The climate will be studied longitudinally over several years to determine if the climate affects pupil achievement.

The cost effectiveness of the reading instruction at grade levels two through seven was found and revealed that it would cost an average of $1,161 per pupil for each pupil to gain one month in reading ability for each month in the program. In addition to cost, the study revealed that the pupils were reading at the following grade levels in April, 1971: second grade at first grade, six months; third grade at second grade, zero months; fourth grade at third grade, eight months; fifth grade at third grade, eight months; sixth grade at fourth grade, zero months; and seventh grade at fourth grade, seven months.

The impact of the Comprehensive Instruction Program (CIP) is not directly apparent. However, the lead teacher did design the experimental study based on the CIP objective: a special reading program for grades one through three in which each pupil would gain one month in reading ability for each month in the program, as measured by the MAT.

XII. RECOMMENDATIONS

It is recommended that the lead teacher continue to refine the individualized instructional approach to the teaching of reading and continue to use the Sullivan Program. While the main thrust of the reading program should be aimed at the first three grades, it appears necessary, viewing the Metropolitan Achievement Tests (MAT) results, to offer special reading instruction to the fifth, sixth, and seventh grades.

It is further recommended that special attention should be given to the method of reading instruction offered to the fourth grade, whose reading gain was at the rate of 169 per cent, and duplicate the process in grades five through seven.

RESEARCH AND DEVELOPMENT REPORT

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LENA J. CAMPBELL ELEMENTARY SCHOOL

1970-71

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PREFACE

An analysis has been made of certain performances of pupils at L. J. Campbell Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
Assistant Superintendent
for Research and Development

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I. RATIONALE

Lena J. Campbell Elementary School is identified as a Title I School and, as such, receives some of the compensatory services provided by Title I funds.

The enrollment at Campbell included grades K-7. Of the total enrollment, approximately eighty per cent of the pupils are from families earning less than $2,000 a year. Many of these pupils were found to be reading from one to three grades below their actual grade assignment. Consequently, the faculty agreed that special efforts should be directed toward providing more individualized instruction geared toward enabling each pupil to advance at his own rate of speed.

The reading performance of pupils in all grades, beginning with the second, was looked at in terms of the amount of gain made and the cost for that gain. This effort will be continued yearly so that the longitudinal aspects of the program can be analyzed.

Supporting Projects

The following projects were used as sources of funds in addition to the General Funds, regular budget:

A. Comprehensive Instructional Program (CIP)

The purposes of this program are to insure growth in reading for each pupil through diagnostic teaching and inservice training for teachers. During the first year of implementaion, 1970-71, the program concentrated in grades 1-3 in reading. Inservice training was provided for teachers following the identification of problems by principals, coordinators, resource people, and teachers using the Georgia Education Model evaluation instruments. This project did not specify the reading program to be followed by any school; rather, each school was to implement a comprehensive

reading program which would provide for continuous sequential development of word attack and comprehension skills. Consequently, Campbell used the Houghton-Mifflin Basal Reading Series. The services of a reading resource teacher were available upon request to provide inservice training for teachers and to assist with reading diagnosis and instruction.

B. Title I Program

Under the provisions of Title I, Campbell received the following compensatory services:

1. Lead Teacher — The lead teacher was primarily responsible for the instructional program. The duties of the lead teacher included demonstration teaching, distribution of materials, assisting teachers in diagnosing and prescribing for learning, and providing special activities for educationally deprived pupils.

2. Educational Aides — Four educational aides were assigned on the basis of enrollment. The aides worked with small groups and individual pupils, assisted teachers in planning and in preparing and duplicating materials, and operated audio-visual equipment. One aide worked as a library aide. Two of the aides were participants in the Career Opportunities Program (COP), which is a training program wherein its participants were enrolled in one of three institutions (Clark College, Georgia State University, or Morris Brown) taking courses leading toward professional certification.

C. Emergency School Assistance Program (ESAP)

The major thrust of ESAP was toward easing problems which might occur as a result of desegregation. The student body of

Campbell was predominately black; therefore, attention was given to improving staff relationships.

II. NEEDS OF THE PUPILS

The pupils at Campbell are primarily from low-income environments. The following needs were identified as being characteristic of their many needs:

A. To develop readiness for reading.

B. To develop interest in reading as an activity equal in work and recreational situations.

C. To develop interest in a wide variety of literature (books and current publications), recordings, and radio and television programs.

D. To experience success in performing assigned tasks.

E. To develop self-direction and skill in performing independent tasks.

F. To develop skills needed for performing silent and oral reading tasks.

G. To develop a more positive attitude toward school.

H. To improve their attendance at school.

III. GOALS OF THE PROGRAM

Based upon the foregoing identified needs, the following goals were set forth:

A. To provide experiences through which pupils may develop reading readiness skills.

B. To provide a wide range of materials and experiences through which pupils can develop new interests.

C. To provide learning experiences designed to meet individual needs, thus allowing each pupil to develop skills in performing independent tasks at his own rate of speed.

D. To provide learning experiences through which pupils will develop specific reading skills needed to make satisfactory progress at their individual rates.

E. To identify those pupils who are experiencing specific difficulties in performing reading tasks and provide remedial experiences for them.

IV. BEHAVIORAL OBJECTIVES

The activities of the program were designed to accomplish the following objectives:

A. All first grade pupils who scored "C" or above on the Metropolitan Readiness Tests (MRT) (pretest) will score 1.6 or above on the Metropolitan Achievement Tests (MAT) (posttest).

B. Pupils will make at least a month's gain in reading for each month in the program, based on the Metropolitan Achievement Tests (MAT).

C. Pupils will develop a more positive attitude toward school as evidenced by their improved attendance.

In addition to the above stated objectives, Campbell, as a participating Career Opportunities Program (COP) school, worked toward meeting the following objectives set forth by COP:

A. Pupils taught by COP teams will make a gain of more than one grade level annually in reading.

Variable Measured: Academic achievement in reading.

B. Pupils taught by COP teams will make a significantly greater gain in reading than will pupils taught in self-contained classrooms.

Variable Measured: Academic achievement in reading.

C. The low-income schools with COP teams will achieve significantly greater gains in pupil self-concept than will non-COP schools.

Variable Measured: Self-concept.

D. The low-income schools with COP teams will achieve, after one year of operation, more open climates than will non-COP schools.

Variable Measured: Openness of climate.

V. MANAGEMENT AND CONTROL

The major thrust of the program at Campbell was toward increasing reading skills in grades 1-3. Pupils were taught in self-contained classrooms with flexible grouping within each class.

Personnel

Personnel involved in the program included the principal, who coordinated the total school program, and the lead teacher, who coordinated the reading program and worked with the area resource teachers in providing assistance to the classroom teachers. The lead teacher did demonstration teaching and assisted in diagnosing and prescribing for specific problems.

Eleven teachers were assigned to grades 1-3: four in the first grade; four in the second grade, one of whom had a combination class of second and third grade; and three in the third grade. Four educational aides assisted the teachers during the reading period. One educational aide was assigned to assist the librarian. Two parents worked as attendance aides and, under the supervision of a part-time social worker, visited homes, made calls, counseled with parents, and provided counseling and remedial work for pupils with attendance problems.

The educational aides who assisted the teachers during the reading period prepared special materials, educational games, charts, recordings; duplicated materials; and worked with small groups of pupils under the direction of the teacher.

Inservice Training

The position of lead teacher was not filled until December, 1970. Upon assignment, the lead teacher concentrated on organizing and effecting change in the instructional program and the utilization of educational aides.

Inservice activities included small group sessions for teachers under the direction of the lead teacher. During these sessions the lead teacher directed the teachers in the construction and utilization of educational games to meet the needs of individuals or small groups of pupils. Further, consultants from book companies were brought in to allow teachers to survey available materials geared toward individualized instruction.

Study of the Organizational Climate

Organizational climate has been used to describe the "personality" of the environment. Many studies may be found which support the theory that congruence between the goals established by organization management and the individual's perception of these goals, as related to his basic

psychological needs, plays a major role in determining the degree of productivity of the organization. Therefore, efforts have been made to obtain data concerning the characteristics of the school climate over a period of years, beginning with the 1970-71 school year.

Campbell was one among fourteen Title I schools selected for the study of the organizational climate. During the latter part of the 1970-71 school year, a random sample of teachers was asked to complete, anonymously, the Organizational Climate Index (OCI), which was developed by George Stern of Syracuse University, to assess their perception of the organizational climate at their schools. The OCI is strictly not a test or criterion measure in the judgmental or evaluative sense. It is, however, an effort to provide feedback to the faculty on the school climate for analysis and discussion. Further, in sequential years, attempts will be made to determine if the climate of the school influences the achievement levels of the pupils.

Description of the Instrument

The OCI was used to assess teacher perception of the organizational climate of the school. The OCI is based on the need-press model postulated by Henry A. Murray and associates at Harvard University in 1938. The OCI presents teachers with three hundred statements which they are to mark true or false as applicable to their schools. After compilation, the items on the OCI provide data from the respondents on thirty of Murray's need-press scales, which are presented with their definitions on page 8. Analysis of these data produces six OCI factors which are called first-order factors. The first five first-order factors together describe a second-order factor called "development press," which is the capacity of the organizational environment to support, satisfy, or reward self-actualizing behavior. Another second-order factor, "control press," refers to those characteristics of the environment which inhibit or restrict personal expressiveness.

TABLE 1

DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence.
2. Achievement: striving for success through personal effort.
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion.
4. Affiliation-rejection: friendliness versus unfriendliness.
5. Aggression-blame avoidance: hostility versus disorganization.
6. Change-sameness: flexibility versus routine.
7. Conjunctivity-disjunctivity: planfulness versus organization.
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal.
9. Deference-restiveness: respect for authority versus rebelliousness.
10. Dominence-tolerance: ascendance versus forbearance.
11. Ego achievement: striving for power through social action.
12. Emotionality-placidity: expressiveness versus restraint.
13. Energy-passivity: effort versus inertia.
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness.
15. Fantasied achievement: daydreams of extraordinary public recognition.
16. Harm avoidance--risk-taking: fearfulness versus thrill seeking.
17. Humanities-social science: interests in the humanities and the social sciences.
18. Impulsiveness-deliberation: impetuosity versus reflection.
19. Narcissism: vanity.
20. Nuturance-rejection: helping others versus indifference.
21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI).
22. Order-disorder: compulsive organization of details versus carelessness.
23. Play-work: pleasure-seeking versus purposefulness.
24. Practicalness-impracticalness: interest in practical activities versus indifference.
25. Reflectiveness: introspective contemplation.
26. Science: interest in the natural sciences.
27. Sensuality-puritanism: interest in sensory and aesthetic experiences.
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests.
29. Supplication-autonomy: dependency versus self-reliance.
30. Understanding: intellectuality.

The following are the six first-order factors and their definitions:

A. Development Press

1. Intellectual climate — This factor describes a concern with intellectual activity, social action, and personal effectiveness. It is based on the scales for humanities, social science, science, reflectiveness, understanding, fantasied achievement, exhibitionism, and change. A school that scores high on this factor is one in which there is a high degree of intellectuality, hetero-sexual interests, flexibility, and attention seeking.

2. Achievement standards — This is the factor reflecting press for achievement. Schools high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

3. Practicalness — This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is a high interest in practical activity and a desire for helping others.

4. Supportiveness — This factor deals with aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, blame

avoidance, conjunctivity, supplication, harm avoidance, and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, friendliness, and planfulness.

5. Orderliness — The components of this factor are concerned with the press for organizational structure, procedure, orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order, narcissism, adaptability, conjunctivity, deference, and harm avoidance. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, acceptance of criticism, respect for authority, vanity, and planfulness.

B. Control Press

In addition to the reflection of factors 1 and 2 under "Development Press," Control Press involves:

Impulse control — This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on work instead of play; prudishness versus sexuality; aggression versus blame avoidance; impulsiveness versus deliberation; emotionality versus placidity; and exhibitionism versus inferiority avoidance. A school that scores high on this factor is one in which the teachers feel there is a high degree of purposefulness, heterosexual interests, hostility, impetuosity, expressiveness, and restriving after failure.

Campbell's profile is presented in Table 2, page 12. The scores were converted to standard scores. On factor 6, before conversion, a low score would indicate an open climate on this factor. After conversion, the higher the score on each factor (including number 6), the more open the climate. The mean score is 50 and the standard deviation is 10.

According to the data collected on the OCI, teachers at Campbell felt that the climate was relatively closed. Only on the achievement and impulse control factors did the score reach the mean. On the other factors, the score was below the mean score as much as one standard deviation on three out of four factors. These data indicated that, while the teachers feel relatively free to be self-expressive, the climate is not conducive to self-actualizing behavior.

VI. PROCESS

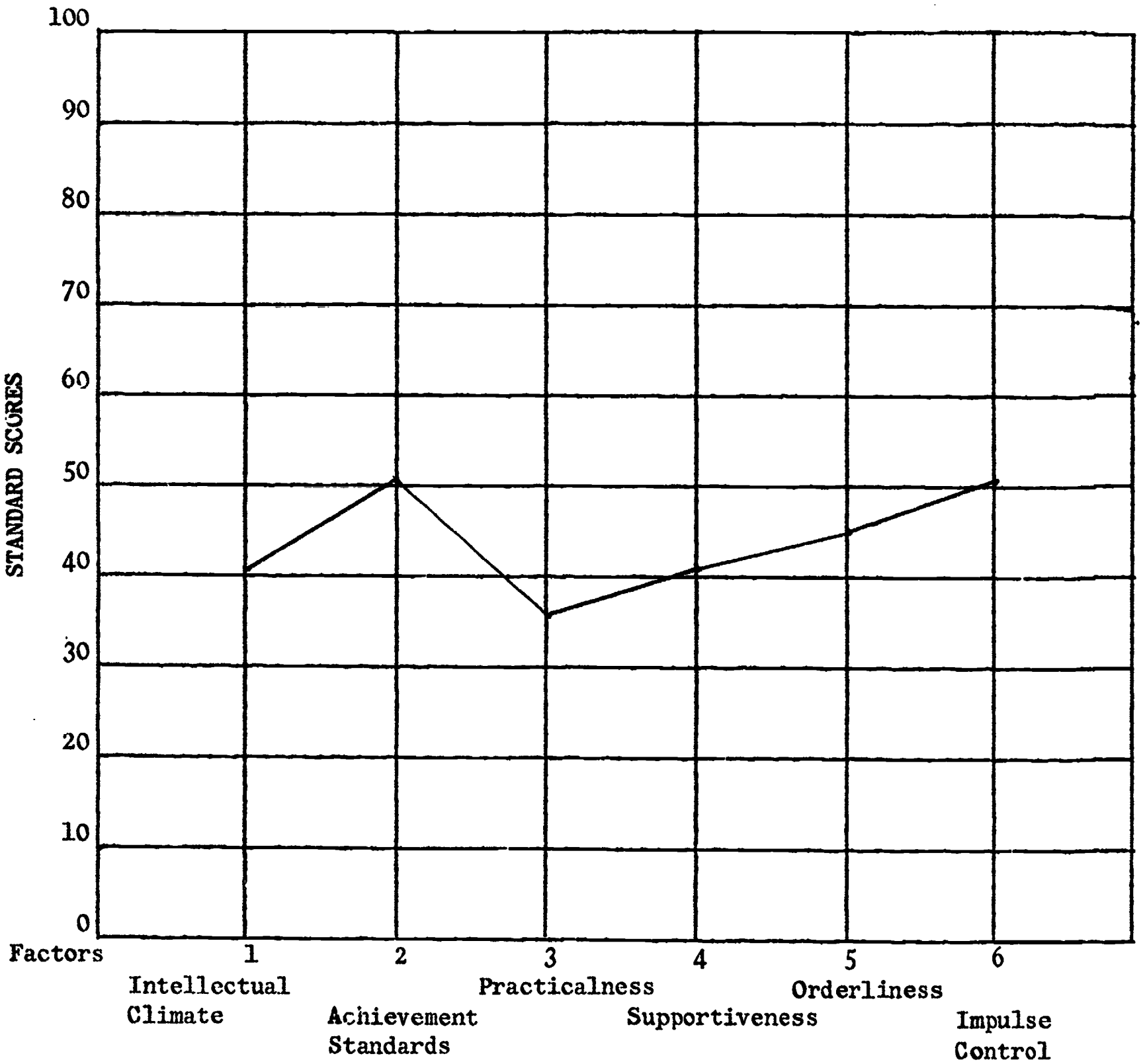
Reading was taught daily during a large block of time in the morning. The organizational pattern was based on the self-contained classroom concept wherein pupils were grouped within the classroom. During the reading period for grades 1 - 3, the educational aides assisted the teachers on each of these grade levels by working with small groups or individual pupils in remedial or follow-up activities.

The Comprehensive Instructional Program (CIP) resource teacher worked directly with the lead teacher and the classroom teacher in diagnostic and prescriptive teaching. As problems were identified, assistance was given with the specific problem.

Pupils were grouped within the classroom and activities were designed to meet the needs of the different levels. As pupils developed proficiency on a certain level, they were moved on to the next level.

TABLE 2

SCHOOL PROFILE OF STANDARD FACTOR SCORES ON
THE ORGANIZATIONAL CLIMATE INDEX



Flexibility of grouping practices permitted pupils to move upward or backward depending upon their individual needs.

The Houghton-Mifflin Basal Series was used along with the accompanying supplementary materials. Other materials included the following:

Record players
Tape recorders
Film strip projectors
Listening stations
Overhead projector
Language master
Filmstrips
Films
Talking Alphabet.

VII. EVALUATION

The Metropolitan Readiness Tests (MRT) and the Metropolitan Achievement Tests (MAT) were used as evaluative instruments. The MRT was administered as the pretest to all first grade pupils. The MAT was administered as the posttest to the first grade, and as the pretest and posttest in grades two through seven.

The monthly attendance data were used to determine changes in attendance.

VIII. FINDINGS

In October, 1970, the Metropolitan Readiness Test (MRT) was administered to all first grade pupils. This test did not yield grade equivalents; rather, letter ratings were assigned to corresponding total scores, and pupils who scored "C" or above were considered ready for first grade work. Thirty-seven pupils (35 per cent) out of a total of 106 scored "C" or above. Distribution of scores is shown in Table 3, page 14.

TABLE 3

DISTRIBUTION OF LETTER RATING AND READINESS STATUS CORRESPONDING TO VARIOUS RANGES OF TOTAL SCORE ON THE METROPOLITAN READINESS TESTS

(FIRST GRADE)

Number of Pupils	Score Range	Letter Rating	Readiness Status	Significance
0	Above 76	A	Superior	Apparently very well prepared for first grade work. Should be given opportunity for enriched work in line with abilities indicated.
6	64 - 76	B	High Normal	Good prospects for success in first grade work, provided indications, such as health, emotional factors, etc., are consistent.
31	45 - 63	C	Average	Likely to succeed in first grade work. A careful study should be made of the specific strengths and weaknesses of pupils in this group and their instruction planned accordingly.
62	24 - 44	D	Low Normal	Likely to have difficulty in first grade work. Should be assigned to slow section and given more individualized help.
7	Below 24	E	Low	Chances of difficulty high under ordinary instructional conditions. Further readiness work, assignment to slow section, or individualized work is essential.

The Metropolitan Achievement Tests (MAT) were administered as a post-test in April, 1971, with an interval of approximately six months between the pretest/posttest. It was expected that pupils who scored "C" or above on the MRT should score at least 1.6 on the MAT. As shown in Table 4, only 13 pupils (35 per cent) of the 37 pupils who scored "C" or above on the MRT (12.2 per cent of the total 106 first grade pre-post population) scored 1.6 or above on the MAT.

TABLE 4

NUMBER OF PUPILS SHOWING AT LEAST A ONE MONTH GAIN FOR EACH MONTH IN THE PROGRAM AS MEASURED BY THE METROPOLITAN READINESS TESTS (PRETEST) AND THE METROPOLITAN ACHIEVEMENT TESTS (POSTTEST)

(FIRST GRADE)

Number of Pupils	Pretest — MRT Scored "C" or Above		Posttest — MAT Scored 1.6 or Above	
	No.	Per Cent	No.	Per Cent
106	37	35.0	13	35.0

Table 5 shows the frequency distribution of the total reading scores on the MAT of all first grade pupils.

TABLE 5

FREQUENCY DISTRIBUTION OF TOTAL READING SCORES ON THE METROPOLITAN ACHIEVEMENT TESTS

(FIRST GRADE)

Grade Equivalent	Number of Pupils	Per Cent of Total (106)
2.0 — 2.3	-0-	-0-
1.6 — 1.9	13	12.0
1.2 — 1.5	72	68.0
Below 1.2	21	20.0

The second grade was used for in-depth analysis. Shown for this grade are: (1) frequency analysis of total reading gain (Table 6); (2) correlation between MAT subtest scores and attendance (Table 7, page 17); and (3) comparison of MAT subtest scores of pupils who took only the pretest with subtest scores of pupils who took both pretest/posttest, and comparison of subtest scores of pupils who took only the posttest with subtest scores of pupils who took both pretest/posttest. (Table 8, page 18).

According to the data, after six months in the program, more than one-fourth (26.83 per cent) of the total population (82 pupils) either made no gain or lost from one to nine months. Nearly one-half (48.79 per cent) of the pupils gained from one to four months. The other pupils, nearly one-fourth (24.39 per cent) of the total population, gained from five to fourteen months. (Table 6.)

TABLE 6

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON THE METROPOLITAN ACHIEVEMENT TESTS*
(SECOND GRADE — N = 82)

Number	Per Cent	Gain (In Months)
1	1.22	- 9 — - 8
0	0.00	- 7 — - 6
1	1.22	- 5 — - 4
4	4.88	- 3 — - 2
16	19.51	- 1 — 0
30	36.59	1 — 2
10	12.20	3 — 4
11	13.41	5 — 6
6	7.32	7 — 8
1	1.22	9 — 10
1	1.22	11 — 12
1	1.22	13 — 14

*There were six months between pretest/posttest.

The attendance figure for pupils in the second grade who took both pretest/posttest was ninety-one per cent during the period between October 7, 1970, and April 14, 1971. Correlations were run between pretest. posttest, and gain scores on each of the MAT subtests and the per cent of attendance for the pupils who took both pretest/posttest. No significant correlation was found between attendance and any of the scores. (Table 7.)

TABLE 7

CORRELATION BETWEEN THE METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST/POSTTEST) AND ATTENDANCE (SECOND GRADE)

	Coefficients of Correlation			t Ratio		
	Pre	Post	Gain	Pre	Post	Gain
Word Knowledge vs. Attendance	0.09	0.07	0.04	0.80	0.60	0.33
Word Analysis vs. Attendance	0.03	0.05	0.04	0.31	0.41	0.36
Reading vs. Attendance	0.12	0.01	-0.06	1.04	0.12	-0.54
Total Reading vs. Attendance	0.12	0.05	-0.03	1.03	0.46	-0.30
Mathematics vs. Attendance	0.17	0.22	0.22	1.51	1.97	1.84

The mobility index for Campbell during the 1969-70 school year was 0.20, which indicates that one-fifth of the total school population migrated. The mobility index for 1970-71 was 0.12, which indicates a decrease in mobility and a trend toward stabilization of the population.

A comparison was made to determine if there was any significant difference between the pretest scores of the pupils who took only the pretest and those who took both pretest/posttest. Further, a comparison was made between the posttest scores of those who took only the posttest and those who took both pretest/posttest. According to these data presented in Table 8, page 18, the group that remained constant at Campbell scored higher (statistically significant at the .05 level in reading and the .01 level on all other subtests) than the pretest only group. There was no statistically significant difference between the posttest only group and the pretest/posttest group.

TABLE 8

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SECOND GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S. D.	Score	No.	Mean	S.D.	No.	Mean	S. D.	Score
Word Knowledge	14	1.16	0.51	80	1.47	0.30	-3.21**	14	1.80	0.81	80	1.96	0.68	-0.81
Word Analysis	15	1.01	0.55	81	1.38	0.30	-3.82**	12	1.65	0.56	81	1.74	0.55	-0.55
Reading	14	1.26	0.57	81	1.49	0.30	-2.28*	13	1.70	0.51	81	1.61	0.48	0.58
Total Reading	13	1.24	0.57	82	1.52	0.29	-2.73**	13	1.75	0.55	82	1.75	0.44	0.04
Mathematics	13	1.04	0.50	82	1.40	0.31	-3.50**	13	1.64	0.52	82	1.61	0.48	0.17

*Significant at the .05 level.
**Significant at the .01 level.

Table 9 presents the mean reading pre/post scores, gain, per cent of expected gain, gain score t-test, per cent of attendance, and coefficient of correlation between attendance and reading for pupils in grades 2 - 7 who took both pretest/posttest. Only the seventh grade made the expected gain of six months; however, all grades made gains that were statistically significant.

TABLE 9

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS MEAN READING SCORES, GAIN, PER CENT OF EXPECTED GAIN, GAIN SCORE t-TEST, PER CENT OF ATTENDANCE, AND COEFFICIENTS OF CORRELATION BETWEEN ATTENDANCE AND READING

(GRADES 2 - 7)

Grade	Number of Pupils	Mean Score Pre	Mean Score Post	Gain in Months	Per Cent of Expected Gain	t Test	PerCent of Attendance	r
2	82	1.52	1.75	0.23	37.0	6.29***	91.0	0.03
3	79	2.12	2.52	0.39	62.0	4.33***	94.0	0.06
4	79	2.59	3.01	0.42	67.0	5.95***	93.0	0.09
5	81	3.43	3.70	0.27	44.0	3.21**	95.0	0.08
6	72	4.18	4.65	0.47	74.0	3.87***	95.0	0.07
7	92	4.03	4.65	0.62	98.0	6.07***	95.0	0.001

**Significant at the .01 level.
***Significant at the .001 level.

One objective was that pupils would develop a more positive attitude toward school evidenced by their improved attendance. Shown in Table 10, page 20, are the school-wide per cent of attendance by month figures for 1969-70 and 1970-71.

These data show a slight increase (2.0 per cent) in the yearly average per cent of attendance, which indicates that efforts have been made to improve the attendance. If the staff is interested in using attendance as an indicator of attitude toward school, it should take notice of the fact that the per cent of attendance for September (the first month of the school year) was much higher than the per cent of attendance for June (the last month of the school year) during both years.

TABLE 10

SCHOOL-WIDE PERCENTAGE OF ATTENDANCE
1969-70 and 1970-71

Month	1969—70 Per Cent	1970—71 Per Cent
September	95.0	96.0
October	92.0	91.0
November	91.0	89.0
January	86.0	90.0
February	86.0	89.0
March	89.0	88.0
April	88.0	89.0
May	89.0	91.0
June	89.0	92.0
YEAR	89.0	91.0

Findings regarding the Career Opportunities Program (COP) objectives were as follows:

A. The COP trainees worked with all grades. None of the groups completely met the COP objective of more than one grade level (10 months) annually.

B. The COP trainees worked with all pupils in all grades; therefore, no comparisons could be made between pupils in any grade. For the purpose of COP, the gains of the second and third grade pupils will be compared with the gains of pupils in other similar schools not taught by COP teams.

C. The organizational climate was assessed as baseline data, and comparisons will be made at the end of another year.

D. Data concerning pupils' self-concept will be gathered for longitudinal purposes during the 1971-72 school year.

IX. COST EFFECTIVENESS

Cost analysis of reading gains was done to determine the relative cost for the amount of gain made in each grade. These data are presented in Table 11, page 22. Shown in the table are the total school (K—7) average daily attendance (ADA), the ADA by grades, and the ADA for each grade's pretest/posttest population for which gains were computed. Computations were not done for the kindergarten or first grade.

General Funds budget was itemized to show the regular salary and non-salary expenditures, and the Comprehensive Instructional Program (CIP) salary and non-salary expenditures. These expenditures do not include the cost for food services, new equipment, or capital outlay. In order to approximate the expenditures for each grade's pre/post population, the per cent of each grade's pre/post ADA of the total population was taken, and the salaries from General Funds were distributed accordingly. The funds for non-salary which included the cost for materials and supplies and replacement and/or repair of old equipment were appropriated likewise. These figures were taken from the June 30, 1971, General Funds Report, and the June 30, 1971 Trust and Agency Report. The per-pupil costs are not exact or finite; rather, broad estimates were made based upon information obtained from the school staff relative to the utilization of resources.

CIP provided inservice training for the principal, the lead teacher, and teachers. Further, specific reading materials, excluding textbooks and equipment, were purchased through CIP. The cost for inservice training is reported under CIP, salary, and the cost for materials and supplies is reported under CIP, non-salary.

Three special projects (Title I, Emergency School Assistance Program [ESAP], and Career Opportunities Program [COP]) were contributing resources and are reported. The services of the lead teacher were available to all grades; consequently, the lead teacher's salary was prorated across grades. Attention is called to the fact that the lead teacher was not assigned to

Campbell until December, 1970, which accounts for the small amount of lead teacher salary. The aides worked with grade 1-3 during the reading period; then, during the afternoons, assisted teachers in the other grades with preparation of materials. The salaries for the aides, and the COP training cost, were appropriated to the grades according to the time spent in the grade. ESAP funds were prorated across grades.

According to these data, the approximate per-pupil cost was $571 for the second grade to make 37 per cent of the expected gain; $563 for the third grade to make 62 per cent of the expected gain; $562 for the fourth grade to make 67 per cent of the expected gain; $531 for the fifth grade to make 44 per cent of the expected gain; $540 for the sixth grade to make 74 per cent of the expected gain; and $557 for the seventh grade to make 98 per cent of the expected gain. The cost in each grade was very similar; however, the rate of gain varied widely. The overall cost to make an average of 64 per cent of the expected gain was $554. The per-pupil cost for each grade was relatively low. The absence of a lead teacher for a portion of the year was a contributing factor.

Based upon these figures and the present rate of gain, an attempt was made to project the per-pupil cost for a one-grade-unit (10 months) of gain. Because of the varied rate of gain among the grades, the projected cost for a one-grade-unit of gain ranged from a low of $569 in the seventh grade to a high of $1,543 in the second grade, with an overall average of $866.

It should be noted that the ending reading level for each grade was from nine months to three grade levels behind actual grade placement. The second grade was approximately nine months behind; the difference between ending reading level and actual grade placement continued to increase in each grade level. Despite the fact that the seventh grade performed as was expected, the pupils (as a group) were still three grade levels behind actual grade placement.

TABLE 11

COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE (ADA)
N = 705 — K—7

	GRADES						
	Second	Third	Fourch	Fifth	Sixth	Seventh	TOTAL
ADA for Grade	94	92	106	86	83	95	556
ADA Pre/Post Population	70	71	70	74	66	84	435
Per Cent of Total Population	10.0	10.0	10.0	10.0	9.0	12.0	51.0
Expenditures—Pre/Post Population							
A. General Funds							
1. Regular							
a. Salary	$33,378	$33,378	$33,378	$33,378	$30,040	$40,055	$203,607
b. Non-salary	3,593	3,593	3,593	3,593	3,233	4,311	21,916
2. CIP							
a. Salary	$ 244	$ 244	$ 244	$ 244	$ 220	$ 293	$ 1,489
b. Non-salary	27	27	27	27	24	32	164
3. Total General Funds							
a. Salary	$33,622	$33,622	$33,622	$33,622	$30,260	$40,348	$205,096
b. Non-salary	3,620	3,620	3,620	3,620	3,267	4,343	22,090
c. TOTAL GENERAL FUNDS	$37,242	$37,242	$37,242	$37,242	$33,527	$44,691	$227,186
B. Special Funds							
1. Title I							
a. Salary							
(1) Lead Teacher	$ 562	$ 562	$ 562	$ 562	$ 562	$ 562	$ 3,372
(2) Aides	1,758	1,758	1,319	1,319	1,319	1,319	8,792
b. Non-salary	35	35	35	35	35	35	210
c. TOTAL TITLE I	$ 2,355	$ 2,355	$ 1,916	$ 1,916	$ 1,916	$ 1,916	$ 12,374
2. ESAP							
Salary	$ 33	$ 33	$ 33	$ 33	$ 33	$ 33	$ 198
3. COP							
Salary	$ 300	$ 300	$ 100	$ 100	$ 100	$ 100	$ 1,000
4. Total Specia Funds							
a. Salary	$ 2,653	$ 2,653	$ 2,014	$ 2,014	$ 2,014	$ 2,014	$ 13,362
b. Non-salary	35	35	35	35	35	35	210
c. TOTAL SPECIAL FUNDS	$ 2,688	$ 2,688	$ 2,049	$ 2,049	$ 2,049	$ 2,049	$ 13,572

TABLE 11 (CONT'D.)

	GRADES						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
Total Expenditures—Pre/Post Population							
A. Salaries	$36,275	$36,275	$35,636	$35,636	$32,274	$32,274	$208,370
B. Non-salary	3,655	3,655	3,655	3,655	3,302	4,378	22,300
C. TOTAL EXPENDITURES—PRE/POST POPULATION	$39,930	$39,930	$39,291	$39,291	$35,576	$36,652	$230,670
Cost per Pre/Post Pupil							OVERALL AVERAGE
A. General Funds							
1. Salary	$ 480	$ 474	$ 480	$ 454	$ 458	$ 480	$ 471
2. Non-salary	52	51	52	49	50	52	51
3. TOTAL GENERAL FUNDS	$ 532	$ 525	$ 532	$ 503	$ 508	$ 532	$ 522
B. Special Funds							
1. Salary	$ 38	$ 37	$ 29	$ 27	$ 31	$ 24	$ 31
2. Non-salary	1	1	1	1	1	1	1
3. TOTAL SPECIAL FUNDS	$ 39	$ 38	$ 30	$ 28	$ 32	$ 25	$ 32
C. Total Expenditures—Pre/Post Pupil							
1. Salary	$ 518	$ 511	$ 509	$ 481	$ 489	$ 504	$ 502
2. Non-salary	53	52	53	50	51	53	52
3. TOTAL EXPENDITURES—PRE/POST PUPIL	$ 571	$ 563	$ 562	$ 531	$ 540	$ 557	$ 554
Rate of Reading Gain (Per Cent)	37	62	67	44	74	98	64
Ending Reading Level (Grade)	1.75	2.52	3.01	3.70	4.65	4.65	
Projected Cost for One-Grade-Unit of Gain							
A. General Funds	$ 1,438	$ 847	$ 794	$ 1,143	$ 686	$ 543	$ 816
B. Special Funds	105	61	45	64	43	26	50
C. TOTAL PROJECTED COST—ONE-GRADE-UNIT OF GAIN	$ 1,543	$ 908	$ 839	$ 1,207	$ 729	$ 569	$ 866

X. COMMUNICATION AND DISSEMINATION

Following an initial conference with the principal, the lead teacher was assigned and subsequent conferences were held with the lead teacher. Periodic visits and telephone calls were made to gather information.

The final report was submitted to the school and the area office for review and then circulated throughout the local school system.

XI. CONCLUSIONS

The results of the study at Campbell seemingly did not reveal any significant pattern in pupil performance. The seventh grade was the only grade that made the expected gain of approximately one month for each month in the program.

There were indications that, in general, neither attendance nor mobility significantly affected achievement.

The Comprehensive Instructional Program (CIP) contributed to the reading program by directing systematic diagnosis of reading in grades one to three and by providing supportive services to teachers. These diagnostic procedures were part of a system-wide effort to identify strengths and weaknesses in reading skills.

Efforts are being made to determine if there is any significant correlation between achievement and organizational climate. The data obtained thus far indicate that the climate at Campbell is rather closed. The environment does not promote friendliness, flexibility, self-confidence, or interest in maintaining a proper institutional image. However, the data indicated that the teachers feel to a certain extent, that there is press for hard work, perseverance, and freedom to be self-expressive. A longitudinal study should reveal whether such a climate would promote or inhibit pupil achievement.

The cost effectiveness index by grades ranged from a low of $569 in the seventh grade for a one-grade-unit of gain to a high of $1,543 in the second grade for a one-grade-unit of gain, with an overall average of $866 for all grades, because of the similarity in grades three through six.

XII. RECOMMENDATIONS

It is recommended that the faculty intensify its efforts to plan a realistic program of individualized instruction based upon the specific needs of the pupils.

Careful consideration should be given to techniques used in certain grades where progress seemed to have been more rapid. Perhaps through faculty interaction and interchange successful techniques in one grade would be beneficial in another where progress is lagging.

Attention should be given to the utilization of educational aides. It is recommended that consideration be given to assigning aides to work with specific groups of pupils. By keeping records of the pupils the aides worked with, some measures could be made of their effectiveness.

The staff is to be commended for its efforts and support of this study and is encouraged to continue its efforts to provide a program of studies geared toward the needs of the pupils.

Finally, the faculty should establish identifiable objectives and proceed in an orderly, systematic fashion to accomplish them. Purposefulness needs to be stressed.

RESEARCH AND DEVELOPMENT REPORT

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JESSIE MAE JONES ELEMENTARY SCHOOL

1970-71

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PREFACE

An analysis has been made of certain performances of pupils at Jessie Mae Jones Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
Assistant Superintendent
for Research and Development

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I. RATIONALE

The pupils who attend Jessie Mae Jones Elementary School reside in an area with a high concentration of low-income families. It has been established that these pupils need special and/or individual instruction. For these reasons, J. M. Jones receives the compensatory services provided by Title I.

The major goal of the instructional program at J. M. Jones Elementary School for the 1970-71 school year was to raise the level of performance of all pupils. In order to achieve this goal, attention was given to the specific needs of the pupils through individual assessment. Since reading is the major key to success in all other subject areas, the principal, teachers, and other school staff combined their efforts to develop a program based on the needs of the pupils.

Results from diagnostic and achievement tests revealed that the average pupil enrolled in the school was at least two grades below grade placement in reading. In addition, interest inventories and attitude scales revealed that the pupils having poor reading skills also seemingly had negative attitudes toward school.

In keeping with the goals of the Comprehensive Instructional Program (CIP) and the Title I Program, the staff placed greater emphasis on reading in the first three grades. It was hoped that this program, based on the diagnostic teaching of developmental reading for a period of six months, would improve the reading competencies of educationally deprived children.

In conjunction with the reading program, there was the prospect of additional improvements. One desired outcome was that of improving attendance. Another was that with more attention being given to individual children, the attitudes of the pupils toward the school, the teacher, and other pupils would improve.

In assessing the migration during the 1970-71 school year at J. M. Jones School, the mobility index for the past three years was studied. It was found that during the 1968-69 school year the mobility index was 0.22 which indicates that approximately 70 pupils of the total school population enrolled or withdrew from the school. The mobility index for the 1969-70 school year was 27 per cent which indicates an increase in the rate of migration. Since the

1970-71 index was 36 per cent, this shows an even greater increase in the rate of mobility. The increase was caused by the demolition of the older buildings in the school community. Business firms have bought much of the property.

Supporting Services

The regular budget of the Atlanta Public School System, federal assistance, and community services provided the following resources for the instructional program at J. M. Jones:

A. Comprehensive Instructional Program (CIP)

Although the Comprehensive Instructional Program did not design a specific reading program for each school, it provided a basis for the school to plan its own comprehensive reading program. After the identification of problems by the principal, coordinators, resource people, and teachers using the Georgia Education Model (GEM) evaluation instruments; inservice training was provided for teachers to insure growth in reading for each pupil through diagnostic teaching. Accordingly, J. M. Jones implemented a comprehensive reading program to provide for continuous sequential development of word attack comprehension skills.

Through CIP, inservice activities were designed. One of these activities was a summer workshop. The purpose of the workshop was to give the participants the knowledge to execute a successful reading program. The principal and lead teacher at J. M. Jones participated in the two weeks workshop. However, the lead teacher was reassigned in October, so J. M. Jones did not have the services of a lead teacher for the remainder of the school year. Nevertheless, the principal shared the workshop experiences with the faculty, and the CIP Coordinator was instrumental in implementing the reading program at J. M. Jones.

B. Title I Program

To qualify as a Title I school, the pupils enrolled in a particular school must be members of families whose incomes are $2,000 or less. J. M. Jones met these qualifications since 33.1 per cent of the pupils were from families in the low-income bracket. Five Title I educational aides were assigned to J. M. Jones on the basis of enrollment. The aides

worked with individuals, small groups, and large groups of pupils, and assisted the teachers in various activities. Examples of the types of activities in which they were engaged included the following:

1. The aides assisted the teachers in the planning of lessons and the reproduction of materials.
2. The operation of audio-visual equipment.
3. The supervision of pupils during art activities.
4. The supervision of pupils on the playground.

Dr. T. Ayllon worked with the seventh grade pupils in a behavior modification program. Since this program was successful, there are plans for behavior modification funded by the Emergency School Assistance Program (ESAP) with first graders next year. The teachers have ordered materials to be used in the project.

C. Career Opportunities Program (COP)

Two of the five Title I aides were involved in the COP training program. In the COP, the paraprofessionals were enrolled in accredited colleges and working toward professional certification. These two aides, who worked with five teachers, made it possible for the pupils to benefit from an improved individualized instructional program.

One of the aides worked in the library with pupils on all grade levels. The pupils were instructed individually and in small groups. In addition, the regular librarian was assisted in planning the room; preparing bulletin boards; operating the audio-visual equipment; performing clerical tasks; examining pupils' work; and counseling pupils.

The second aide assisted with the reading program in grades one and two. She worked with large groups, small groups, and individual pupils. In addition, her activities included planning and arranging the room and bulletin boards; setting up and operating audio-visual equipment; performing clerical tasks; examining pupils' work; counseling pupils; conferring with parents; and assisting the teacher in many tasks.

D. Media Utilization Services for Teachers (MUST)

The purpose of this project is to utilize media to improve instruction. The MUST aides worked with groups of pupils in grades one through seven. Through this program, teachers at J. M. Jones became more aware of the importance of media so that they could incorporate its use more effectively, and the educable mentally retarded pupils were given individual attention which they so badly needed.

E. Emergency School Assistance Program (ESAP)

Funds from the ESAP provided two inservice training workshops for teachers, other members of the school staff, and community leaders. Also, supply teachers were hired with ESAP funds during the time that the workshop was being conducted. Materials were purchased to aid in plans for developing a communication skills laboratory and other materials to upgrade the reading program.

II. NEEDS OF PUPILS

The entire population in grades one through three, 113 pupils, participated in the program. The needs of the pupils as assessed by the school staff were as follows:

A. To develop a positive attitude toward school.

B. To develop a positive self-concept.

C. To develop inner control along with the ability to prolong or delay gratification.

D. To develop high self-esteem, sex role identity, and identification with achieving models.

E. To extend one's own experiential background and facility with oral language.

F. To improve skills in auditory and visual discrimination.

G. To develop skills in following instructions.

H. To develop and/or improve knowledge of sounds, letter relationships, and/or skills in decoding.

I. To develop or improve skills in comprehending material.

J. To develop and extend ability to spell words used in written sentences.

III. GOALS OF THE PROGRAM

The goals of the program were based on pupil needs as identified by the school staff through individual pupil assessment. The major goals of the program were:

A. To provide an environment wherein pupils may develop reading skills according to their individual needs and capabilities.

B. To involve parents in the planning of school activities based on individual and community assessment.

C. To develop respect for oneself and others.

D. To develop an appreciation for reading as a means of enriching experiences.

E. To provide an atmosphere wherein pupils may experience success and immediate reward for performing assigned tasks.

F. To provide an atmosphere wherein pupils will interact with teachers in a positive manner.

IV. OBJECTIVES

The five teachers and staff of the three grade levels developed the following performance objectives for 113 pupils:

A. Utilizing the basal reading approach along with reading games and teacher-made materials, the 113 pupils in grades one through three were expected to show the following gains as measured by the Metropolitan Achievement Tests:

1. Thirty per cent will gain 1.5 months per attendance month in school.

2. Forty-five per cent will gain 1 month per attendance month in school.

3. Twenty-five per cent will gain .5 months per attendance month in school.

B. The 113 pupils were expected to show an improvement in attitude significant at the .05 level as measured by a Student Attitude Toward School Inventory.

V. VARIABLES

The variables treated in the program were:

A. Attitudes:

1. toward school
2. toward teacher
3. toward other pupils.

B. Achievement:

1. in word knowledge
2. in word analysis
3. in reading
4. in spelling.

VI. MANAGEMENT AND CONTROL

The principal and school librarian, with the assistance of the CIP Coordinator, directed the reading program in grades one through three. The librarian ordered, processed, and scheduled the use of reading materials and equipment for the teachers. In addition, she ordered tests and met with teachers to assist in assessing the needs of pupils. Library books geared to the specific reading levels and interests of the pupils were made available to each teacher.

Demonstrations of reading materials to teachers were provided by the CIP Coordinator. Teachers met in the library where they observed the materials being used and practiced with materials before utilizing them in their classroom. The utilization of materials was related to the individual teacher's behavioral objectives which were developed for each pupil under the directions of the CIP Coordinator. These behavioral objectives were for each unit of work and given to the Coordinator for approval.

Grade	Number of Pupils	Number of Teachers	Pupil-Teacher Ratio
1	44	2	22 - 1
2	36	2	18 - 1
3	33	1	33 - 1

In addition to teacher assistance, the pupils received additional services produced by five educational aides. These educational aides reinforced skills taught by the five teachers in five self-contained classrooms.

VII. PROCESS

Discipline and behavior problems were a major concern during the school year. Some funds from the Emergency School Assistance Program (ESAP) were used to conduct two inservice training workshops for teachers, other members of the school staff, and community leaders. A five session workshop was conducted early in the school year. A psychologist from the Southside Comprehensive Center conducted the workshop. Those attending the workshop were encouraged to present problems to the entire group for complete review, and there was discussion of probable methods of improving pupils' attitudes toward school, the teacher, and other pupils.

The Media Utilization Service to Teachers (MUST) worked with groups in grades one through seven. The pupils went to the Educable Mentally Retarded (EMR) Resource Room for one hour each day. The children went to the library for scheduled activities using teaching machines and other media. Children selected for this activity were those who found it difficult to do more than the bare minimum in group activity.

The school library program was geared to provide more individualized instruction. The library schedule was revised to bring children in for small group or individual guidance. The primary goal of the library program was to improve pupils' attitudes toward reading and promote an interest in books. Storytelling sessions were highlighted along with simplified lessons on use and appreciation of books and reading. Audio-visual materials and equipment were stationed in the library for use all day. Many non-readers rapidly learned to use the equipment. This provided motivation to children to strive for reading ability.

The children were taken on numerous field trips, some sponsored by ESAP, to many local establishments designed to influence the pupils' attitudes toward themselves and others.

The educational aides worked with individual children in drill or special activities to upgrade their achievement. An aide only could work with each child for a short time each day.

Two of the educational aides were Career Opportunities Program (COP) participants. One worked with grades one and two and one worked with the librarian in the regular library program and the media program.

Pupils were not confined to one classroom all year. The teachers placed children in classrooms best suited to their ability.

The procedure involved in assisting pupils to perform at the desired level consisted of the following steps:

A. Diagnosing a program for each pupil based on the needs identified through diagnosis.

B. Diagnosing specific needs of pupil.

C. Defining in performance terms what the pupil is to do in order to be successful.

D. Evaluating pupil progress to determine what has been learned.

E. Planning the next lesson based on the evaluation.

The basal reading program was designed in a manner such that each pupil would gain confidence in his own ability. The following procedure was utilized in the classroom situation:

A. Readiness for story - establish background, discuss difficult words, and purpose for reading the story.

B. Silent reading - pupils were asked to read silently, with the teacher helping in minor word recognition problems.

C. Comprehension check and skill building - discuss story through questions, reading certain parts, and retelling story.

D. Word recognition skills - introduce new word recognition skills that the pupil meets in his reading.

E. Reread - pupils read stories or part of stories (orally or silently) to reinforce work skills taught.

F. Follow-up activities - related activities designed to reinforce skills taught will be completed independently by pupils.

G. Extending activities - library books, films, filmstrips, records, and poems were used to extend pupils' experiences and interests in reading.

Materials and equipment that were utilized to assist pupils in achieving the program objectives were:

A. Reading matrix games

B. Library books

C. High-interest, low-vocabulary books

D. Picture dictionaries

E. Tapes

F. Filmstrips

G. Peabody Language Kits

H. Science Research Associates (SRA) Reading Laboratorie

I. Language masters

J. Tape recorders

K. Listening games

L. Records

M. Teacher-made games.

VIII. EVALUATION

For purposes of evaluation, and to assist the teachers in pursuing the goal of developing basic skills necessary for each child's independent learning, tests were administered in October, 1970, and April, 1971.

The Metropolitan Readiness Tests (MRT) was administered as the pretest for the first grade pupils. This test helped the teachers to determine the extent beginners had developed in the skills and abilities that contribute to readiness for first grade instruction. The Metropolitan Achievement Tests (MAT) Primary Battery, Form G, was administered as the posttest.

In grades two and three, the Metropolitan Achievement Tests was administered to the pupils for the pretest and posttest. Since there was no lead teacher at J. M. Jones, no assessment was made relative to pupil attitude.

IX. FINDINGS

Did 30 per cent of the pupils gain 1.5 per attendance month in school (objective A), 45 per cent gain one month per attendance month in school (objective B), and 25 per cent gain .5 per attendance month in school (objective C)?

First Grade

Table 1 shows the scores of all 47 pupils in the program on the Metropolitan Readiness Tests (MRT). It was found that two per cent of the pupils made scores above 76 and, therefore, had a letter rating of A and a superior readiness status; six per cent made scores from 64-76 and had a rating of B and a high normal readiness status; 41 per cent scored from 45-63 and had a letter rating of C with an average readiness status; 36 per cent scored from 24-44 and had a letter rating of D with a low normal readiness status; and 15 per cent scored below 24 with a low readiness status.

TABLE 1

DISTRIBUTION OF LETTER RATING AND READINESS STATUS CORRESPONDING TO VARIOUS RANGES OF TOTAL SCORE ON THE METROPOLITAN READINESS TESTS

(FIRST GRADE)

Number of Pupils	Score Range	Letter Rating	Readiness Status	
1	Above 76	A	Superior	Apparently very well prepared for first grade work. Should be given opportunity for enriched work in line with abilities indicated.
3	64-76	B	High Normal	Good prospects for success in first grade work, provided indications, such as health, emotional factors, etc., are consistent.
19	45-63	C	Average	Likely to succeed in first grade work. A careful study should be made of the specific strengths and weaknesses of pupils in this group and their instruction planned accordingly.
17	24-44	D	Low Normal	Likely to have difficulty in first grade work. Should be assigned to slow section and given more individualized help.
7	Below 24	E	Low	Chances of difficulty high under ordinary instructional conditions. Further readiness work, assignment to slow section, or individualized work is essential.

The Metropolitan Achievement Tests was administered as the posttest in April, 1971, there was an interval of six months between the pretest and the posttest. When an attempt was made to compare the MAT and MRT scores, certain facts became evident. Of the 47 children who took the MRT, 24 of them scored below the C readiness status. Since this large number or 51 per cent of the class scored so low, there was no way to compare these low ratings with a grade equivalent on the MAT. However, considering the 23 pupils who were administered both the MRT and the MAT, it was found that the pupils averaged 1.6 on word knowledge, 1.4 on word analysis, 1.2 on reading, 1.4 on total reading, and 1.5 on total math. This is an indication that the pupils made gains during the school year, but does not prove whether or not the stated objectives were met.

Second Grade

Table 2 shows the gains made on the MAT between the pretest in the fall and the posttest in the spring. Since the pupils began second grade below grade level, the gains during the year (on the average) were more than a month for a month in the program. The rate of gain in word knowledge was almost 200 per cent. This means that the class achieved almost twice as much as was expected. Achievement on every subtest for the second grade at J. M. Jones School was more than a month for a month of time spent in the program. The grade level scores on the posttest almost approached the level appropriate for entrance into the third grade.

TABLE 2

GAINS MADE ON THE METROPOLITAN ACHIEVEMENT TESTS PRETEST AND POSTTEST

(SECOND GRADE)

Subtests	Pretest	Gains	Rate of Gain	Posttest
Word Knowledge	1.8	1.26	199%	3.1
Word Analysis	1.6	0.89	141%	2.5
Reading	1.8	0.74	118%	2.5
Reading Total	1.9	0.75	119%	2.6
Math Total	1.5	0.67	106%	2.2

According to the data in Table 3, showing the frequency analysis of total reading gains, one pupil (seven per cent) gained from two to three months; five pupils (33 per cent) gained from four to five months; and nine pupils (60 per cent) made the expected gain of one month or more for each month in the program.

Thus, in considering objective A that 30 per cent of the pupils will gain 1.5 months, the results show that 47 per cent of the children met this objective; in considering objective B that 45 per cent will gain one month per attendance month in school, 60 per cent made this expected gain; and in considering objective C that 25 per cent will gain .5 month per attendance month in school, 93 per cent of the pupils made this gain. Therefore, the second grade met all of the objectives.

TABLE 3

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SECOND GRADE)

Number	Per Cent	Gain (in Months)
1	7	2 - 3
5	33	4 - 5
2	13	6 - 7
1	7	8 - 9
2	13	10 - 11
2	13	12 - 13
1	7	14 - 15
1	7	18 - 19

*There was a period of approximately six months between pretest and posttest.

Table 4 shows a correlation between each of the subtests on the MAT and attendance. There were negative correlations on all subtests and most of these were significant at the .01 level. This means that according to the scores on the MAT, as attendance improved, achievement decreased and vise versa. This unusual relationship needs to be examined, and the cause be

determined. It should be noted, however, that this was not an attempt to show a correlation between daily work and attendance.

TABLE 4

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(SECOND GRADE)

(N=15)

	Coefficient of Correlation			T Score		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	-0.87**	-0.46*	-0.28	-6.30**	-1.86*	1.06
Word Analysis vs. Attendance	-0.70**	-0.29	-0.02	-3.53**	-1.09	-0.09
Reading vs. Attendance	-0.84**	-0.75**	-0.35	-5.34**	-3.88**	-1.33
Reading Total vs. Attendance	-0.85**	-0.71**	-0.27	-5.85**	-3.67**	-0.99
Math Total vs. Attendance	-0.07	-0.09	0.08	0.27	0.35	0.33

*Significant at .05 Level.
**Significant at .01 Level.

A comparison was made between the pretest subtest scores on the MAT of the pupils who took only the pretests; and the pretest subtest scores of the pupils who took both pretest and posttest. A t test analysis (Table 5) showed that the pupils who were at J. M. Jones all year scored significantly higher than those pupils who left before the end of the school year. The posttest subtest scores of the pupils who took only the posttest were compared with the posttest scores of those who took both pretest and posttest.

TABLE 5

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTESTS SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SECOND GRADE)

	Pretest Only			Pretest/Posttest			T	Posttest Only			Pretest/Posttest			T
	No.	Mean	S.D.	No.	Mean	S.D.	Score	No.	Mean	S.D.	No.	Mean	S.D.	Score
Word Knowledge	20	1.42	0.44	15	1.81	0.69	-2.04*	3	2.00	0.50	15	3.07	0.83	-2.13*
Word Analysis	20	1.26	0.36	15	1.61	0.26	-3.13**	3	1.87	0.29	15	2.49	0.68	-1.54
Reading	21	1.35	0.37	14	1.71	0.59	-2.22*	3	1.50	0.20	14	2.46	0.93	-1.74
Reading Total	20	1.46	0.26	15	1.80	0.61	-2.21*	3	1.73	0.15	15	2.55	0.91	-1.52
Math Total	19	1.34	0.32	17	1.50	0.23	-1.71*	2	2.30	0.28	17	2.17	0.54	0.33

*Significant at .05 Level.

**Significant at .01 Level.

The only significant difference was in word knowledge at the .05 level. This means that the three pupils who entered after school began made a significantly higher score than those who remained in the program all year. Of course, the number moving in was too small to make a suitable comparison.

Third Grade

Table 6 shows a frequency analysis of total reading gains on the MAT made in the third grade. According to the data, 38 per cent of the third grade pupils gained 1.5 months or more per attendance month in school; 53 per cent of the pupils gained one month or more per attendance month in school; and all pupils gained more than .5 months per attendance month in school. Therefore, objectives A, B, and C were met for the third grade.

TABLE 6

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)

Number	Per Cent	Gain (in Months)
-	--	0 - 1
-	--	2 - 3
6	46.15	4 - 5
2	15.38	6 - 7
2	15.38	8 - 9
1	7.69	10 - 11
2	15.38	12 - 13

*There was a period of approximately six months between pretest and posttest.

In examining the rates of gain on each of the subtests, as shown in Table 7, the rate of gain in reading was 142 per cent and in total reading was 100 per cent. All of the rates of gain on the subtests were above 50 per cent with the exception of math concepts where there was only a gain of 35 per cent, and word analysis with a gain of only 48 per cent.

TABLE 7

GAINS MADE ON THE METROPOLITAN ACHIEVEMENT TESTS PRETEST AND POSTTEST

(THIRD GRADE)

	Pretest	Gains	Rate of Gain	Posttest
Word Knowledge	2.0	0.45	72%	2.4
Word Analysis	1.9	0.30	48%	2.2
Reading	1.8	0.89	142%	2.7
Spelling	2.0	0.81	128%	2.8
Math Computation	1.7	0.48	76%	2.2
Math Concepts	2.0	0.22	35%	2.2
Math Problems	2.3	0.35	55%	2.6
Math Total	1.9	0.35	56%	2.3
Reading Total	1.9	0.63	100%	2.5

Table 8 shows a correlation between the Metropolitan Achievement Tests scores and attendance. On correlations between pretest, posttest, and gain scores on each of the subtests and the per cent of attendance for those pupils who took both the pretest and posttest, the only significant correlation was in the math total. In other words. the pupils who attended school more regularly did make greater gains in math total. No significant relationships existed between attendance and the scores in reading.

Table 9 shows the comparison of the pretest subtest scores on the MAT of the pupils who took only the pretest and pretest subtest scores of the pupils who took both pretest and posttest, it was found that the pupils who remained at J. M. Jones all year scored significantly higher on four of the five subtests than those pupils who left before the end of the school year. When the posttest subtest scores of the pupils who took only the posttest were compared with those who took both pretest and posttest, there was significant difference between the two groups in word knowledge. In other words, the two pupils who entered after school began made a significantly higher score on the one subtest than those pupils who were in school all year. Again, as in the case of the second grade, the number of incoming pupils is too small to make a significant comparison.

TABLE 8

CORRELATION BETWEEN METROPOLITAN ACHIEVMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(THIRD GRADE)

	Coefficient of Correlation			T Score		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	-0.021	-0.027	-0.019	-0.069	-0.027	-0.062
Word Analysis vs. Attendance	-0.015	0.055	0.093	-0.049	0.184	0.310
Reading vs. Attendance	0.402	-0.002	-0.318	1.45	-0.008	-1.11
Reading Total vs. Attendance	0.227	-0.019	-0.234	0.776	0.062	-0.798
Math Total vs. Attendance	0.125	0.728**	0.531*	0.418	3.52**	2.07*

*Significant at .05 Level.
**Significant at .01 Level.

TABLE 9

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTESTS SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(THIRD GRADE)

	Pretest Only			Pretest/Posttest			T	Posttest Only			Pretest/Posttest			T
	No.	Mean	S.D.	No.	Mean	S.D.	Score	No.	Mean	S.D.	No.	Mean	S.D.	Score
Word Knowledge	22	1.40	0.52	13	1.98	0.40	-3.36**	2	2.30	0.28	13	2.43	0.55	-0.324**
Word Analysis	21	1.46	0.37	13	1.93	0.55	-3.03**	2	2.30	0.70	13	2.23	0.47	0.184
Reading	21	1.56	0.44	13	1.79	0.37	-1.56	2	2.30	0.32	13	2.68	0.42	-1.18
Reading Total	21	1.46	0.38	13	1.89	0.36	-3.27**	2	2.30	0.28	13	2.52	0.42	-0.707
Math Total	21	1.49	0.41	13	1.93	0.44	-3.01**	2	2.15	0.49	13	2.28	0.46	-0.383

*Significant at .05 Level.
**Significant at .01 Level.

Since the faculty at J. M. Jones was emphasizing the improvement of the instructional program in the first three grades, major findings in these three grades are included in this report. However, in grades four through seven, the principal and faculty were working towards a better instructional program for all children.

Although there has been an attempt to do a more in-depth study on grades one through three, the results of the reading program in other grades should not be omitted. The overall reading performance of each grade (1-7) is shown in Table 10.

TABLE 10

COMPARISON OF MEAN READING PRETEST/POSTTEST SCORES, GAIN, PER CENT OF EXPECTED GAIN, GAIN SCORE t-TEST, PER CENT OF ATTENDANCE AND COEFFICIENT OF CORRELATION BETWEEN ATTENDANCE VS. READING

Grade	Number of Pupils	Mean Score Pre	Mean Score Post	Gain in Months	Per Cent of Expected Gain	t Test	Per Cent of Attendance	r
1	21	D+	1.4	--	--	--	--	--
2	17	1.71	2.46	7	118	5.16**	96	-0.36
3	13	1.79	2.68	9	142	6.82**	79	-0.32
4	31	2.85	3.54	7	110	3.66**	95	-0.21
5	37	3.87	4.87	10	160	6.08**	86	-0.14
6	35	3.76	4.08	3	50	2.01*	93	-0.37*
7	24	4.70	4.83	1	22	0.52	96	-0.35
Control	12	4.63	4.72	1	14	--	--	--
Behavior Mod.	10	4.78	4.97	2	30	--	--	--

*Significant at .05 Level.
**Significant at .01 Level.

The data in Table 10 show that the first grade pupils who began with a pretest score of D+ were not ready for first grade. Only 21 pupils are listed for the first grade. Two pupils were absent when the reading subtests of the MA were administered but they were enrolled for the entire year. The posttest mean score was 1.4 and therefore, indicated that the pupils did not make much progres The second grade made a seven month gain (118 per cent of the expected gain). The third grade made a gain of nine months (142 per cent of the expected gain). The fourth grade made a gain of seven months (110 per cent of the expected

gain); the fifth grade made a gain of ten months (160 per cent of the expect.. gain); the sixth grade made a gain of three months (50 per cent of the expected gain); and the seventh grade only gained one month (22 per cent of the expected gain).

The gains in grades two through five were significant at the .01 level. The sixth grade made a gain that was significant at the .05 level, and the gain made by the seventh grade was not statistically significant. Included are the seventh grade scores showing the ten pupils (out of 19) in the behavior modification program who took both the pretest and the posttest. The other seventh grade scores, for 12 pupils (out of 15) are those who were in the control group and took both the pretest and postttest.

Although Dr. Teodoro Ayllon worked with seventh grade pupils in a behavior modification program, certain facts must be remembered. This class of seventh grade children had been considered the most disruptive for the school year at J. M. Jones School. In the first two experiments with the pupils, by Dr. Ayllon, it was found that there was no facilitation of academic achievement despite the elimination of classroom disruption. Accordingly, Dr. Ayllon attempted to design procedures to improve the academic performance of the entire class, and he did find increases in academic performance in only 60 academic days. However, the program did not continue for the entire school year.

Special attention also is called to the negative correlations between attendance and reading. As one increased, the other decreased.

X. COST EFFECTIVENESS

In order to determine the cost for the amount of gain made in each grade, a cost analysis of reading gains was made. The data in Table 11 show the total school (K-7) average daily attendance (ADA), the ADA by grade, and the ADA for the pretest/posttest population for which gains were computed.

The expenditures have been separated into two sections entitled (1) general funds (salary and non-salary) and (2) special funds (salary and non-salary). The cost for food services, new equipment, or capital outlay is not included. The figures were computed from the June 30, 1971, General Funds Financial

Report and the June 30, 1971, Trust and Agency Report. The figures pertaining to per pupil cost are broad estimates and are not to be misinterpreted as being exact or finite.

In allocating general funds for salaries and non-salaries, the per cent of each grade's pre/post ADA of the total population was considered. The funds for non-salary include the cost for materials and supplies and replacement and or repair of old equipment.

The principal and lead teacher attended the CIP workshop during the summer of 1970. The remuneration which they received was appropriated among the grades according to the pre/post population.

The special rpograms at J. M. Jones which provided funds for the instructional program included Title I, ESAP, MUST, and COP. Aides and/or materials were provided by these funds.

Funds from Title I and COP were used to provide educational aides. There were five educaitonal aides, and two of these five were COP aides. One of the COP aides worked with pupils in the library. The other COP aide was assigned to grades one and two. In addition, one Title I aide worked in grades three, six, and seven; one in grades four and five; and one in grades one through seven. Their salaries were prorated accordingly.

The MUST aides who were paid by that particular project worked in grades one through seven. One provided services in grades one through four and the other in grades five, six, and seven. They provided services for individual children in small groups who were having difficulty in the regular classroom setting. The salary for the MUST aides was also prorated according to the pre/post ADA for each grade.

The data show the approximate per pupil cost paid by general funds and special funds. In addition, the total expenditures by salary and non-salary the rate of reading gain and the cost for the gain are given for each grade. The data also show that the approximate cost per pupil in the second grade was $1,177 to make 118 per cent of the expected gain; $1,151 to make 142 per cent of the expected gain in the third grade; $1,143 to make 110 per cent of the expected gain in the fourth grade; $1,141 to make 160 per cent of the expected gain in the fifth grade; $1,139 to make 50 per cent of the expected gain in the sixth grade; $1,156 to make 22 per cent of the expected gain in the seventh grade; and an overall average of $1,152 to make 95 per cent of the gain.

TABLE 11

COST ANALYSIS OF READING GAINS BY GRADES TOTAL
SCHOOL AVERAGE DAILY ATTENDANCE (ADA)

K-7 -- N=293

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
ADA for Grade	32	30	46	49	47	35	230
ADA for Pre/Post Population	16	8	28	28	31	22	133
Per Cent of Total Population	5.4	2.7	9.5	9.5	10.6	7.5	45.4
Expenditures - Pre/Post Population							
A. General Funds							
1. Regular							
a. Salary	$13,409	$6,704	$23,589	$23,589	$26,321	$18,623	$112,235
b. Non-salary	3,130	1,565	5,506	5,506	6,143	4,347	26,197
2. CIP							
Salary	$ 65	$ 32	$ 114	$ 114	$ 127	$ 90	$ 542
3. Total General Funds							
a. Salary	$13,474	$6,736	$23,703	$23,703	$26,448	$18,713	$112,777
b. Non-salary	3,130	1,565	5,506	5,506	6,143	4,347	26,197
c, TOTAL GENERAL FUNDS	$16,604	$8,301	$29,209	$29,209	$32,591	$23,060	$138,974

TABLE 11 (Cont'd.)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
B. Special Funds							
1. Title I							
a. Salary	$ 1,411	$ 571	$ 1,721	$ 1,608	$ 1,449	$ 1,383	$ 8,143
b. Non-salary	339	169	596	596	665	471	2,836
c. TOTAL TITLE I	$ 1,750	$ 640	$ 2,317	$ 2,204	$ 2,114	$ 1,854	$10,979
2. ESAP							
a. Salary	$ 47	$ 24	$ 84	$ 84	$ 93	$ 66	$ 398
b. Non-salary	37	18	$ 65	$ 65	$ 73	$ 51	$ 309
c. TOTAL ESAP	$ 84	$ 42	$ 149	$ 149	$ 166	$ 117	$ 707
3. MUST							
Salary	$ 207	$ 108	$ 252	$ 314	$ 364	$ 348	$ 1,593
4. COP							
Salary	$ 182	$ 16	$ 57	$ 57	$ 64	$ 45	$ 421
5. Total Special Funds							
a. Salary	$ 1,847	$ 719	$ 2,114	$ 2,063	$ 1,970	$ 1,842	$10,555
b. Non-salary	376	187	661	661	738	522	3,145
c. TOTAL SPECIAL FUNDS	$ 2,223	$ 906	$ 2,775	$ 2,724	$ 2,708	$ 2,364	$13,700

TABLE 11 (Cont'd.)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
Total Expenditures - Pre/Post Population							
A. Salary	$15,321	$7,455	$25,817	$25,766	$28,418	$20,555	$123,332
B. Non-salary	3,506	1,752	6,167	6,167	6,881	4,869	29,342
C. TOTAL EXPENDITURES - PRE/POST POPULATION	$18,827	$9,207	$31,984	$31,933	$35,299	$25,424	$152,674
Cost Per Pre/Post Pupil							
A. General Funds							
1. Salary	$ 842	$ 847	$ 846	$ 846	$ 853	$ 851	$ 847
2. Non-salary	196	196	197	197	198	197	197
3. TOTAL GENERAL FUNDS	$ 1,038	$1,038	$ 1,043	$ 1,043	$ 1,051	$ 1,048	$ 1,044
B. Special Funds							
1. Salary	$ 115	$ 90	$ 76	$ 74	$ 64	$ 84	$ 84
2. Non-salary	24	23	24	24	24	24	24
3. TOTAL SPECIAL FUNDS	$ 139	$ 113	$ 100	$ 98	$ 88	$ 108	$ 108
Total Expenditures - Pre/Post Pupil							
A. Salaries	$ 957	$ 932	$ 922	$ 920	$ 917	$ 935	$ 931
B. Non-salary	220	219	221	221	222	221	221
C. TOTAL EXPENDITURES - PRE/POST PUPIL	$ 1,177	$1,151	$ 1,143	$ 1,141	$ 1,139	$ 1,156	$ 1,152
Rate of Reading Gain (Per Cent)	118	142	110	160	50	22	95
Ending Reading Level (Grade	2.5	2.7	3.5	4.9	4.1	4.8	
Projected Cost for One-Grade-Unit of Gain							
A. General Funds	$ 880	$ 731	$ 948	$ 652	$ 2,102	$ 4,764	$ 1,099
B. Special Funds	118	80	91	61	176	491	114
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 998	$ 811	$ 1,039	$ 713	$ 2,278	$ 5,255	$ 1,213

An attempt was made to project the per pupil cost for a one-grade-unit (ten months) of gain. Using the figures in Table 11 and the present rates of gain, the following projection was made: (1) the cost for a one-grade-unit in the second grade was $998; (2) $811 for the third grade; (3) $1,039 for the fourth grade; (4) $713 for the fifth grade; (5) $2,278 for the sixth grade; (6) $5,255 for the seventh grade; and (7) an overall average of $1,213 per pupil.

Althoug' there were tremendous gains made by most of the grades at J. M. Jones, none of the grades were reading at grade level according to the posttest. The first grade was approximately two months behind actual grade placement; the second grade was one month behind; the third grade was almost one grade level behind; the fourth grade was more than one grade level behind; the fifth grade was seven months behind; the sixth grade was more than one grade level behind; and the seventh grade was more than two grade levels behind.

XI. COMMUNICATION AND DISSEMINATION

A research assistant made periodic visits to J. M. Jones School in order to gather information to develop a prospectus for the school's 1970-71 report. After completion of the prospectus, it was approved by the principal and his staff.

At the end of the school year, a final report was written and copies will be disseminated throughout the school system. Additional copies are available to other interested organizations and school systems upon request.

XII. CONCLUSIONS

From the data collected on J. M. Jones, there were indications of the following:

A. Attendance in school did not affect achievement.

B. The pupils who remained at J. M. Jones throughout the school year scored significantly higher than those pupils who left before the end of the school year.

In grades two and three, there were considerable gains made by individuals and by grades. Although the exact gains in grade one could not be ascertained, there were indications of insufficient gain in reading. This is emphasized when you consider that almost half of the first grade pupils began at a low or low normal readiness status, half at normal or above, and the classes had a low adult-pupil ratio. Both the second and third grades gained at a rate above 100 per cent; therefore, they made gains above those that were expected.

The fourth and fifth grades, also, made commendable gains, although the pupils were slightly below grade level at the end of the year. The gains made were statistically significant at the .01 level.

The gains in the sixth and seventh grades were low; however, the gain for the sixth grade was significant at the .05 level. The seventh grade made no significant gain.

In the behavior modification program with seventh grade pupils, Dr. Ayllon found increases in academic performance in only 60 academic days. Thirteen of the 19 children advanced one grade level or more in reading. The results of the program demonstrated that discipline problems can be virtually eliminated through the application of appropriate behavioral procedures. Also, reinforcement for academic performance can significantly increase the academic level of a classroom group of children.

The cost effectiveness index for grades two through seven ranges from $998 in the second grade for pupils to make a one-unit gain to $5,255 in the seventh grade. The average cost for all of these grades was $1,213. In addition, the index indicates a rate of effectiveness in pupil performance, based on reading of 95 per cent.

XIII. RECOMMENDATIONS

The following recommendations are based upon the content of this report and upon discussions between the school faculty and the research assistant:

A. The principal and his staff should be commended for the gains made by the pupils at J. M. Jones School.

B. On the basis of the gains made, a concentrated reading program should be continued at J. M. Jones School.

C. The reason for the tremendous gain made by the fifth grade should be investigated and the findings could be used to help other teachers make similar accomplishments with pupils.

D. An effort should be made to determine what factors contributed to the low rate of gain made by the first grade.

E. The instructional staff should continue to be given every opportunity to test new ideas, methods, techniques, and procedures to promote effective reading instruction.

F. Plans should be made to compare the gains made this year with the gains made by the same pupils next year.

G. Tests should be given to determine the gains made in attitude toward school, toward teachers, and toward other pupils, if attitude is one of the variables to be treated in the program.

RESEARCH AND DEVELOPMENT REPORT

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1970-71

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PREFACE

An analysis has been made of certain performances of pupils at J. C. Harris Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
Assistant Superintendent
for Research and Development

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I. INTRODUCTION

Improving pupil compentency in reading is the major goal of the instructional program of many inner-city schools. In an effort to achieve this goal the staffs of many school systems are experimenting with various methods and approaches to the teaching of reading in both elementary and high schools. Enthusiasm for new ideas are evident. Teachers are being given opportunities to receive inservice training in the use of materials and equipment, and possible means by which these may be integrated into their individual teaching situations. Included here are innovative methods and procedures believed to be vital to the teaching of reading. These involve the formulation of a sequential order of developmental tasks which pupils must master in order to become fluent in this area.

The Atlanta Public School System's instructional program has focused heavily on activities in the area of reading. The direction taken here may be attributed to pupil assessment wherein reading was determined as one of the greatest need of the pupils in the inner schools. In this regard, Atlanta has provided an extensive program in teacher education with special emphasis on developmental reading activities for early grade pupils. These activities include programs utilizing teachers, paraprofessionals, and a variety of materials and approaches.

Congruent with the goal of the Atlanta School System, and the educational needs of the pupils at Harris Elementary School, reading has been the major thrust of the school program. During the 1970-71 school year, the reading program was developmental, corrective, and remedial. However, the area of greatest emphasis was the developmental reading program in the first three grades.

II. RATIONALE

The J. C. Harris School community has been highly transitional. Being an integrated community may have contributed to the high mobility index. During the 1967-68 school year, 70 per cent of school population moved in or out; 65 per cent for 1968-69 school year; 73 per cent for 1969-70 school year; and 27 per cent for 1970-71 school year. These figures indicate the community was

considerably more stable during the 1970-71 school year than in previous years. However, it would seem that the education of many of the pupils may have been seriously interrupted during this four-year period. This high rate of mobility may have contributed to problems relative to social adjustment and to achievement. Presently, there appears to be significant effort toward stabilization as evidenced by the organization of committees and clubs both within the school and the community. The churches and school seemingly work well together, and this aids in working with parents and families in the community. Many of these families appear to be truly interested in bettering themselves and their community. Attempts are being made to provide comfortable homes and attractive surroundings for them. However, many varied family structures and economic conditions exists. Some pupils reside with both parents, while others live with sisters, brothers and grandparents. In other instances pupils reside with legal guardians or foster parents.

Evidence of the economic condition of the pupils and families may be noted by the large number of pupils eligible for the free lunch program. From an enrollment of approximately 675, during the 1970-71 school year, about one-half of the pupils received free or partially free lunches during the past school year.

Within the school environment discipline problems were not a major concern. The pupils, for the most part, got along well together and seemingly adjusted to disciplinary actions which were taken when necessary. In addition, some pupils were quite alert as evidence by their achievement scores. In general, however, the majority of the pupils were below grade placement in reading. This fact prompted the school to direct its attention toward activities designed to improve reading achievement. Since learning to read is regarded as a continuous process, developmental reading was stressed throughout grades one through seven. Corrective and remedial activities were provided to the pupils who were most deprived in reading.

Supporting Services

In addition to the activites funded by the regular program, additional activities were provided. These included conpensatory and enrichment activities designed to assist and supplement the regular school program. The specific activities provided to Harris School were of the following sources:

A. Title I Program and Career Opportunities Program (COP)

Harris qualified to receive Title I services since 14.9 per cent of the pupils enrolled were from families with incomes of $2,000 or less. These services included, in addition to extra materials and supplies, the following staff:

1. Lead Teacher - The lead teacher coordinated the instructional program. This included directing periodic meetings to inform and involve the teacher in developing the reading program. During these meetings methods, materials, and suggestions were discussed and incorporated into the initial stages of the school's activities.

2. Educational Aides - Four educational aides were assigned to Harris Elementary School. These aides worked under the direction of the classroom teacher during the reading period. Individual and small group situations were utilized to reinforce the skills taught by the classroom teacher.

   Two of the four aides in the program were members of the Career Opportunities Program (COP). This program provides a mean by which educational aides who have potential to advance up the career lattice can eventually become certified teachers.

B. Emergency School Assistance Program (ESAP)

Being an integrated school (faculty and pupils) Harris received services through the Emergency School Assistance Program (ESAP). These services were in the form of educational field trips, instructional supplies, and equipment. In addition, funds were utilized to provide a two-day sensitivity training session for the school staff. This training session was directed by Dr. Ronald Whittort of Boston University. Its primary goal was to promote racial understanding through group interaction.

C. Comprehensive Instructional Program (CIP)

This program was directed toward improving reading achievement of pupils in grades one through three. It included inservice training along with funds for reading materials. The staff of the program worked through the Title I lead teacher directing the teachers in procedures for administering the CIP diagnostic skills tests and demonstrating reading materials to teachers. In addition, this staff provided a nine-week session in the teaching of reading in the school library at Harris School. This session was geared toward particular problems which the teachers at that school encountered in teaching reading.

III. NEEDS OF PUPILS

The needs of the pupils as determined by the school staff were as follows:

A. To develop reading readiness.

B. To develop the attitude that reading involves thinking.

C. To develop word attack skills leading to independence in reading.

D. To develop the ability to read silently for various purposes adapting rate of reading to specific purposes.

E. To acquire and extend reading vocabulary.

F. To read orally with expression.

G. To learn to locate information, select and evaluate a variety of reading materials, and organize information from these sources.

H. To acquire and exhibit an appreciation of the ways in which reading can enrich life, widen experiences, enhance understanding, and develop good character.

I. To develop a feeling of self-respect and respect for the rights of others.

J. To develop positive attitude toward learning.

IV. GOALS OF THE PROGRAM

The following goals reflect the pupils' needs as listed previously:

A. To provide a variety of materials and experiences such that pupils will develop a desire to learn to read.

B. To provide activities which will build upon the language which the pupils bring to the learning situation.

C. To provide sequential activities in developmental reading which will enable pupils in the primary grades to enter the intermediate and upper grades with the ability to employ these skills in their everyday life.

D. To provide situations wherein pupils may discuss his experiences in reading and integrate these with his daily activities.

E. To provide opportunities for pupils to associate reading with spoken words.

F. To provide opportunities for pupils to utilize the resources of the community to extend their school experiences.

G. To provide situations and materials which will encourage pupils to develop skills in evaluating, selecting, and locating materials relevant to his individual needs and abilities.

V. OBJECTIVES

Performance objectives developed by the Comprehensive Instructional Program (CIP) and the Harris Elementary School staff were utilized to evaluate the effectiveness of the program. These objectives were primarily concerned with the performance of pupils in grades one through three and are as follows:

A. Utilizing a skill assessment instrument and performance levels denoted by: 1 -- little or no improvement; 2 -- improvement made, more needed and 3 -- satisfactory improvement; and that 35 per cent of the first grade pupils will perform at level 3; 50 per cent at level 2; and 15 per cent at level 1.

B. Pupils in grades one through three will gain one month for each month in the program as measured by the Metropolitan Achievement Tests (MAT).

C. Pupils in grades one through three will show a more positive attitude toward school as measured by the Student Attitude Toward School Inventory.

The objectives of the Career Opportunities Program (COP) are as follows:

A. Pupils taught by COP teams will make more than one grade level annually.

B. Pupils taught by COP teams will make a more significant annual grade in reading than similar pupils taught in self-contained classrooms.

C. The low-income schools with COP teams will achieve, after one year of operation, significantly more open climate than non-COP schools.

D. Low-income schools with COP teams will achieve more significant gains in pupil self-concepts annually than the non-COP schools.

In addition to assessing the effectiveness of the program according to the performance levels listed, this report will include an analysis which will provide information relative to gains in achievement for pupils in grades four through seven. This report will include the number of pupils who were administered the pretest and posttest of the MAT, and the gains in months made by all pupils on each grade level. It was expected that all pupils would gain one month in reading for each month in attendance. Accordingly, the period between pretest and post-test was approximately six months (6.3 months). Therefore, the pupils were expected to show a six-month gain. Further, efforts were made to look at the school organizational climate in terms of its conduciveness to learning and to determine the approximate cost for gain made in reading.

VI. MANAGEMENT AND CONTROL

The lead teacher coordinated the instructional program. She held periodic meetings to inform and involve teachers in the setting up of the program. Methods, materials, and suggestions were discussed and incorporated into initial stages of the operation. Meetings were held on each grade level in order to gain practice in formulating behavioral objectives. The lead teacher also combined, evaluated, and made the final orders for materials utilized in the program. Further, she gave special asssitance to teachers on an individual basis in determining appropriate grouping, books, materials, and equipment for individual pupils and classroom groups.

Initial visitations for all teachers was begun early in order to determine if any difficulties or problems existed, and to aid in setting up reading groups, demonstrating the use of multi-level materials, completing the school-wide pupil profile sheets, and offering suggestions for providing for individual differences. In addition, preparations were also made in the beginning for acquiring and scoring skills - proficiency and readiness tests, as well as for administering attitude tests. Further, the behavioral objectives along with plans for evaluating the program were discussed in meetings with the staff of the Division of Research and Development.

Educational aides were assigned to work with teachers during the reading period. The two COP aides were assigned to work with first grade teachers. Under the direction of these classroom teachers the COP aides gave individual assistance to pupils who scored "D" or below on the Metropolitan Readiness Tests (MRT). The assistance here was designed to provide compensatory activities for pupils who were, according to perofrmance on the MRT, likely to have difficulties in first grade work. It was believed that these activities would enable the pupils to perform first grade, six months on the Metropolitan Achievement Tests (MAT).

The social worker assisted the school with community related problems of pupils and parents as referred by the classroom teachers and the school counselor. This individual worked from the area office and was assigned to Harris School two days per week. In addition to working with parents and pupils, the social worker assisted the counselor in working with pupils within the school setting with problems relating to social adjustment.

Study of the Organizational Climate Index (OCI)

The Organizational Climate Index (OCI) is an instrument developed by George Stern of Syracuse University and was administered to a randomly selected sample of teachers at J. C. Harris Elementary School. The instrument consisted of 300 items which the teachers were to respond true or false to each item as believed applicable to their situation. These responses were compiled according to 30 of Murray's need-press scales as listed in Table 1. These data were used to describe the degree of openness which exists in the organizational structure of J. C. Harris Elementary School as it relates to two areas. The first is the "development press" which refers to five factors believed to be characteristic

in the environment which tend to support, satisfy, or reward self-actualizing behavior. The second area is the " control press" which describes factors in the environment which tend to inhibit or restrict personal expressiveness.

TABLE 1

DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence.
2. Achievement: striving for success through personal effort.
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion.
4. Affiliation-rejection: friendliness versus unfriendliness.
5. Aggression-blame avoidance: hostility versus disorganization.
6. Change-sameness: flexibility versus routine.
7. Conjunctivity-disjunctivity: planfulness versus organization.
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal.
9. Deference-restriveness: respect for authority versus rebelliousness.
10. Dominence-tolerance: ascendance versus forebearance.
11. Ego Achievement: striving for power through social action.
12. Emotionality-placidity: expressiveness versus restraint.
13. Energy-passivity: effort versus inertia.
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness.
15. Fantasied achievement: daydreams of extraordinary public recognition.
16. Harm avoidance -- risk-taking: fearfulness versus thrill seeking.
17. Humanities-social sciences: interests in the humanities and the social sciences.
18. Impulsiveness-deliberation: impetuosity versus reflection.
19. Narcissism: vanity.
20. Nuturance-rejection: helping others versus indifference.
21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI).
22. Order-disorder: compuslive organization of details versus carelessness.
23. Play-work: pleasure-seeking versus purposefulness.
24. Practicalness-impracticalness: interest in practical activities versus indifference.
25. Reflectiveness: introspective contemplation.
26. Science: interest in the natural sciences.
27. Sensuality-puritanism: interest in sensory and aesthetic experiences.
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests.
29. Supplication-autonomy: dependency versus self-reliance.
30. Understanding: intellectuality.

A. Development Press

1. Intellectual climate -- This factor describes a concern with intellectual activity, social action, and personal effectiveness. It is based on the scales for humanities, social science, science, reflectiveness, understanding, fantasied achievement, exhibitionism, and change. A school that scores high on this factor is one in which the teachers feel that there is a high degree of intellectuality, heterosexual interests, flexibility, and attention seeking.

2. Achievement standards -- This is the factor reflecting press for achievement. Schools high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

3. Practicalness -- This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is a high interest in practical activity and a desire for helping others.

4. Supportiveness -- This factor deals with aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, conjunctivity, supplication, blame avoidance, harm avoidance, and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, friendliness, and planfulness.

5. Orderliness -- The components of this factor are concerned with the press for organizational structure, procedure, orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order,

narcissism, adaptability, conjunctivity, deference, and harm avoidance. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, acceptance of criticism, respect for authority, vanity, and planfulness.

B. Control Press

In addition to the reflection of factors 1 and 2 under "development press," control press involves:

Impulse control -- This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on work instead of play; prudishness versus sexuality; aggression versus blame avoidance; impulsiveness versus deliberation; emotionality versus placidity; and exhibitionism versus inferiority avoidance. A school that scores high on this factor is one in which the teachers feel there is a high degree of purposefulness, hetero-sexual interests, hostility, impeturosity, expressiveness, and restriving after failure.

According to the definitions listed above, schools scoring high on the six factors may be described as open while low scores on the six factors indicate a closed climate. The two climates differ according to Halpin and Craft in that the opened climate indicates concern for others, while the closed climate indicates lack of concern. Halpin and Craft further suggest that the school administrator is the main variable determining the school climate.[1]

The Harris School profile according to the Organizational Climate Index (OCI) is shown in Table 2 (see page 11). The scores were converted to standard scores. The mean is 50, and the standard deviation is 10.

As indicated by data on the OCI, teachers feel that the school climate is relatively open. However, intellectual climate ranked 10 among the fourteen schools included in the study, while practicalness ranked 12. Achievement standards ranked 4, supportiveness 7, orderliness 6, and impulse control 4.

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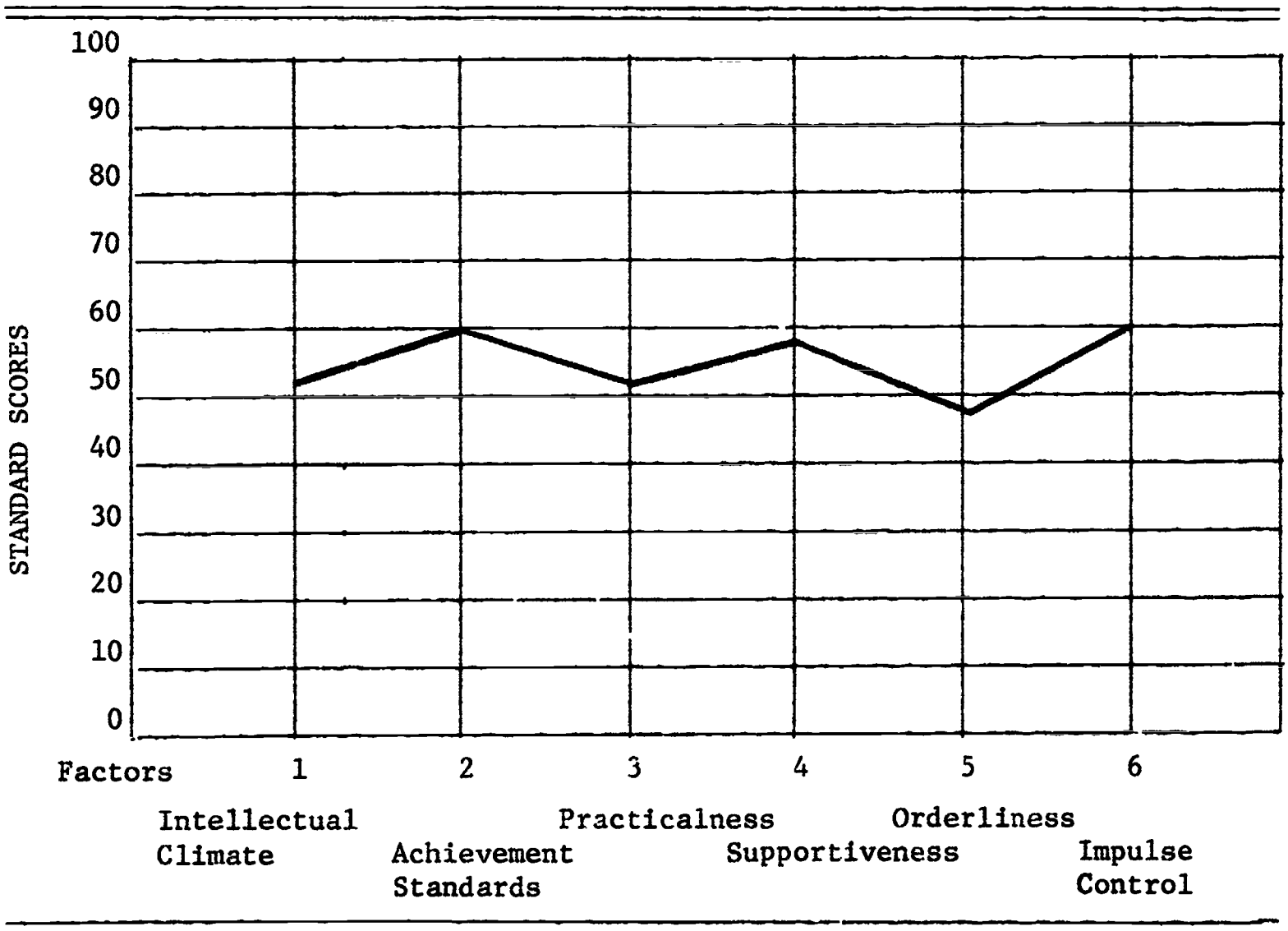
[1]Garry Walz and Juliet Miller. "School Climate and Student Behavior: Implications for Counselor Role," Personnel and Guidance Journal, Part 2, (1969) p. 864.

According to the definitions listed previously, the data indicates that teachers at Harris feel that there is, to a moderate degree, interest in humanities, social science, and natural science. In addition, it appears that teachers also feel that the organizational structure supports intellectuality, heterosexual interests, flexibility, and attention seeking to a moderate degree. Relative to practicalness, these data indicate that teachers feel that the school climate supports a moderate interest in practical activity and a desire for helping others. Further, it appears the school climate supports perseverance and total commitment relative to the school's goals.

TABLE 2

SCHOOL PROFILE OF STANDARD FACTOR SCORES ON
THE ORGANIZATIONAL CLIMATE INDEX



VII. PROCESS

The modified Joplin plan was used for the teaching of reading. All pupils in grades one through three were grouped according to reading levels utilizing the individual skill sheets as a means of assigning pupils to classes. This same procedure was employed in grades four through seven. The reading period was scheduled for one hour and fifteen minutes daily. During this period pupils were grouped in individual and/or small groups within the classrooms for direct instruction provided by the teacher. One educational aide was assigned to the teacher during the reading period. This aide worked under the direction of the teacher in providing activities designed to reinforce the instruction provided by the teacher. The Career Opportunities Program (COP) aides were assigned to two classrooms to assist teachers of first graders who scored "D" or below on the Metropolitan Readiness Tests (MRT).

The basal approach to the teaching of reading was employed to teach the following skills according to the pupil's individual needs in reading:

A. Speaking and listening skills.

B. Visual discrimination.

C. Knowing the alphabet (visually).

D. Writing the alphabet.

E. Auditory discrimination.

F. Left to right orientation.

G. Sight vocabulary.

H. Word meaning skills.

I. Comprehension skills.

J. Thinking/writing skills.

K. Identification skills.

Materials and Equipment

The Houghton-Mifflin series was used as the basal reader along with the Scott-Foresman series of Open Highway as the co-basal. In addition, the following materials were used to supplement the activities of the basal program.

A. Scott-Foresman, The First Talking Alphabet, Part 1.

B. Scott-Foresman, The First Talking Alphabet, Part 2.

C. Peabody Kits.

D. Lyons-Carnaham, Phonics Learning Games.

E. Science Research Laboratories, SRA.

F. Roach Van Allen, Get Set Games.

Other activities believed to have influenced the reading achievement of the pupils included a tutorial program in reading. The tutors were sixth and seventh grade pupils reading at the third and fourth grade levels who worked under the direction of one classroom teacher in providing reading activities for pupils in grades one through three. This activity was not a part of the regular Title I Youth-Tutoring-Youth (YTY) Program. The tutors and tutees participated during the regular school day. In addition no stipends were provided to tutors: their compensation for services included out of class-time during the activities and praise from teachers.

All pupils were scheduled for library activities. Thirty minutes were allocated to each class weekly for book selecting, storytelling by the librarian, and viewing filmstrips and movies.

Parental Involvement

Parents assisted the teachers in implementing the school program. They served as monitors and tutors in the classrooms. Parents also served as liaisons between the school and such community agencies as the church and Economic Opportunity of Atlanta (EOA). These groups along with parents of the pupils sponsored puppet shows. The puppets included in the show were constructed by pupils under the direction of the parents.

VIII. EVALUATION

The Pupil Skill Assessment was used to evaluate pupil performance of basic reading skills. This instrument resulted from pupil needs as assessed by the Harris teachers. In this regard these teachers identified twenty-two reading skills with which they believed the pupils should become competent. From this listing three lists were devised according to their relevance to grades one through three along with established levels of performance: Satisfactory improvement was denoted as level 3; Improvement made - more needed, level 2; and little or no improvement, level 1.

The Metropolitan Readiness Tests (MRT) and the Metropolitan Achievement Tests (MAT) were used to evaluate pupil gain in reading. The MRT was administered as the pretest to all first grade pupils in October, 1970. In April, 1971, the MAT, Primary I Battery, form G, was administered to these pupils.

For pupils in grades two through seven, the MAT was administered as the pretest and posttest in October, 1970, and April, 1971, respectively.

The Student Attitude Toward School Inventory was administered to pupils in grades one through three as the pretest and posttest in October, 1970, and May, 1971. This inventory, developed by the Philadelphia School System's Research and Development Division, was utilized to assess changes in pupils' attitudes toward school. Here pictures of eighteen sets of three faces (smiling, passive, and sad) are used by the pupil to denote his responses to eighteen statements read to him by the teacher. The pupil is instructed to mark only one face in each set such that his attitude toward the statement read is reflected by one of the three faces. In scoring the results a value of 1 was given to the sad face; 2 to the passive; and 3 to the happy face. Thus the pupil's score may range from a low of 18 to a high of 54. It follows that the higher the score, the more positive the attitude.

IX. FINDINGS

A. Pupil Performance According to "Pupil Skill Assessment"

According to the criteria developed by the teachers, 35 per cent of the pupils would perform at level 3; 50 per cent at level 2; and 15 per cent at level 1. Accordingly, the teacher ratings of the performances of the pupils of the grades were compiled by grade levels and analyzed such that the per cent of pupils by grade and the level of performance of each skill could be determined (see Table 3). For the first grade, the per cent of pupils performing at level 3 ranged from 28.8 to 78.3 per cent. Relative to performance on the various skills, an overall average of 47.5 per cent of the pupils performed at level 3; 38.8 per cent performed at level 2; and 13.5 per cent performed at level 1.

TABLE 3

SUMMARY OF PERFORMANCE IN READING
GRADE 1
N = 97

	Level 1		Level 2		Level 3	
Name of Skill	Number	Per Cent	Number	Per Cent	Number	Per Cent
Speaking, Listening	16	16.4	45	46.3	36	37.1
Visual Discrimination	16	16.4	47	48.4	34	35.0
Recognize Alphabet	4	4.1	19	19.5	74	76.2
Name Alphabet	15	15.4	6	6.1	76	78.3
Form Alphabet	6	6.1	20	20.6	71	73.1
Left to Right Orientation	5	5.1	30	30.9	62	63.9
Dependent Blending	13	13.4	41	42.2	43	44.3
Independent Blending	22	22.6	47	48.4	28	28.8
Auditory Discrimination	13	13.4	51	52.5	33	34.0
Sight Vocabulary	15	15.4	50	51.5	32	32.9
Context Picture Clues	17	17.5	43	44.3	37	38.1
Write Sentences Independently	16	16.4	53	54.6	28	28.8
Total	158	13.5	452	38.8	[illegible]	47.5

The performance of 66 second graders is shown in Table 4. According to teacher ratings of pupil proficiency relative to twelve reading skills, 39.1 per cent of the overall average number of pupils performed at level 3; 33.9 per cent at level 2; and 26.9 per cent at level 1.

TABLE 4

SUMMARY OF PERFORMANCE IN READING
GRADE 2
N = 66

	Level 1		Level 2		Level 3	
Name of Skill	Number	Per Cent	Number	Per Cent	Number	Per Cent
Dependent Blending	5	7.5	31	46.9	30	45.4
Independent Blending	16	24.2	25	37.8	25	37.8
Auditory Discrimination	18	27.2	14	21.2	34	51.5
Sight Vocabulary	17	25.7	20	30.3	29	43.9
Context, Picture Clues	12	18.1	23	34.8	31	46.9
Write Sentences Independently	10	15.1	33	50.0	23	34.8
Common Word Ending	23	34.8	14	21.2	29	43.9
Unlock Two Syllable Words	29	43.9	11	16.6	26	39.3
Double Consonant Endings	21	31.8	25	37.8	20	30.3
Unlock Compound Words	27	40.9	11	16.6	28	42.4
Add Simple Prefixes	20	30.3	26	39.3	20	30.3
Add Simple Suffixes	15	22.7	36	54.5	15	22.7
Total	213	26.9	269	33.9	310	39.1

The performance of 79 third graders relative to the three levels is shown in Table 5 (see page 17). Teacher ratings of the performances of 79 pupils using activities demonstrating their knowledge of ten reading skills indicate that based on an overall average number of pupils performing at each level, 40.2 per cent performed at level 3; 34.1 per cent at level 2; and 25.5 per cent at level 1.

TABLE 5

SUMMARY OF PERFORMANCE IN READING
GRADE 3
N = 79

Name of Skill	Level 1 Number	Level 1 Per Cent	Level 2 Number	Level 2 Per Cent	Level 3 Number	Level 3 Per Cent
Common Word Endings	8	10.1	28	35.4	43	54.4
Unlock Two Syllable Words	23	29.1	26	32.9	30	37.9
Double Consonant Endings	27	34.1	21	26.5	31	39.2
Unlock Compound Words	12	15.1	26	32.9	41	51.8
Add Simple Prefixes	25	31.6	22	27.8	32	40.5
Add Simple Suffixes	10	12.6	35	44.3	34	43.0
Apostropes Endings	12	15.1	31	39.2	36	45.5
Identify Tense Endings	14	17.7	36	45.5	29	36.7
Form Words, Tense Endings	32	40.5	24	30.3	23	29.1
Begin Multi-Syllabication	39	49.3	21	26.5	19	24.0
Total	202	25.5	270	34.1	318	40.2

B. Metropolitan Readiness Tests (MRT)/Metropolitan Achievement Tests (MAT)

1. First Grade Pupils - The MRT Primary I Battery, Form G was administered to all first graders in October, 1970. The results were not in terms of grade equivalents but rather letter ratings which may be used as predictors of the pupil's possibility for success in the first grade. Table 6 (see page 18) shows the number of pupils as grouped in five categories. According to the criteria listed relative to the predicted success in the first grade, only 38 of the 80 first graders might be expected to succeed if given "average" first grade experiences. Forty-two, according to the ratings, would very likely have difficulty and would seemingly need compensatory activities.

TABLE 6

DISTRIBUTION OF LETTER RATING AND READINESS STATUS CORRESPONDING TO VARIOUS RANGES OF TOTAL SCORE ON THE METROPOLITAN READINESS TESTS
GRADE 1
N = 80

Number of Pupils	Score Range	Letter Rating	Readiness Status	Significance
3	Above 76	A	Superior	Apparently very well prepared for first grade work. Should be given opportunity for enrichment in line with abilities indicated.
8	64 - 76	B	High Normal	Good prospects for success in first grade work, provided indications such as health, emotional factors, etc. are consistent.
27	45 - 63	C	Average	Likely to succeed in first grade work. A careful study should be made of the specific strengths and weaknesses of pupils in this group and their instruction planned accordingly.
40	24 - 44	D	Low Normal	Likely to have difficulty in first grade work. Should be assigned to slow section and given more individualized help.
2	Below 24	E	Low	Chances of difficulty high under ordinary instructional conditions. Further readiness work, assignment to slow section, or individualized help essential.

In May, 1971, the MAT Primary I Battery, Form G was administered to the first grade pupils as the posttest. Since actual time between the pretest and posttest was approximately six months, pupils scoring "C" or above was expected to score first grade, six months on the MAT. In evaluating the progress of these pupils, the matched scores of 73 pupils, the total population taking both the pretest and post-tests, were used. This included 35 pupils scoring "C" or above, and 38 pupils scoring "D" or below. Table 7 compares the scores of the 73 pupils according to these two groups. According to pupils' scores on the MAT, 23 of the 35 pupils who scored "C" or above performed at level 1.6 or above, while 12 performed between level 1.0 to 1.5. Pupil performance on the MRT, among the 38 pupils who scored "D" or below, on the MAT included 7 who scored 1.6 or above and 31 who scored between 1.0 and 1.5 on the MAT.

TABLE 7

A COMPARISON OF THE GRADE EQUIVALENCE AS MEASURED BY THE METROPOLITAN ACHIEVEMENT TESTS OF PUPILS WHO SCORED "C" OR ABOVE ON THE METROPOLITAN READINESS TESTS WITH THOSE WHO SCORED "D" OR BELOW
GRADE 1

Group	Total Number	Grade Equivalence on the MAT	
		1.6+	1.0-1.5
Scored "C" or Above on the MRT	35	23	12
Scored "D" or Below on the MRT	38	7	31
Total	73	30	43

In an effort to determine whether the pupil's level of performance on the MRT influenced his score on the MAT, the matched pretest and posttest scores of the total group were used to compute the coefficient of correlation. The results showed a correlation of 0.40 significant at the .01 level, indicating a four degree of relationship. That is, as a total group, pupils who performed "C" or above on the MRT tended to score highest on the MAT.

However, the scores of the two groups (Table 7) were compared to determine if the rate of gain of the two groups differ significantly. The analysis of covariance was used in order to allow for differences in pupil performance on the MRT. As shown in Table 8, there was no significant difference in the rate of performance of pupils in the two groups.

TABLE 8

COMPARISON OF MEAN SCORES OF FIRST GRADE PUPILS WHO SCORED "C" OR ABOVE WITH PUPILS WHO SCORED "D" OR BELOW ON BOTH THE METROPOLITAN READINESS TESTS AND THE METROPOLITAN ACHIEVEMENT TESTS

	Between	Within	Total
Sum of Squares: X ("C" or Above)	8414.75	5150.62	13565.37
Sum of Squares: Y ("D" or Below)	1275.67	8019.70	9295.37
Sum of Products	3276.34	1289.29	4565.63
Degrees of Freedom	1.00	71.00	72.00
Adjusted Sum of Squares: Y	61.77	7696.97	7758.74
Degrees of Freedom for Adjusted Sum of Squares	1.00	70.00	71.00
Variance Estimates	61.77	109.96	

F=0.56173
Adjusted Mean of Y1: 30.857 (Grade Equivalent 1.4)
Adjusted Mean of Y2: 27.869 (Grade Equivalent 1.3)

2. Grade Two through Seven - The Metropolitan Achievement Tests (MAT) scores were used to assess the gains of pupils in grades two through seven. Since the period between pretest and posttest was approximately six months (6.3 months), the pupils who performed at this rate were regarded as having achieved 100 per cent of the expected gain.

Relative to the reading achievement of the second grade pupils, Table 9 shows the total reading gain in months of the pupils as measured on the MAT. Here the matched scores of 43 pupils from the pretest and posttest population were used according to the frequency analysis, approximately 15, less than one-half of these pupils achieved as expected.

TABLE 9

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS
GRADE 2
N = 43

Number	Per Cent	Gain (in Months)
1	1.92	(-0.39) - 0
19	36.54	0 - 3
8	15.38	3 - 5
5	9.62	5 - 7
6	11.52	7 - 9
2	3.85	9 - 11
2	3.85	11 - 19

The data in Table 10 (see page 22) shows the comparison of the MAT subtest scores of pupils who took only the pretests with the subtest scores of pupils who took both pretest and posttest, and the comparison of the MAT scores of pupils who took only the posttest with the subtest scores of pupils who took both the pretest and the posttest. Accordingly the mean scores of the pupils who took both the pretest and the posttest scored higher in total reading than the pupils who took the pretest only. This group also scored higher on the posttest than the pupils who took only the posttest. Of significance, seemingly, relative to the performance of the three groups on the five subtests is that the pupils performed highest in mathematics; and higher in word knowledge than in reading. Further, except for the pretest, the posttest group's performance on the posttest, the mean scores, indicate that of the five subtests pupils scored lower in total reading.

TABLE 10

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST
GRADE 2

Subtest	Pretest Only			Pretest/Posttest			t-Score	Posttest Only			Pretest/Posttest			t-Score
	N	Mean	S.D.	N	Mean	S.D.		N	Mean	S.D.	N	Mean	S.D.	
Word Knowledge	11	1.78	1.35	52	1.51	0.37	1.32	5	1.92	0.68	52	1.94	0.72	-0.06
Word Analysis	12	1.48	0.93	51	1.44	0.35	0.24	5	1.84	0.51	51	1.76	0.58	0.32
Reading	12	1.64	1.02	50	1.49	0.27	0.89	6	1.68	0.37	50	1.84	0.72	-0.54
Total Reading	13	1.33	0.61	51	1.37	0.34	-0.30	4	1.70	0.36	51	1.76	0.65	-0.19
Mathematics	11	1.73	1.17	52	1.52	0.31	1.14	5	1.82	0.40	52	1.86	0.61	-0.16

The pretest, posttest, and gain scores of pretest/posttest population was used to determine the relationship of attendance to achievement. The data revealed that a slight linear correlation existed between pupil attendance and the scores on the pupils word analysis subtest. This indicated that the pupils with high percentages of attendance tended to score highest. However, in mathematics the reverse was evidenced. Seemingly, pupils who attended less performed highest.

TABLE 11

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE
GRADE 2
N = 43

	Coefficients of Correlation			*t*-Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	0.138	0.166	0.43	0.99	1.19	1.02
Word Analysis vs. Attendance	0.282**	0 105	-0.108	2.06**	0.74	0.76
Reading vs. Attendance	0.201	0.190	0.137	1.42	1.34	0.96
Total Reading vs. Attendance	0.189	0.202	0.158	0.70	1.46	0.60
Mathematics vs. Attendance	0.100	-0.515**	-0.085	1.36	3.60*	1 13

*Significant at the .05 level.
**Significant at the .01 level.

Total reading gains of the third grade pupils are presented in Table 12. These data reflects gains according to the matched scores of 54 pupils from the pretest/posttest population. Of the 54 pupils in this group, approximately 29 made the expected gain.

TABLE 12

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS
GRADE 3
N = 54

Number	Per Cent	Gain (in Months)
2	3.7	(-5) - (-4)
4	7.4	(-3) - (-2)
3	5.6	(-1) - 0
8	14.8	1 - 2
8	14.8	3 - 4
13	24.1	5 - 6
8	14.8	7 - 8
1	1.9	9 - 10
3	5.6	11 - 12
1	1.9	17 - 18
1	1.9	19 - 20
2	3.7	30 - 31

A comparison was made between the scores of the pupils in the third grade who took the pretest and posttest and the scores of the pupils who took only the pretest (see Table 13). In addition, the posttest scores of the pretest/posttest group were compared with the posttest scores of pupils who took the posttest only. Relative to the performance in the pretests, pupils of the pretest/posttest population scored significantly higher than the pretest only group. The same trend prevailed relative to posttest performance. The pretest/posttest group scored higher than the posttest only group.

The pretest and posttest scores along with the gains of the pupils of the pretest/posttest population were used to determine if there was a relationship between achievement and attendance of the third grade pupils. The data (see Table 14, page 26) revealed that

TABLE 13

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST GRADE 3

Subtest	Pretest Only			Pretest/Posttest				Posttest Only			Pretest/Posttest			
	N	Mean	S.D.	N	Mean	S.D.	*t*-Score	N	Mean	S.D.	N	Mean	S.D.	*t*-Score
Word Knowledge	22	1.85	0.57	52	2.28	0.64	-2.77**	14	2.29	0.62	52	2.74	1.03	-1.56
Word Analysis	23	1.62	0.63	51	2.20	0.94	-2.71**	14	2.35	0.71	51	2.66	1.04	-1.03
Reading	22	1.65	0.53	52	2.04	0.61	-2.62**	14	2.62	1.28	52	2.81	1.12	-0.54
Spelling	29	0.86	1.05	43	2.39	1.00	-6.26**	16	2.58	0.95	43	3.21	1.03	-2.11
Math Computation	23	1.65	0.95	51	2.24	0.71	-2.96*	14	2.18	0.70	51	2.87	0.83	-2.85**
Math Concepts	22	1.59	0.92	54	2.05	0.61	-2.57*	12	2.11	0.66	54	2.74	0.93	-2.25*
Math Problems	23	1.66	0.92	53	2.35	0.82	-3.23**	12	2.46	0.56	53	2.83	0.98	-1.27
Total Math	22	2.27	1.31	54	2.09	0.62	0.83	12	2.24	0.55	54	2.71	0.82	-1.87
Total Reading	20	1.72	0.55	54	2.14	0.57	-2.86**	14	2.43	0.74	54	2.71	1.14	-0.88

*Significant at the .05 level.
**Significant at the .01 level.

to some extent, high scores in word knowledge and total reading were related to attendance. Also, according to these data, high scores on all subtests in the area of mathematics, except math problems were somewhat related to a high percentage of attendance.

TABLE 14

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE
GRADE 3
N = 54

	Coefficients of Correlation			*t*-Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	0.095	0.251	0.299*	0.67	1.84	2.22*
Word Analysis vs. Attendance	0.250	0.251	0.048	1.81	1.64	0.34
Reading vs. Attendance	0.107	0.226	0.210	0.76	1.64	1.52
Spelling vs. Attendance	0.173	0.221	0.096	1.12	1.45	0.62
Math Computations vs. Attendance	0.105	0.279	0.273*	0.74	2.03*	1.98
Math Concepts vs. Attendance	0.148	0.321*	0.311*	1.08	2.47*	2.36*
Math Problems vs. Attendance	0.005	-0.012	-0.025	0.04	-0.08	-1.75
Total Math vs. Attendance	0.203	0.337*	0.326*	1.50	2.58*	2.49*
Total Reading vs. Attendance	0.159	0.270	0.279*	1.16	2.03*	2.10*

*Significant at the .05 level.
**Significant at the .01 level.

Data in Table 15 represents a composite of grades two through seven based on data of the pretest/posttest population. It includes a comparison of the mean reading scores, the gain, the per cent of expected gain, the gain score *t*-test, per cent of attendance, and the coefficient of correlation between reading and attendance. According to these data the second grade, as a group, gained three months. This represented approximately 55 per cent of the expected gain. The third grade gained six months or 91 per cent of the expected gain; the fourth grade gained five months or 83 per cent; the fifth grade gained four months or 58 per cent; the sixth grade gained two months or 31 per cent; and the seventh grade gained four months or 60 per cent. The gains made by pupils in grades two through five were significant. The gain of two months for the sixth grade, as well as the four month gain for the seventh grade, was not significant. The determining factor here, especially with the seventh grade, was the wide variation in the scores of individual pupils.

TABLE 15

COMPARISON OF MEAN READING PRETEST/POSTTEST SCORES, GAIN, PER CENT OF EXPECTED GAIN, GAIN SCORE *t*-TEST, PER CENT OF ATTENDANCE AND COEFFICIENT OF CORRELATION BETWEEN READING AND ATTENDANCE

Grade	Number of Pupils	Mean Score		Gain in Months	Per Cent of Expected Gain	*t*-Test	Per Cent of Attendance	r
		Pretest	Posttest					
2	52	1.52	1.86	3	55	3.82**	90	0.16
3	54	2.14	2.71	6	91	4.38**	95	0.28*
4	70	2.82	3.35	5	83	3.87**	96	-0.05
5	45	3.49	3.86	4	58	2.45**	94	-0.45**
6	63	4.56	4.75	2	31	0.66	95	0.08
7	64	4.45	4.83	4	60	1.32	91	0.16

* Significant at the .05 level.

** Significant at the .01 level.

C. Student Attitude Toward School Inventory

The Student Attitude Toward School Inventory was administered as a pretest to pupils in grades one through three in October, 1970. The same form as posttest was administered in May, 1971. A representative sample for each grade level was used in assessing changes in attitude toward school. As presented in Table 16, significant changes in attitudes did occur for all three grades.

TABLE 16

COMPARISON OF PRETEST AND POSTTEST RESULTS ON THE STUDENT ATTITUDE TOWARD SCHOOL INVENTORY GRADES 1 - 3

Grade	Number	Mean Score		t-Test
		Pretest	Posttest	
1	30	24	29	6.175**
2	30	29	36	6.375**
3	30	30	37	5.262**

** Significant at the .01 level.

X. COST EFFECTIVENESS

Appropriate cost for gains in reading for grades two through seven is presented in Table 17 (see page 31). These data include the average daily attendance for grades kindergarten through seven, by grade, and for the pretest/posttest population. No effort was made to establish cost for the gains made by the first grade pupils. Since the pupil performance on the MRT could not be equated in terms of grade equivalents a point of reference was difficult to establish. Also, of significance was the fact that over one-half of the pupils scored "D" or below a level at which, according to test information, the pupils were likely to have difficulty with first grade activity. An assumption which may be appropriate here is that these pupils needed extensive prereading experiences. Seemingly, answers to such questions as how much and for what period of time were the prereading

experiences necessary for pupils to progress to first grade level were needed, also at what time during the school year did the pupils demonstrate readiness for first grade instruction.

Expenditures included in the cost analysis are general and special funds. These data were compiled from the June 30, 1971, General Funds Financial Report and the June 30, 1971, Trust and Agency Report. From these two sources data relative to salary and non-salary only were utilized. Cost relative to food services, equipment, and capital outlay was not included. Also it should be noted that the per pupil expenditures was in some instances based estimations made by the school staff. This included non-salary costs, such as expenditures for materials, supplies, replacement and/or repair of equipment. Further, schedules of the aides, lead teachers, and other supportive individuals were used to prorate expenditures across grade levels. In addition, these data represent cost for only those pupils taking both the pretests and the posttests. As shown in Table 17 (see pages 31 and 32), the average daily attendance (ADA) for the pretest and posttest population of second graders constituted 7.7 per cent of the total ADA; 8.2 per cent for the third grade; 10.4 per cent for the fourth grade; 7.2 per cent for the fifth grade; 10.1 per cent for the sixth grade; and 9.6 per cent for the seventh grade. These percentages were used for prorating expenditures from general funds to appropriate grade levels.

Comprehensive Instructional Program (CIP) funds were used for purchasing materials and for the cost involved in providing training for the principal and lead teacher during the summer, 1970. The materials along with the services of the lead teacher and principal were provided to all grade levels.

Title I funds were used to purchase instructional materials and for the salaries of the lead teacher and aides. The two Career Opportunities Program (COP) aides worked with first grade pupils and therefore, are not included. All other aides were assigned to work equally with all grades during the reading periods.

Based on these data the total expenditures (salary and non-salary) are given for each grade. In addition, the rate of reading gain and cost for that gain is given for each grade. Further, based on the gain made, an attempt was made to project the cost needed to make a gain of ten months or one unit of gain.

Based on an expected gain of six months (100 per cent of the expected gain), the per pupil expenditure for the second grade was $733 for 55 per cent of the expected gain; $732 per pupil for 91 per cent of the expected gain in the third grade; $722 for 83 per cent of the expected gain in the fourth grade; $733 for 58 per cent in the fifth grade; $721 per pupil for 31 per cent of expected gain in the sixth grade; and $725 per pupil for the seventh graders to make 60 per cent of the expected gain. The overall average gain for grades two through seven was 69 per cent of the expected gain at an average per pupil cost of $727. Based on these data the projected per pupil cost for one unit of gain or ten months would be $1,332 for the second grade; $804 for the third grade; $869 for the fourth grade; $1,264 for the fifth grade; $2,326 for the sixth grade; and $1,208 for the seventh grade. The projected overall average per pupil cost would be $1,053.

TABLE 17

COST ANALYSIS OF READING GAINS BY GRADES TOTAL
SCHOOL AVERAGE DAILY ATTENDANCE (ADA)
GRADES K - 7
N = 419

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	Total
ADA for Grade	62	77	87	58	84	79	447
ADA Pretest/Posttest Population	46	49	62	43	60	57	317
Per Cent of Total Population	7.7	8.2	10.4	7.2	10.1	9.6	53.2
Expenditures - Pretest/Posttest Population							
A. General Funds							
1. Regular							
a. Salary	$27,978	$29,907	$37,818	$26,049	$36,469	$34,730	$192,951
b. Non-Salary	3,419	3,655	4,621	3,182	4,455	4,243	23,575
c. Total	$31,397	$33,562	$42,439	$29,231	$40,924	$38,973	$216,526
2. CIP							
a. Salary	$ 59	$ 63	$ 80	$ 55	$ 76	$ 74	$ 407
b. Non-Salary	74	79	101	70	98	93	515
c. Total	$ 133	$ 142	$ 181	$ 125	$ 174	$ 167	$ 922
3. Total General Funds							
a. Salary	$28,037	$29,970	$37,898	$26,104	$36,545	$34,804	$193,358
b. Non-Salary	3,493	3,734	4,722	3,252	4,553	4,336	24,090
c. TOTAL GENERAL FUNDS	$31,530	$33,704	$42,620	$29,356	$41,098	$39,140	$217,448
B. Special Funds							
Title I							
a. Salary							
(1) Lead Teacher	$ 1,058	$ 1,058	$ 1,058	$ 1,058	$ 1,058	$ 1,058	$ 6,348
(2) Aide	1,113	1,113	1,113	1,113	1,113	1,113	6,678
(3) Total Salary	$ 2,171	$ 2,171	$ 2,171	$ 2,171	$ 2,171	$ 2,171	$ 13,026
b. Non-Salary	16	16	16	16	16	16	96
c. TOTAL TITLE I	$ 2,187	$ 2,187	$ 2,187	$ 2,187	$ 2,187	$ 2,187	$ 13,122

TABLE 17 (Cont'd)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	Total
Total Expenditures - Pretest/Posttest Population							
A. Salaries	$30,208	$32,141	$40,069	$28,275	$38,716	$36,975	$206,384
B. Non-Salaries	3,509	3,750	4,738	3,268	4,569	4,352	24,186
C. TOTAL EXPENDITURES - PRETEST/ POSTTEST POPULATION	$33,717	$35,891	$44,807	$31,543	$43,285	$41,327	$230,570
Cost Per Pretest/Posttest Pupil							Overall Average
A. General Funds							
1. Salary	$ 610	$ 612	$ 611	$ 607	$ 609	$ 611	$ 610
2. Non-Salary	76	76	76	76	76	76	76
3. TOTAL GENERAL FUNDS	$ 686	$ 688	$ 687	$ 683	$ 685	$ 687	$ 686
B. Special Funds							
1. Salary	$ 47	$ 44	$ 35	$ 50	$ 36	$ 38	$ 41
2. Non-Salary	0	0	0	0	0	0	0
3. TOTAL SPECIAL FUNDS	$ 47	$ 44	$ 35	$ 50	$ 36	$ 38	$ 41
C. Total Expenditures - Pretest/ Posttest Pupil							
1. Salary	$ 657	$ 656	$ 646	$ 657	$ 645	$ 649	$ 651
2. Non-Salary	76	76	76	76	76	76	76
3. TOTAL EXPENDITURES - PRETEST/ POSTTEST PUPIL	$ 733	$ 732	$ 722	$ 733	$ 721	$ 725	$ 727
Rate of Reading Gain (Per Cent)	55	91	83	58	31	60	69
Ending Reading Level (Grade)	1.86	2.71	3.35	3.86	4.75	4.83	
Projected Cost for One-Grade-Unit Gain							
A. General Funds	$ 1,247	$ 756	$ 827	$ 1,178	$ 2,210	$ 1,145	$ 994
B. Special Funds	85	48	42	86	116	63	59
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 1,332	$ 804	$ 869	$ 1,264	$ 2,326	$ 1,208	$ 1,053

XI. COMMUNICATION AND DISSEMINATION

Conferences were held with the lead teacher and principal during the school year. Plans for evaluating the school program were developed and reviewed by the school staff. The lead teacher served as a liaison between the school and the research assistant and provided continuous feedback. This included a meeting following the close of school wherein the year's activities were discussed in terms of their strengths and weaknesses. In addition, recommendations were made based on the year's experiences.

Copies of this report will be submitted to the staff of the school and to the staff of the area office for review. Copies will then be disseminated to schools throughout the system. In addition, copies will be available to other interested organizations and school systems upon request.

XII. CONCLUSIONS AND RECOMMENDATIONS

The evaluation of the instructional program at J. C. Harris Elementary School was directed mainly toward assessing the reading achievement of the pupils. According to the findings over one-half of the first graders scored "D" on the Metropolitan Readiness Tests (MRT), which indicated that they would likely have difficulty in first grade work. Performance of pupils who scored "C" or above was superior to the performance of the lower group. There was no significant difference in the rate of gain of the two groups. However, the concentrated effort of two Career Opportunities Program (COP) aides may have contributed to the gain made by the lower group. The adjusted mean for both groups was 1.3.

According to the Pupil Skill Assessment Checklist, developed by the teachers, the pupils performed as expected. The performance here may have been due to effort on the part of teachers who provided activities based on pupil weaknesses as indicated by these checklists. This would suggest the need for teachers to take a closer look at the Metropolitan Readiness Tests (MRT) and the Metropolitan Achievement Tests (MAT) results for areas wherein pupils show greater need. Seemingly pupils are seriously lacking in the area of comprehension skills as evidenced by a low score in "total reading."

Based on the mean MAT pretest and posttest "total reading" scores for grade levels two through seven the pupils did not gain the expected one month in reading for each month of attendance since the time period between pretest and posttest was approximately six months (6.3 months). However, the gains in grades two through five were significant.

Pupils of the sixth and seventh grades made no significant gains.

Relative to attendance and achievement, according to the data, no positive relations existed between achievement and attendance for some subtests. However, the data indicated a possible negative relationship for the fifth grade pupils.

According to data from the Student Attitude Toward School Inventory the pupils in grades one through three showed positive gains in attitudes toward school.

The school climate, according to the Organizational Climate Index (OCI), is relatively open. However, no effort has been made to determine if there was a relationship between pupil achievement and the degree to which the teachers preceive the climate of the school to be opened or closed.

The following statements pertain to the program objectives for COP:

A. The two COP aides worked with the lower group of first grade pupils. Seemingly, the effort here produced significant gains in that the rate of gain here was comparable to that of a higher group.

B. The COP aides worked with all pupils in the low group. Therefore, there were no similar first grade pupils not taught by the COP aides at Harris School that could be used as a comparison group.

C. Relative to achieving an open climate it would seem appropriate to utilize the present data from the OCI as baseline data for a longitudinal study.

D. According to the Student Attitude Toward School Inventory, the first grade pupils showed a more positive attitudes toward school. Changes in self-concept of pupils were not measured. However, the longitudinal study will include data relative to this objective.

Data relative to parent involvement were not available. Therefore, the impact which the parent may have had on the achievement of pupils, if any, was not determined. However, it would seem feasible to include some evaluative measures of this activity on future reports.

The sensitivity session, a two day workshop held at the Holiday Inn, was not evaluated in terms of its impact on the attitudes of teachers. According to the opinion of the principal, the session promoted, seemingly, a more positive relationship between black and white teachers as well as improved the attitudes of white teachers toward black pupils. His belief is based on the observable degree of interaction between the teachers and pupils.

Per pupil expenditures by grades were similar. The range here was from $725 to $732 per pupil with an average per pupil expenditure of $727. However, gains of the pupils ranged from 31 per cent of the expected gains for the sixth grade to 91 per cent of the expected gains for the third grade. The overall average relative to reading gain was 69 per cent of the expected gain. These findings would seem to indicate a need to determine what factors contributed to the low rate of gain realized on some of the grade levels.

The performances of the first grade pupils on the MRT and MAT certainly should receive careful consideration. The mean score, according to the MAT, was 1.3. This low score was apparently due to the poor readiness of many of these pupils. Further, in viewing the level of pupils of all grades, one apparent conclusion is that as the pupil progresses from the early grades, he becomes farther behind in school. As may be noted, the seventh graders were approximately three grades below grade placement. This would seem to suggest a need for a system-wide evaluation to determine possible preventive measures. One possible suggestion would, perhaps, be a nongraded early elementary program for the first three grades with a strong emphasis on readiness and developmental reading.

The following statements represent some specific recommendations and conclusions made by teachers of the program:

A. Effort should be made to develop a system which will provide faster feedback to teachers. This is especially needed for test data.

B. The school evaluation should be concerned with more than reading.

C. New procedures are needed which will eliminate the extensive clerical work involved in recording information. This seemingly utilizes too much valuable teaching time.

In summary, the staff at J. C. Harris Elementary School should analyze throughly the wide variations, by grade levels, in pupil progress. In general, all grades have similar pupils with similar problems. The question becomes, then, why do pupils in some grades gain significantly more than do pupils in other grades?

RESEARCH AND DEVELOPMENT REPORT

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JOHN B. GORDON ELEMENTARY SCHOOL
1970--71

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PREFACE

An analysis has been made of certain performances of pupils at John B. Gordon Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
Assistant Superintendent
for Research and Development

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LIST OF TABLES (COND'T)

I. RATIONALE

Gordon Elementary School is located in a once middle-income community which has changed to a low-income community. The community itself is situated in a once active business community which has been in a decaying process for the last several years. For the past few years there has been constant migration in or out of the community.

The mobility index for the last three years from 1968-69 to 1970-71 went from 0.58 to 0.41 to 0.52. In those same three years enrollment dropped from 680 to 651 to 571. At the same time the racial composition of the pupils changed from 14 per cent black and 86 per cent white in 1968-69, to 32 per cent black and 68 per cent white in 1969-70, to 55 per cent black and 45 per cent white in 1970-71.

The upheavel caused by the teacher transfer in March 1970 combined with the unstable factors stated above, resulted in confusion, disorientation and suspicion. The principal as well as 60 per cent of the teachers were new in the fall of 1970. Black/white racial tension was described by the principal and faculty as being high.

It was noted by the faculty that many of the pupils at Gordon were performing below their assigned grade levels. Not only were academic problems of major import, but parental pressure took racial overtones when the children returned home after a day at school and related their activities for the day to their parents. Thus, academic improvement as well as social adjustment became the major problems to be attacked.

Supporting Services

There were no lead teachers or area personnel specifically assigned to assist in the problems at Gordon. Nor were there paraprofessional personnel supplied.

Thus, the supporting services rendered Gordon School included:

A. Comprehensive Instructional Program (CIP)

The purposes of this program were to insure growth in reading for each pupil by providing the services of a reading coordinator. Also, diagnostic testing was an integral part

to assess the difficulties of the pupils and refine and identify problem areas of the individual pupil.

Gordon did not have the services of a reading coordinator. However, CIP did contribute testing service.

B. Educational Leadership Interns (ELI)

The purposes of this program were to help develop competencies in leadership personnel and in school faculty members for solving school desegregation problems; and to formulate, verify, implement, evaluate, and disseminate workable solutions to school desegregation problems which would be useful to other schools. Originally, this program was to have a half-time librarian and twenty-five interns who had previous successful experiences in integrated school situations who would work as a team of five in each of the five school areas. However, this program was incorporated into the Emergency School Assistance Program (ESAP) and one team served the whole Atlanta Public schools' community.

Under the ELI program a weekend workshop was held which was attended by the principal, and two faculty members. Parents had been invited but did not attend. This workshop was a mini-training program in interpersonal contact and problem identification processes.

C. Emergency School Assistance Program (ESAP)

This program which was multifaceted had as its fulcrum problems to be solved which grew out of the desegregation processes. Funds were provided for special community programs to promote understanding among students, school staffs; parents and community groups including school-home visitation programs; special pupil personnel services which included remedial services and personal adjustment, counseling and the usage of special consultants; special curriculum revision programs to provide instructional material and techniques to serve children from different ethnic and cultural backgrounds; teacher preparation

programs and in-service training programs for teachers to assist children whose language skills are inadequate, also to mobilize consultant expertise in seminars and institutes for solving problems incident to desegregation, special student-to-student programs for developing channels of communication of interpersonal relations; and special comprehensive planning and logistical support.

Gordon took advantage of the materials they could acquire under this program (although delivery of the materials was not made in most cases until the fall of 1971). Also, consultative services for the faculty was planned for the fall of 1971.

D. Martha Brown Methodist Church

The Martha Brown Methodist Church sponsored a tutorial program in reading for low achievers in the seventh grade. The volunteer tutors, mostly college students, spent two hours every Saturday with those pupils who elected to participate voluntarily after an invitation was extended. Approximately ten students participated in the program which utilized every third Saturday for a field trip. Sometimes the field trip was to a special attraction in Metropolitan Atlanta. Sometimes it was to a park. One time the college tutors took them to their dormitories to show the pupils where they lived and studied. The essence of the field trips was to give the pupils more exposure to the world in which they lived, Metropolitan Atlanta, and to give them the opportunity for personal growth by experiencing new situations and environments. No records were maintained on the students.

II. NEEDS OF PUPILS

The needs of the pupils were kept simple, but defined in two basic areas during this transitional year.

A. Social adjustment to achieve harmony between races which would negate the tension created by the racial transition of the

neighborhood, as well as the upheaval created through the teacher transfer.

B. Increased academic achievement whereby pupils could develop their individual skills and enhance their self image.

III. GOALS OF THE PROGRAM

These goals were selected as the major goals to meet the needs described above.

A. To provide an atmosphere wherein pupils were free to be self-expressive.

B. To provide an atmosphere which would be conducive to creative thinking.

C. To identify the individual weaknesses of the pupils.

D. To provide learning experiences which were geared to the needs of the pupils.

E. To provide opportunities for the community to be supportive of pupils in group interaction, socialization, and understanding of others.

IV. OBJECTIVES

The following objectives were set forth as guides in carrying out the activities of the program:

A. A more stabilized environment which would be free of racial incidents and disruptions would be created.

B. There would be increased interaction between the races.

C. A biracial nucleus of parents who would provide the school with biracial support and leadership would be developed.

D. Pupils would be performing academically in a positive direction.

V. MANAGEMENT AND CONTROL

The faculty was composed of 60 per cent who were new to Gordon Elementary School. The principal also was new to the school. Thus, because of unfamiliarity with the community the principal led the way for school personnel to become acquainted with the school and community population and environment.

Brainstorming sessions to discuss and identify problems, contributing causes to problems, and possible solutions to problems were lead by the principal. Also, the principal encouraged faculty members to break down in smaller groups and to work on their own in thoroughly probing problem areas.

Plans were laid to first of all create an environment conductive to academic progress. This included both the improvement of the school's social environment and the establishment of a reading room containing books arranged by subject matter and grade level. These materials along with some Science Research Associates (SRA) materials for remedial use was made available to the teachers at all times.

Advance plans were also made for a year away. These included initiating the ungraded primary curriculum in the lower grade levels, namely the first, second, and third grades. Also, a group development course to develop and increase the perspective of the school staff members regarding integration was planned for the beginning of the next school year. This course which would draw upon the actual experiences of the faculty would deal with effective interpersonal relationships in helping to solve and eliminate some of the problems was planned to be an in-service training course through Atlanta Association Teacher Education Service (AATES).

For the school year of 1970-71, the principal along with the faculty planned several activities which would provide for socializing and informal mixing between pupils, parents and faculty. Also, attempts were made to establish contact with members of community who might not be within the school community.

VI. PROCESS

To individualize instruction and to identify the weaknesses of the pupils, the Stanford Diagnostic Arithmetic Tests were administered to all pupils by the faculty of Gordon Elementary School. Also, through the Comprehensive Instructional Program (CIP), diagnostic reading tests were administered to the pupils. These tests were utilized by the teachers as guides to help the individual pupils strengthen the area in which they were weak.

Grades 1, 2 and 3 were in self-contained classrooms. Pupils in these classes were grouped by ability for instructional purposes.

Fourth grade pupils were divided into three ability levels for reading instruction. Within each ability level there were three additional sub-levels.

Fifth, sixth, and seventh grades were departmentalized. Each class was grouped by reading level ability. However, there was no crossing of grade levels.

Much material and equipment to enhance instruction and to stimulate pupils was ordered. However, the materials were not received in time to be utilized in the 1970-71 school year.

To enhance communication between Gordon School and the business community and to interweave supportive efforts for each other the principal was active in trying to establish a connective link between the school and the community. He met with business leaders and community people upon several occasions to explore a variety of avenues whereby there could be interaction.

With a faculty who were 60 per cent new to Gordon in 1970-71, the principal exercised leadership and encouragement to the faculty members to become knowledgeable about their school and community environment. Understanding of the community composition was encouraged. Teachers met in groups of three to five persons to discuss, identify, and seek solutions to the needs of the pupils. Sometimes, this called for home visitations or counseling sessions with the principal. Faculty meetings were oftentimes brain storming sessions to seek solutions to problems.

P.T.A. activities were encouraged and were given the support of the principal. There were efforts made to seek participation from the incoming black community in these activities. Encouragement was given by the principal for black parents to exercise leadership in the organization.

VII. EVALUATION

Comparable forms of the Metropolitan Achievement Tests (MAT) for the appropriate grade levels were used as evaluative instruments in the pretest and posttesting held in October, 1970 and again in April 1971. Since it is planned that the progress of academic achievement will be of a longitudinal study, comprehensive tables are presented in the appendix. Thus, progress in forthcoming years can be compared with this year in a variety of areas other than the area of reading upon which this evaluation will concentrate.

On some pupils only a pretest was administered in October 1970. This group is identified in the tables as the "Pretest Only" group. Posttests were not administered to this group because they were absent the days the posttesting was held, or they were not enrolled at Gordon at the time of the posttesting.

Other pupils may have been absent during the days pretesting was held, or may have not been enrolled at Gordon at the time of the pretesting. These pupils comprise the "Posttest Only" group.

Those pupils who were present and took both the pretest and the posttest are designated as the "Pretest/Posttest" group. The frequency distributions showing the precentage of pupils' gain (in months) is an analysis on this presentation.

Since test scores for the first grade were not available at the time of the preparation of this document, this evaluation has been made starting with the second grade. In the "Finding" section which follows, emphasis will be placed on analysis of total reading scores.

VIII. FINDINGS

In the second grade, in the Pretest/Posttest group at least 85.9 per cent of the group made a reading gain. Of the group making a reading gain, a subgroup representing 38.2 per cent made a gain or 5 - 6 months or better which represents an achievement of one month or better for each month in school within the testing time periods (Appendix, Table 1, page 16). The average reading grade level for this group at the time of the posttesting was 2.3 (grade level two, three months) (Appendix Table 2, page 17). The range of reading abilities for the Pretest/Posttest group was from 1.2 (grade level one, two months) to 4.6 (grade level four, six months) (Appendix, Table 19, page 34).

The core group of Pretest/Posttest second grade pupils at the time of pretesting were reading at a mean level of 1.6, and at the time of posttesting were at a mean level of 2.0 (Appendix, Table 2, page 17). This represented a rate of gain of 70 per cent (Appendix, Table 20 page 35). This relationship is expressed as a ratio on an index of 100 which would be the acceptable level of performance, i.e. one month's gain in reading skill for each in school.

Attendance did not appear to have a significant relationship to achievement made in reading (Appendix, Table 3, page 18). The average daily attendance (ADA) for this core group was 57 per cent (Appendix, Table 20, page 35).

An analysis of the mobility of the pupils in the second grade reveals that the outgoing pupils (Pretest group) were just about on the same achievement level in reading as the core Pretest/Posttest group of sixth graders who remained at Gordon throughout the year (1.5 as compared with 1.8). Also, the same can be said about the incoming pupils (Posttest) in the sixth grade (2.1 as compared with 2.3), (Appendix, Table 2, page 17).

The Pretest/Posttest group in the third grade had a representative group of 83.3 per cent who made a gain in reading. Of this group making a reading gain, 48.9 per cent made a gain equivalent to one month or better for each month they were in school for the period of time between testings (Appendix, Table 4, page 19). The average reading level for this

Pretest/Posttest group in April 1971 was 2.9 (Appendix, Table 5, page 20). The reading grade levels at the time of posttesting ranged from 1.2 to 4.6 at the time of posttesting (Appendix, Table 19, page 34).

The ADA was 49 pupils for the core Pretest/Posttest group (Appendix, Table 20, page 35). However, there did not appear to be any significant relationship between attendance and achievement in reading (Appendix, Table 6, page 21). The rate of achievement was 56 per cent (Appendix, Table 20, page 35).

In examining the mobility of the pupils in the third grade, it is observed that the outgoing (Pretest) group was higher in reading achievement than the core group who remained at Gordon throughout the year. Also, the incoming group of pupils (Posttest) were lower in the mean reading level than the core group. (Appendix, Table 5, page 20). However, in neither case was the difference significant.

In the fourth grade at least 80.9 per cent of the Pretest/Posttest group made a reading gain. Within this group making a reading gain 76.5 per cent made a reading gain equivalent to one month or better for each month in school during the six months period between testings (Appendix, Table 7, page 22).

At the time of the posttesting the average grade level was 4.0 (Appendix, Table 8, page 23), for the core Pretest/Posttest group. Reading skills ranged from 2.2 to 7.4 (Appendix, Table 19, page 34).

In October the mean reading level was 3.1 for the core group of fourth graders at Gordon. Approximately six months later it was 4.0 (Appendix, Table 8, page 23). This represented a rate of gain in reading of 142 per cent. (Appendix, Table 20, page 35). Although the ADA was the lowest for the core groups in all grade levels (49 pupils) (Appendix, Table 20, page 35), it did not appear to have any significant relationship with achievement made in reading (Appendix, Table 9, page 24).

New pupils (Posttest group) who entered the fourth grade at Gordon during the year were at a slightly lower level of reading ability than the core group who remained there throughout the year. This was also true of those pupils (Pretest group) who left Gordon during the year. However, the differences in reading ability were not statistically significant (Appendix, Table 8, page 23).

The Pretest/Posttest group in the fifth grade had a representation group comprising 61.4 per cent who made a reading gain. Of this group making a gain in reading 85.7 per cent made a gain or 5 - 6 months or better which was equivalent to a gain of one month or better for each month in school (Appendix, Table 10, page 25). The range of grade levels in reading for the Pretest/Posttest group was 3.0 to 10.5 (Appendix, Table 19, page 34) at the time of posttesting; and the mean grade level was 4.6 (Appendix, Table 11, page 26).

In a little over six months, the core group of the fifth graders advanced from a mean reading level of 4.0 to 4.6 (Appendix, Table 11, page 26). This represents a gain in the rate of reading of 94 per cent (Appendix, Table 20, page 35).

ADA for the Pretest/Posttest group of fifth graders was 53 pupils (Appendix, Table 20, page 35). However, attendance did not appear to have any significant relationship on the gain made in reading (Appendix, Table 12, page 27).

An average reading level of 4.3 for the new pupils entering Gordon in the fifth grade did not differ significantly from the mean reading level of 4.6 for the group who remained at the school throughout the year. Likewise, the pupils (Pretest group) leaving Gordon did not differ significantly from the core group (3.7 as compared with 4.0). Both transient groups were at a lower reading level than the stationary group.

In the sixth grade 60.3 per cent of the Pretest/Posttest group made a reading gain. A subgroup of the group making a reading gain had a representative group of 74.3 per cent which made a reading gain equivalent to one month or better for each month in school (Appendix, Table 13, page 28). The reading grade levels for the Pretest/Posttest group ranged from 3.0 to 10.5 (Appendix, Table 19, page 34).

At the time of pretesting the core Pretest/Posttest group of sixth graders demonstrated a mean reading level of 4.9. A little over six months later they had achieved a level of 5.3, (Appendix, Table 14, page 29). This gain of four months in approximately six months time is represented by a 58 per cent rate of gain in reading. (Appendix, Table 20, page 35).

The ADA was 56 pupils (Appendix, Table 20, page 35). However, attendance did not appear to have a significant relationship with gains made in reading (Appendix, Table 15, page 30).

Pupils leaving the sixth grade were slightly higher in reading ability than the core group remaining at Gordon (5.0 as compared with 4.9). Also, sixth graders entering the school were somewhat lower in reading achievement than the core group (4.1 as compared with 5.3). In neither case were the differences found to be statistically significant (Appendix, Table 14, page 29).

In the Pretest/Posttest group in the seventh grade, a representation of 56.6 per cent made a gain in reading ability. In the reading gain group a subgroup of 80.0 per cent made a gain in reading equivalent to one month or better for each month in school (Appendix, Table 16, page 31). The reading grade level for the Pretest/Posttest group ranged from 3.0 to 10.5 (Appendix, Table 19, page 34), with a mean of 5.0 (Appendix, Table 17, page 32).

The core Pretest/Posttest group at Gordon started with a mean score in reading of 4.6 at the time of pretesting. A little over six months later they had achieved a mean grade level of 5.0, (Appendix, Table 17, page 32). This represented a rate of gain in reading of 69 per cent, (Appendix, Table 20, page 35).

The ADA was next to the lowest for all core groups in the school, (45 pupils) (Appendix, Table 20, page 35). Many of the reasons for this centered around pupils who were in trouble with law authorities. Several were suspended for varying lengths of time. There was a significant relationship between attendance and the gains made in reading. Those pupils who had better attendance achieved higher gains in reading ability, (Appendix, Table 18, page 33).

Seventh graders leaving Gordon were lower achievers in reading (4.0) than those pupils who remained at the school throughout the year. The core group had a reading level of 4.6. However, the seventh graders entering Gordon were higher in reading ability than the core group (5.5 as compared with 5.0). In neither case was the difference significant, (Appendix, Table 17, page 32).

In general, the rate of gain made in reading was 82 per cent overall, (Appendix, Table 20, page 35). The ups and downs demonstrated in academic achievement were also present in some of the other objectives pursued.

In the social environmental problems there were some success and some failures. A proposal to develop a school - community plan with the business community to "Save East Atlanta" died because of lack of follow through by the business community leaders. Also, a proposal made to the banking community to allow very small saving deposits to be made to acquaint students with the economics of savings and at the same time to give the bank and/or saving loan company more community exposure failed because of lack of acceptance by the organizations contacted.

Successes in establishing community support were made with a church in the community. This congregation which was still representative of the older East Atlanta community of years past, sponsored a tutorial program in reading for low achievers. They also invited the school's principal and faculty to the church for a fellowship day. An aide from the community held a special physical education program for three months. This was climaxed by a field day for parents and the community. There was a parade, relay races (both by individuals and classes) and demonstration of physical fitness skills.

School spirit began to become evident in the paper sale which was successful and the P.T.A. carnival which netted over $500. These activities met with some marginal successes in encouraging racial mixing since a few blacks did start attending the P.T.A. group.

The seventh grade awards were withheld until the end of the year and were enlarged to be an awards dinner for pupils and parents of both the sixth and seventh grades. The ratio of blacks and whites intermixing in a school environment was much higher than in previous activities and was subjectively judged by those attending to be an outstanding success.

By the end of the school year discipline had begun to show improvement. There were less disruptions in classes and a decrease in the number of pupils being sent to the principal for discipline purposes. The terminology "nigger' and "honky" was still sometimes heard, but not as often.

As stated previously, in the seventh grade low attendance was evident. This was attributed by the principal to a few students with problems with the police authorities. Also, there were several suspensions among seventh graders which increased the number of days absent.

IX. COST EFFECTIVENESS

An attempt to make a cost analysis as related to reading gains is shown in Table 20, page 35 in the Appendix. This data is broken down for grades 2 through 7 to show the total school (K - 7) average daily attendance (ADA), the ADA by grade, and the ADA for the Pretest/Posttest group for which gains were computed.

In order to make this cost estimate funds are separated into general funds and special funds. Expenditures for non-salary items do not include food services, new equipment or capital outlay. Figures utilized in this table have been taken from the General Funds Financial Report and Trust and Agency Report for June 30, 1971. These per pupil costs are broad estimates based upon information available from both the above reports and from information obtained from the school staff relative to the utilization of resources.

All of the costs have been related to the gains made in reading since it is theorized that reading is a basic academic necessity in all disciplines. Thus, the total expenditures which have been broken down into per pupil costs demonstrate the cost which has been expended to achieve the rate of reading gain in each grade.

A projected cost by grade level has also been calculated. This cost demonstrates what would be the required cost to achieve a one grade level unit of gain if the same rate of progress continued. Thus, this per pupil projected cost is based on the same average pupil upon whom the rate of gain was originally calculated, who would be utilizing the same materials, with the same teachers using the same teaching methodology in the same school environment.

In the second grade it cost $722 to achieve a rate of gain of 70 per cent. In order to have brought the average pupil in this grade into a 100 per cent level of performance it would have required $1,284.

For the fourth grade where the rate of gain was 142 per cent, using the basis of calculating as described above, it would have only cost $506 to have progressed only one-grade-unit of gain.

In the fifth grade it required $720 to achieve the 94 per cent rate of gain. To have accomplished a 100 per cent rate of gain would have required $766.

A 58 per cent rate of gain in the sixth grade cost $722. To have raised this level of performance to 100 per cent would have cost $1,244.

In the seventh grade a 69 per cent rate of gain was accomplished. There would be required $1,048 per pupil to have raised this to a 100 per cent grade unit of gain.

Overall, for the entire school which achieved a 82 per cent rate of gain at the average cost of $721 per pupil, it would have cost $879 per pupil to have achieved a 100 per cent performance level of one-grade-unit of gain. These figures are representative for only those pupils who were enrolled in the second through the seventh grades.

X. CONCLUSIONS

The overall situation at Gordon Elementary School had been one of a transition period. By the end of the year, change was becoming evident in some areas, such as in a somewhat better social environment.

Academically, the pupils on a whole appeared to be progressing in a positive direction in reading skills. In the second, third and sixth grades the gains made in reading were not as dramatic as the gains achieved in the fourth and fifth grades. Also, the seventh graders who were affected with personal problems did not perform as well as some of the other pupils in the other grades.

Mobility was relatively high. However, there was not a significant difference in reading ability between those who left or entered Gordon and those who remained in the school throughout the year.

XI. RECOMMENDATIONS

A good look will need to be taken the coming school year. Changes in the social environment should be noted. Any declines in academic performances should be carefully examined.

Careful attention should be given next year to beginning performance of pupils in all grade levels. These performances should be checked against the ending performance from this year to determine if the levels are commensurate.

A thorough analysis should be given to see if the extensive teacher in-service work planned for the 1971-72 school year influences pupils achievement. Also, a careful check needs to be made of what kinds of materials were to be made available in 1971-72.

Since plans have been made for an ungraded primary curriculum to be introduced in the lower primary grades in the school year 1971-72, comparison in the academic progress in those grades should be carefully studied.

TABLE 1

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SECOND GRADE)
N = 64

Number	Per Cent	Gain (in Months)
1	1.6	-11 - -10
8	12.5	-1 - 0
20	31.3	1 - 2
14	21.9	3 - 4
8	12.5	5 - 6
5	7.8	7 - 8
2	3.1	9 - 10
1	1.6	11 - 12
1	1.6	13 - 14
2	3.1	19 - 20
1	1.6	26
1	1.6	32

*There was a period of approximately six months between pretest and posttest.

TABLE 2

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SECOND GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	17	1.7	0.2	64	1.8	0.6	-0.67	14	2.0	0.6	64	2.2	0.8	-0.96
Word Analysis	17	1.5	0.3	64	1.6	0.6	-0.61	14	2.0	0.7	64	2.0	0.7	0.04
Reading	18	1.5	0.5	64	1.8	0.7	-1.70	13	2.1	0.6	64	2.3	1.0	-0.58
Total Reading	17	1.7	0.2	64	1.8	0.7	-0.89	14	2.0	0.5	64	2.3	0.9	-1.09
Mathematics	19	1.5	0.4	64	1.5	0.4	-0.08	14	1.7	0.4	62	2.0	0.8	-1.03

TABLE 3

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE
(SECOND GRADE)
N = 64

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.24*	.21	.03	1.92	1.67	0.24
Word Analysis vs. Attendance	.18	.12	-.03	1.43	0.99	-0.20
Reading vs. Attendance	.18	.11	-.03	1.48	0.86	-.25
Total Reading vs. Attendance	.18	.10	-.05	1.40	0.78	-.43
Mathematics vs. Attendance	.14	.26*	.25*	1.12	2.05*	2.03*

*Significant at the .05 level.

TABLE 4

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)
N = 54

Number	Per Cent	Gain (in Months)
1	1.85	-11 - -10
1	1.85	-9 - -8
1	1.85	-7 - -6
1	1.85	-5 - -4
1	1.85	-3 - -2
4	7.41	-1 - 0
12	22.22	1 - 2
11	20.37	3 - 4
7	12.96	5 - 6
8	14.81	7 - 8
4	7.41	9 - 10
1	1.85	13 - 14
1	1.85	15 - 16
1	1.85	25 - 26

*There was a period of approximately six months between pretest and posttest.

TABLE 5

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(THIRD GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S.D.	Ratio	No.	Mean	S.D.	No.	Mean	S.D.	Ratio
Word Knowledge	13	2.9	1.4	54	2.5	1.0	1.09	17	2.4	0.7	54	2.9	1.1	-1.69
Word Analysis	13	2.6	0.9	54	2.4	1.0	0.43	17	2.4	0.8	54	2.8	1.1	-1.57
Reading	13	2.6	1.1	54	2.4	1.0	0.80	17	2.5	1.0	54	2.9	1.1	-1.34
Spelling	18	2.0	1.4	49	2.8	1.0	-2.50*	17	2.7	1.0	49	3.5	1.1	-2.55*
Mathematics Computation	14	2.4	0.4	50	2.4	0.6	-0.09	20	2.7	0.5	50	3.1	0.9	-1.91
Math Concepts	15	2.4	1.0	53	2.4	0.9	0.13	16	2.9	0.7	53	3.2	1.2	-1.02
Math Problems	14	2.5	0.6	52	2.5	0.7	-0.25	18	2.5	0.5	52	3.0	1.2	-1.43
Total Math	14	2.4	0.5	53	2.3	0.6	0.64	17	2.6	0.5	53	3.0	0.9	-1.52
Total Reading	13	2.7	1.0	54	2.5	1.1	0.59	17	2.4	0.7	54	2.9	1.1	-1.65

*Significant at the .05 level.

TABLE 6

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE
(THIRD GRADE)
N = 54

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.13	.15	.05	0.95	1.08	0.39
Word Analysis vs. Attendance	.15	.09	-.09	1.10	0.62	-0.68
Reading vs. Attendance	.10	.12	.04	0.74	0.87	0.26
Spelling vs. Attendance	.09	.06	-.05	0.61	0.39	-0.36
Mathematic Computation vs. Attendance	.23	.06	-.13	1.61	0.39	-0.92
Math Concepts vs. Attendance	.19	.22	.12	1.40	1.59	0.83
Math Problems vs. Attendance	.23	.22	.09	1.64	1.61	0.67
Total Math vs. Attendance	.31	.22	-.01	2.36*	1.64	-0.07
Total Reading vs. Attendance	.12	.13	.01	0.87	0.98	0.10

*Significant at .05 level.

TABLE 7

FREQUENCY ANALYSIS OF READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(FOURTH GRADE)
N = 42

Number	Per Cent	Gain (in Months)
1	2.4	-11 - -10
2	4.8	-5 - -4
2	4.8	-3 - -2
3	7.2	-1 - 0
2	4.8	1 - 2
6	14.3	3 - 4
4	9.5	5 - 6
4	9.5	7 - 8
1	2.4	9 - 10
6	14.3	11 - 12
2	4.8	13 - 14
1	2.4	15 - 16
2	4.8	17 - 18
1	2.4	19 - 20
1	2.4	21 - 22
1	2.4	26
1	2.4	29
1	2.4	34
1	2.4	37

*There was a period of approximately six months between pretest and posttest.

TABLE 8

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(FOURTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	12	3.5	1.1	42	3.4	1.1	0.35	19	3.7	1.6	42	4.0	1.2	-0.89
Reading	12	2.9	0.9	42	3.1	1.0	-0.53	19	3.5	1.4	42	4.0	1.2	-1.40
Language Total	13	2.8	1.7	41	3.1	1.3	-0.73	19	3.4	1.5	41	4.0	1.3	-1.59
Arithmetic Computation	13	2.9	1.7	42	3.6	0.7	-2.45*	18	4.2	1.1	42	4.6	0.9	-1.56
Arithmetic Problem Solving and Concepts	13	3.3	1.6	41	3.5	0.9	-0.58	19	3.6	1.4	41	4.1	1.2	-1.40
Word Discrimination	12	3.4	0.8	41	3.5	1.2	-0.28	20	3.8	1.2	41	4.0	1.2	-0.64
Spelling	16	2.4	1.9	39	3.9	1.3	-3.50**	18	4.6	1.8	39	4.7	1.6	-0.42

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 9

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE
(FOURTH GRADE)
N = 41

	Coefficients of Correlation			F Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.22	.19	-.01	1.41	1.20	-0.06
Reading vs. Attendance	.09	.04	-.04	0.55	0.24	-0.23
Language Total vs. Attendance	.18	.09	-.10	1.16	0.57	-0.65
Arithmetic Computation vs. Attendance	.16	.35*	.36*	1.03	2.38*	2.44*
Arithmetic Problem Solving & Concepts vs. Attendance	.14	.27	.26	0.88	1.74	1.69
Word Discrimination vs. Attendance	.11	.18	.17	0.66	1.15	1.11
Spelling vs. Attendance	.31	.28	.07	1.99	1.79	0.42

*Significant at the .05 level.

TABLE 10

FREQUENCY ANALYSIS OF READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(FIFTH GRADE)
N = 57

Number	Per Cent	Gain (in Months)
2	3.51	-11 - -10
1	1.75	-9 - -8
4	7.02	-7 - -6
4	7.02	-5 - -4
4	7.02	-3 - -2
7	12.28	-1 - 0
4	7.02	1 - 2
1	1.75	3 - 4
3	5.26	5 - 6
5	8.77	7 - 8
3	5.26	9 - 10
8	14.04	11 - 12
2	3.51	13 - 14
1	1.75	15 - 16
2	3.51	17 - 18
2	3.51	19 - 20
1	1.75	23 - 24
1	1.75	25 - 26
1	1.75	29 - 30
1	1.75	39 - 40

*There was a period of approximately six months between pretest and posttest.

TABLE 11

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(FIFTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S.D.	Ratio	No.	Mean	S.D.	No.	Mean	S.D.	Ratio
Word Knowledge	16	3.8	1.4	57	4.2	1.5	-1.11	15	4.4	1.5	57	4.6	1.8	-0.35
Reading	16	3.7	1.4	57	4.0	1.3	-0.77	15	4.3	1.6	57	4.6	1.8	-0.60
Language	18	3.9	1.5	55	4.4	1.4	-1.37	15	4.8	1.5	55	5.2	1.4	-1.05
Language Study Skills	17	4.4	2.0	58	4.5	1.4	-0.19	13	4.8	1.6	58	4.9	1.8	-0.27
Arithmetic Computation	19	3.6	2.0	56	4.8	0.5	-4.12**	13	4.6	0.7	56	5.0	0.7	-1.72
Arithmetic Problem Solving and Concepts	19	3.4	2.0	56	4.5	0.9	-3.33**	13	4.1	0.9	56	4.7	1.1	-2.10
Social Studies Information	18	3.4	1.9	58	4.0	1.1	-1.65	12	4.2	1.2	58	4.3	1.3	-0.18
Social Studies Study Skills	21	2.6	1.8	55	3.7	1.1	-3.15**	12	4.8	1.6	55	4.5	1.4	0.61
Science	19	3.1	1.7	56	4.1	0.9	-3.29**	13	4.5	1.2	56	4.6	1.1	-0.14

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 12

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE
(FIFTH GRADE)
N - 57

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.29	.24	-.02	2.28*	1.81	-0.14
Reading vs. Attendance	.30*	.25	.06	2.33*	1.89	0.47
Language vs. Attendance	.21	.27*	.09	1.60	2.03*	0.67
Language Study Skills vs. Attendance	.13	.32*	.34**	0.95	2.55*	2.67**
Arithmetic Computation vs. Attendance	.14	.12	.01	1.07	0.86	0.10
Arithmetic Problem Solving & Concepts vs. Attendance	.21	.24	.07	1.65	1.81	0.52
Social Studies Information vs. Attendance	.27*	.28*	.08	2.09*	2.22*	0.60
Social Studies Study Skills vs. Attendance	.23	.18	-.01	1.74	1.33	-0.05
Science vs. Attendance	.28*	.27*	-.03	2.17*	2.05*	0.21

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 13

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SIXTH GRADE)
N = 58

Number	Per Cent	Gain (in Months)
6	10.34	-11 - -10
3	5.17	-9 - -8
2	3.45	-7 - -6
3	5.17	-5 - -4
3	5.17	-3 - -2
6	10.34	-1 - 0
3	5.17	1 - 2
6	10.34	3 - 4
2	3.45	5 - 6
6	10.34	7 - 8
3	5.17	9 - 10
3	5.17	11 - 12
4	6.90	13 - 14
4	6.90	15 - 16
1	1.72	19 - 20
1	1.72	23 - 24
1	1.72	35 - 36
1	1.72	47 - 48

*There was a period of approximately six months between pretest and posttest.

TABLE 14

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SIXTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S.D.	Ratio	No.	Mean	S.D.	No.	Mean	S.D.	Ratio
Word Knowledge	11	5.1	1.3	58	4.9	1.7	0.45	11	4.0	0.9	58	5.4	2.0	-2.37*
Reading	11	5.0	1.3	58	4.9	1.8	0.06	11	4.1	1.0	58	5.3	2.1	-1.88
Language	11	4.7	1.6	58	4.6	1.3	0.14	11	4.1	0.7	58	5.9	1.5	-3.69*
Language Study Skills	11	4.2	1.8	56	5.0	1.7	-1.36	13	4.4	1.3	56	5.5	2.0	-1.89
Arithmetic Computation	13	3.7	2.6	57	5.4	0.7	-4.52**	10	4.9	0.9	57	6.0	1.0	-3.32**
Arithmetic Problem Solving and Concepts	13	4.8	2.3	56	5.3	1.0	-1.21	11	4.6	0.9	56	5.6	1.2	-2.69*
Social Studies Information	13	4.3	2.3	56	4.8	1.7	-0.83	11	3.8	0.8	56	5.1	1.6	-2.59*
Social Studies Study Skills	13	4.1	2.4	55	5.0	1.8	-1.55	12	4.3	0.6	55	5.3	1.8	-1.87
Science	13	4.4	2.3	55	5.0	1.2	-1.48	12	4.3	1.0	55	5.4	1.6	-2.42*

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 15

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE
(SIXTH GRADE)
N = 58

	Coefficients of Correlation			F Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.19	.07	-.19	1.42	0.51	-1.49
Reading vs. Attendance	.15	----	-.20	1.11	----	-1.54
Language vs. Attendance	.14	.10	-.02	1.06	0.75	-0.18
Language Study Skills vs. Attendance	.08	.03	-.06	0.57	0.23	-0.42
Arithmetic Computation vs. Attendance	.11	.09	-.03	0.82	0.68	0.22
Arithmetic Problem Solving & Concepts vs. Attendance	.05	----	-.07	0.37	----	-0.54
Social Studies Information vs. Attendance	.09	.05	-.07	0.65	0.38	-0.48
Social Studies Study Skills vs. Attendance	.05	.09	.06	0.37	0.66	0.42
Science vs. Attendance	.04	.09	.10	0.31	0.64	0.73

TABLE 16

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SEVENTH GRADE)
N = 53

Number	Per Cent	Gain (in Months)
7	13.2	-11 - -10
2	3.8	-9 - -8
2	3.8	-7 - -6
4	7.5	-5 - -4
4	7.5	-3 - -2
4	7.5	-1 - 0
2	3.8	1 - 2
4	7.5	3 - 4
4	7.5	5 - 6
1	1.9	9 - 10
3	5.7	11 - 12
4	7.5	13 - 14
1	1.9	17 - 18
3	5.7	19 - 20
3	5.7	21 - 22
2	3.8	23 - 24
2	3.8	25 - 26
1	1.9	27 - 28

*There was a period of approximately six months between pretest and posttest.

TABLE 17

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SEVENTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S.D.	Ratio	No.	Mean	S.D.	No.	Mean	S.D.	Ratio
Word Knowledge	6	5.5	2.6	53	5.4	1.5	0.10	21	5.7	1.6	53	5.6	1.9	0.23
Reading	7	4.0	2.7	53	4.6	1.4	-0.95	20	5.5	2.0	53	5.0	1.6	1.02
Language	7	4.9	2.9	58	4.8	1.5	0.14	15	5.4	2.1	58	5.6	1.5	-0.50
Language Study Skills	6	4.9	2.6	58	5.6	1.8	-0.80	16	4.7	2.4	58	5.2	2.3	-0.82
Arithmetic Computation	7	4.9	2.9	56	6.0	0.9	-2.10	17	5.8	1.3	56	6.3	1.0	-1.46
Arithmetic Problem Solving and Concepts	7	6.3	1.8	55	5.7	1.3	1.14	18	6.0	1.5	55	6.3	1.3	-0.64
Social Studies Information	7	4.8	2.5	55	5.0	1.5	-0.23	18	5.5	1.8	55	5.4	1.6	0.41
Social Studies Study Skills	8	4.6	2.3	54	4.2	1.4	0.82	18	5.6	1.5	54	5.3	1.4	0.76
Science	8	5.0	1.9	54	5.2	1.1	-0.23	18	5.9	1.4	54	5.9	1.4	-0.02

TABLE 18

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE
(SEVENTH GRADE)

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	----	-.01	-.02	0.02	-0.06	-0.11
Reading vs. Attendance	-.10	.14	.28*	-0.68	0.99	2.07*
Language vs. Attendance	-.09	.03	.11	-0.66	0.21	0.86
Language Study Skills vs. Attendance	.04	.13	.12	0.31	0.98	0.90
Arithmetic Computation vs. Attendance	.13	-.14	-.29*	0.95	-1.04	-2.22*
Arithmetic Problem Solving & Concepts vs. Attendance	.12	-.12	-.30*	0.87	-0.88	-2.26
Social Studies Information vs. Attendance	-.06	.04	.11	-0.46	0.28	0.84
Social Studies Study Skills vs. Attendance	-.02	.04	.05	-0.12	0.27	0.38
Science vs. Attendance	.09	.01	-.07	0.66	0.07	-0.52

*Significant at the .05 level.

TABLE 19

POSTTEST

MEDIAN ANALYSIS

SECOND GRADE

	Reading Total		Math Total	
	Posttest Only	Pretest/Posttest	Posttest Only	Pretest/Posttest
	N = 14	N = 64	N = 14	N = 62
Range:	[1.0, 2.8]	[1.2, 4.6]	[1.2, 2.6]	[1.2, 4.6]
Median =	2.0	2.0	1.7	1.9

THIRD GRADE

	Reading Total		Math Computation		Math Concepts	
	Post Only	Pre/Post	Post Only	Pre/Post	Post Only	Pre/Post
	N = 17	N = 54	N = 20	N = 50	N = 16	N = 53
Range:	[1.2, 4.2]	[1.2, 4.6]	[1.6, 3.8]	[1.0, 4.6]	[1.8, 4.6]	[1.2, 4.6]
Median =	2.3	2.8	2.7	3.1	2.9	3.0

	Math Problems		Math Total	
	Post Only	Pre/Post	Post Only	Pre/Post
	N = 18	N = 52	N = 17	N = 53
Range:	[1.6, 3.6]	[1.0, 4.6]	[1.6, 3.6]	[1.2, 4.6]
Median =	2.7	2.7	2.7	2.8

GRADES 4 - 7

Grade	Reading		Arithmetic Computation		Arithmetic Problem Solving & Concepts	
	Post Only	Pre/Post	Post Only	Pre/Post	Post Only	Pre/Post
Fourth	N = 19	N = 42	N = 18	N = 42	N = 19	N = 41
Range:	[1.0, 7.4]	[2.2, 7.4]	[2.2, 6.2]	[2.2, 6.6]	[1.8, 7.4]	[1.8, 6.6]
Median =	3.2	3.7	4.2	4.5	3.1	4.2
Fifth	N = 15	N = 57	N = 13	N = 56	N = 13	N = 56
Range:	[3.0, 8.5]	[3.0, 10.5]	[3.0, 6.0]	[3.5, 7.5]	[3.0, 6.5]	[3.0, 8.0]
Median =	3.5	4.4	4.7	5.1	3.8	4.7
Sixth	N = 11	N = 58	N = 10	N = 57	N = 11	N = 56
Range:	[3.0, 6.5]	[3.0, 10.5]	[3.0, 6.5]	[4.0, 9.5]	[3.0, 6.5]	[3.0, 9.5]
Median =	4.2	4.8	4.8	5.9	4.4	5.4
Seventh	N = 20	N = 53	N = 17	N = 56	N = 18	N = 55
Range:	[3.0, 10.0]	[3.0, 10.5]	[4.0, 9.0]	[4.0, 8.5]	[3.0, 10.0]	[3.5, 10.5]
Median =	4.9	4.7	6.1	6.4	6.0	6.2

GORDON ELEMENTARY SCHOOL
COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE (ADA)
K-7 -- N = 520

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
ADA for Grade	77	72	61	69	66	65	410
ADA for Pre/Post Population	57	49	38	53	56	45	298
Per Cent of Total Population	11.0	9.4	7.3	10.2	10.8	8.7	57.4
Expenditures - Pre/Post Population							
A. General Funds							
1. Regular							
a. Salary	$36,921	$31,551	$24,502	$34,236	$36,250	$29,201	$192,661
b. Non-salary	3,759	3,213	2,495	3,486	3,691	2,973	19,617
c. TOTAL REGULAR FUNDS	$40,680	$34,764	$26,997	$37,722	$39,941	$32,174	$212,278
2. CIP							
a. Salary	$ 128	$ 109	$ 85	$ 118	$ 125	$ 101	$ 666
b. Non-salary	-0-	-0-	-0-	-0-	-0-	-0-	-0-
c. TOTAL CIP FUNDS	$ 128	$ 109	$ 85	$ 118	$ 125	$ 101	$ 666
3. Total General Funds							
a. Salary	$37,049	$31,660	$24,587	$34,354	$36,375	$29,302	$193,327
b. Non-salary	3,759	3,213	2,495	3,486	3,691	2,973	19,617
c. TOTAL GENERAL FUNDS	$40,808	$34,873	$27,082	$37,840	$40,066	$32,275	$212,944
B. Special Funds							
1. ESAP							
a. Salary	$ 78	$ 67	$ 52	$ 73	$ 77	$ 62	$ 409
b. Non-salary	229	196	152	213	225	181	1,196
c. TOTAL ESAP FUNDS	$ 307	$ 263	$ 204	$ 286	$ 302	$ 243	$ 1,605
2. ELI							
a. Salary	$ 10	$ 9	$ 7	$ 10	$ 10	$ 8	$ 54
b. Non-salary	14	12	9	13	14	11	73
c. TOTAL ELI FUNDS	$ 24	$ 21	$ 16	$ 23	$ 24	$ 19	$ 127
3. Total Special Funds							
a. Salary	$ 88	$ 76	$ 59	$ 83	$ 87	$ 70	$ 463
b. Non-salary	243	208	161	226	239	192	1,269
c. TOTAL SPECIAL FUNDS	$ 331	$ 284	$ 220	$ 309	$ 326	$ 262	$ 1,732

TABLE 20 (cont'd.)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
Total Expenditures - Pre/Post Population							
A. Salary	$37,137	$31,736	$24,646	$34,437	$36,462	$29,372	$193,790
B. Non-salary	4,002	3,421	2,656	3,712	3,930	3,165	20,886
C. GRAND TOTAL	$41,139	$35,157	$27,302	$38,149	$40,392	$32,537	$214,676
Cost per Pre/Post Pupil							
A. General Funds							
1. Salary	$ 650	$ 647	$ 647	$ 648	$ 650	$ 651	$ 649
2. Non-salary	66	66	66	66	66	66	66
3. TOTAL GENERAL FUNDS	$ 716	$ 713	$ 713	$ 714	$ 716	$ 717	$ 715
B. Special Funds							
1. Salary	$ 2	$ 2	$ 2	$ 2	$ 2	$ 2	$ 2
2. Non-salary	4	4	4	4	4	4	4
3. TOTAL SPECIAL FUNDS	$ 6	$ 6	$ 6	$ 6	$ 6	$ 6	$ 6
Total Expenditures - Pre/Post Pupil (All Funds)							
A. Salary	$ 652	$ 649	$ 649	$ 650	$ 652	$ 653	$ 651
B. Non-salary	70	70	70	70	70	70	70
C. TOTAL EXPENDITURES - PRE/POST PUPIL	$ 722	$ 719	$ 719	$ 720	$ 722	$ 723	$ 721
Rate of Reading Gain (Per Cent)	70	56	142	94	58	69	82
Ending Reading Level (Grade)*	2.28	2.86	4.00	4.60	5.29	5.04	
Projected Cost for One-Grade-Unit of Gain							
A. General Funds	$ 1,022	$ 1,273	$ 502	$ 760	$ 1,234	$ 1,039	$ 872
B. Special Funds	9	11	4	6	10	9	7
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 1,031	$ 1,284	$ 506	$ 766	$ 1,244	$ 1,048	$ 879

*This level was achieved by the time of the posttesting on April 15, 1971.

R E S E A R C H A N D D E V E L O P M E N T R E P O R T

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L. O. KIMBERLY ELEMENTARY SCHOOL
1970--71

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PREFACE

An analysis has been made of certain performances of pupils at L. O. Kimberly Elementary School. Some of the results are reported in this publication and reflect the cooperation of the administration and faculty of the school and the staff members of the Research and Development Division.

This analysis is part of an effort to develop a method of showing accountability for the educational responsibilities of the school system to the children of Atlanta. The data contained in this developmental endeavor should not be used or quoted out of context. The report is primarily for the use of the individual school and other school personnel who have an influence on improving the effectiveness of the instructional program. It provides data which show trends and which can be used for the purpose of making further examinations for promoting pupil progress.

Jarvis Barnes
Assistant Superintendent
for Research and Development

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LIST OF TABLES (CONT'D)

I. RATIONALE

Kimberly Elementary School has been serving a middle and upper middle socioeconomic community which has been totally white in past years. Since the 1968-69 school year when there were two black and 779 white pupils (or a ratio of .2 per cent black and 99.8 per cent white), there has been a high mobility rate. In the 1969-70 school year the racial composition shifted to 12.4 per cent black and 87.4 per cent white. Again in the 1970-71 school year there was a shift in the racial ratio to 42.3 per cent black and 57.7 per cent white.

The overall enrollment at Kimberly was also changed from 781 in 1968-69, to 703 in 1969-70, to 581 in 1970-71. The mobility rate in the 1970-71 school year was .28, which indicated over one-fourth of the total active enrollment migrated in or out. Along with the decrease in enrollment there was also a decrease in the adult volunteers from the community because of an increase in working mothers. There were this past year just a few mothers and community volunteers who acted as monitors and tutors in the school.

Apparently the increase of working mothers also effected an increase in the number of pupils who were riding the school buses. Buses became crowded, and problems became numerous on the buses with fighting frequently occurring. Discipline in the school also was somewhat unruly as pupils carried with them into the classrooms those tensions which had been built up on the bus during their ride to school.

Academic performance also became a matter of concern. Faculty members noticed that many of the new pupils coming into the school were lower in achievement than other Kimberly pupils.

Supporting Services

The following supportive services were made available through the regular budget of the Atlanta Public School System and also through federal assistance and community services:

A. Comprehensive Instructional Program (CIP)

The purposes of this program were to insure growth in reading for each pupil by providing the services of a reading coordinator.

Also, diagnostic testing was an integral part to assess the difficulties of the pupil and to refine and identify problem areas of the individual pupil.

Kimberly did not have the services of a reading coordinator. However, CIP did contribute testing service.

B. Emergency School Assistance Program (ESAP)

This program which was multifaceted had as its fulcrum problems to be solved which grew out of the desegregation processes. Funds were provided for special community programs to promote understanding among pupils, school staffs, parents and community groups, including school-home visitation programs; special pupil personnel services which included remedial services and personal adjustment, counseling and the usage of special consultants; special curriculum revision programs, to provide instructional material and techniques to serve children from different ethnic and cultural backgrounds; teacher preparation programs and inservice training programs for teachers to assist children whose language skills were inadequate, and also to mobilize consultant expertise in seminars and institutes for solving problems incident to desegregation; special pupil-to-pupil programs for developing channels of communication of interpersonal relations; and special comprehensive planning and logistical support.

C. Educational Leadership Interns (ELI)

The purposes of this program were to help develop competencies in leadership personnel and in school faculty members for solving school desegregation problems; and to formulate, verify, implement, evaluate, and disseminate workable solutions to school desegregation problems which would be useful to other schools. Originally, this program was to have a half-time librarian and twenty-five interns who had previous successful experiences in integrated school situations who would work as a team of five in each of the five school areas. However, this program was incorporated into the Emergency School Assistance Program (ESAP) and one team served the whole Atlanta Public Schools community.

Under the ELI program a weedend workshop was held which was attended by the principal, and two faculty members and two parents. This workshop was a mini-training program in interpersonal contact and problem identification processes.

D. Other resources:

From the area office two reading resource teachers could be called upon when needed. There was no lead teacher specifically assigned to serve Kimberly.

Two teacher aides were used in the ungraded primary in place of one teacher. This ungraded primary situation consisted of the first, second, and third grades.

A few mothers and community volunteers were used as monitors and tutors. Since the number sharply declined as more mothers started working it was felt that the intermittant help received was not sufficient to have an effect upon the pupils' progresses.

Seventh grade pupils at Kimberly were used as tutors for the ungraded primary pupils. These tutors assisted in reading.

II. NEEDS OF PUPILS

The needs of the pupils were identified as:

A. To develop basic academic skills in reading.

B. To develop self-direction and skills in performing independent action.

C. To support the group interaction of pupils by having comparable group interaction among their parents.

D. To develop self-respect and respect for the rights of others.

E. To promote better conduct on the buses.

F. To promote better behavior among the pupils in the school.

III. GOALS OF THE PROGRAM

The following goals were selected on the basis of the previously identified needs. These goals are:

A. To provide instructional opportunities whereby the pupils are able to acquire mastery of academic skills.

B. To provide pupils and parents opportunities for social interaction.

C. To provide an environment for better self image of themselves and their peers.

D. To provide learning experiences geared to the capabilities of individual pupils.

IV. OBJECTIVES

The following objectives served as guides for the evaluation of the program:

A. At least 60 per cent of the pupils in the grade levels of first, second, and third grades would be performing on a grade level commensurate with their age development.

B. Better conduct would be the forerunner of averting fights on the buses.

C. Better behavior would be exemplified in the school.

D. Increased understanding of other cultures would be a spinoff of interaction between races.

V. MANAGEMENT AND CONTROL

Prior to and early in the school year, the principal was active in speaking to various civic clubs in the community to elicit support for the school. The principal also tried to encourage parents to feel free to seek conferences whenever they had a concern.

A little past mid-year, the principal, two teachers and t.. parents attended a weekend workshop sponsored by the Educational Leadership Interns Program to identify problem areas and to outline proposed courses of action. In such areas as in curriculum a need was identified to incorporate black studies. Also, the lack of a humanities program which would incorporate appreciation for the talents of black culture was noted. Recognizing that some

children were performing below grade level, the expansion of the ungraded primary program to grade levels above the third grade was proposed. The need to regulate the discipline problem areas was also identified as an issue.

Most of the teachers at Kimberly had little or no formal training in the ungraded system. This deficiency was another area pinpointed by the principal as a much needed area for improvement.

Plans were made to initiate procedures for solution of the identified problem areas. Because of time required, solutions to some problem areas were designed to be implemented in the following school year.

VI. PROCESS

Prior to the opening of school, four teachers spent six weeks together planning the program for the ungraded primary for grades 1, 2, and 3. No official supervision or consultation was used. Later, after mid-year, another four teachers attended a convention in Illinois and observed the ungraded primary in action.

At Kimberly, grades 1, 2, and 3 were grouped together in an ungraded primary situation which allowed for the grouping by ability across age levels for each subject. However, grouping in the homeroom was by age level.

Primary grades used the Houghton - Mifflin series for basal readers. These materials were supplemented by Rhebus reading materials for slower learners. About mid-year the Eyegate Primary Reading Series became available through ESAP funds.

Grade level 4 and 5 were self-contained classrooms. However, grouping of pupils by ability levels for reading instruction was made within each classroom. Grades 4 and 5 also used the Houghton - Mifflin Series.

Grades 6 and 7 were departmentalized. However, pupils were grouped by ability within a grade level for reading instructions. These grade levels also used the Houghton - Mifflin Series for reading.

Pupils were tested in the City-Wide Testing Program in October 1970, and were tested again in April 1971. Periodically throughout the year the CIP diagnostic tests for reading were administered and the school received reported results for usage in instructional guidance.

Equipment available included televisions, projectors, previewers, record players, learning labs, flash reader, recorder and playback, and a cassette recorder. A controlled reader was made available for usage in grades 4 through 7 only. Grades 1 through 3 had eleven omnitutors available to them.

VII. EVALUATION

Comparable forms of the Metropolitan Achievement Tests (MAT) for the appropriate grade levels were used as the evaluative instrument. Since it is planned that the progress of academic achievement will be of a longitudinal study, comprehensive tables are presented in the appendix. Thus, progress in forthcoming years can be compared with this year in a variety of areas other than the area of reading upon which this evaluation will be concentrate.

On some pupils only a pretest was administered (in October 1970). This group is identified in the tables as the "Pretest Only" group. Posttests were not administered to this group because they were absent the days the posttesting was held, or they were not enrolled at Kimberly at the time of the posttesting.

Other pupils may have been absent during the days pretesting was held, or may have not been enrolled at Kimberly at the time of the pretesting. These pupils comprise the "Posttest Only" group.

Those pupils who were present for and who took both the pretest and the posttest are designated as the "Pretest/Posttest" group. The frequency distributions showing the percentage of pupils' gain (in months) is an analysis on this population.

Since test scores for the first grade were not available at the time of the preparation of this document, this evaluation has been made starting with the second grade. In the "Finding" Section which follows, emphasis will be placed on analysis of total reading scores.

VIII. FINDINGS

Since the pretest of the MAT was administered in October 1970 and the posttest was administered in April 1971, there was a period of approximately six months upon which the achievement gain is based.

In the second grade at Kimberly 57.8 per cent of the Pretest/Posttest group (comprised of 57 pupils) made a gain of 5 to 6 months or better between testing periods (See Table 1 on page 14). This means that these pupils gained at least one month or better in their reading ability for each month they were in school. Seven of the pupils made a 11-12 month gain during the six month interval, and one pupil made a 23-24 month gain during the same period of time. The grade level range of this Pretest/Posttest group at the time of posttesting was from 1.6 (grade 1 year 6 months) to 4.6 (grade 4 years 6 months) (See Table 32 on page 45) with an average grade level of 2.2 (grade 2 years 2 months) (See Table 3 on page 16). The median for the group was 2.9 (grade 2 years 9 months) (See Table 32 on page 45). This means at least half of the second grade was reading at nearly the third grade level at the time of the posttesting in April.

There was no significant relationship between attendance and reading. The average daily attendance for the group was only 53 pupils.

There were no significant differences in the total reading mean grade level of this Pretest/Posttest group and the reading mean grade level of the Pretest group or the Posttest group. Thus, the pupils who left Kimberly during the year and those who entered Kimberly during the year did not significantly differ in reading abilities from the pupils who remained at Kimberly throughout the year.

The overall rate of reading gain for the second grade was 94 per cent. This relationship is expressed as a ratio on an index of 100 which would be the acceptable level of performance, i.e. one month's gain in reading skill for each month in school (See Table 33 on page 46).

In the third grade, 58.3 per cent of the Pretest/Posttest group achieved at least one month or better gain for each month in school (See Table 5 on page 18). The third graders in this group at the time of posttesting ranged in reading abilities from 1.6 to 4.6 (See Table 32 on page 45), with an average grade level of 3.9 (See Table 10 on page 23). The median for the group was 3.6 (See Table 32 on page 45); thus, half of the third grade was slightly below the average for the group. However,

the rate of gain in reading for the group as a whole was 111 per cent which was above the acceptable level of performance (See Table 33 on page 46).

At the time of posttesting the pretest/posttest group's mean in reading (3.9) was significantly higher than that of the posttest group (2.7) (See Table 10 on page 23). Thus, in comparison this posttest group who was not present at Kimberly for pretesting were underachievers either at Kimberly or prior to coming to Kimberly.

Although, the average daily attendance (ADA) for the pretest/posttest group was 58 pupils there was no significant correlation between gain in reading skills and attendance. The average daily attendance for the entire third grade was 71 pupils. (See Table 33 on page 46).

Fourth graders in the Pretest/Posttest group at Kimberly had a representation of 63.6 per cent who achieved a gain of one month or better for each month in school (See Table 12 on page 25). The grade level range of this was from 3.0 to 8.2 (See Table 32 on page 45) with an average of 5.1 (See Table 15 on page 28). Over half of the group was at a level of 4.9 at the time of the posttest in April.

The ADA for the pretest/posttest fourth grade group was 51 pupils. This, with the exception of the sixth grade, was the lowest attendance record at Kimberly in grades two through seven (See Table 33 on page 46). However, there was no significant relationship between attendance and performance in reading (See Table 16 on page 29).

Although, the incoming fourth graders at Kimberly (which are represented by the Posttest group) were below the core of fourth graders (the Pretest/Posttest group) in reading ability (4.5 as compared with 5.1) the difference was not statistically significant (See Table 15 on page 28). It can also be observed that mean reading score of the Pretest group leaving Kimberly was somewhat lower than core group of Pretest/Posttest remaining at Kimberly.

The fourth graders in the core group achieved at a rate of 126 per cent in reading gain. As previously stated this is based on an index of 100. Thus, as a group the core fourth graders achieved at a higher rate than what would normally considere the acceptable rate (See Table 33 on page 46).

In the Pretest/Posttest group of the fifth grade 60.9 per cent of the group achieved a gain of one month or better for each month in school (See Table 17 on page 30). At the time of posttesting this group ranged form 3.0 to 10.5 (See Table 32 on page 45) with a mean of 6.3 (See Table 20 on page 33). The median of 5.8 indicated that half of the group was reading at this level or better at the posttest time in April (See Table 32 on page 45).

There was no significant relationship between attendance and reading gains made (See Table 21 on page 34). The average daily attendance (ADA) for the fifth grade was 79 pupils for the pretest/posttest group, but rose to a level of 91 pupils for the entire class of the fifth grade enrolled at Kimberly (See Table 33 on page 46).

In the fifth grade Pretest/Posttest group a rate of reading gain of 147 per cent was achieved. This represented almost half again as to what might be considered a normal achievement rate.

The fifth graders who were in the Pretest group and who left Kimberly were lower in reading ability than the core Pretest/Posttest group which remained at Kimberly throughout the year. Likewise, the new group (Posttest) coming into Kimberly were lower in reading ability (5.3 compared with 6.3) (See Table 20 on page 33). in neither case was the difference in reading ability significant. However, the core fifth grade group of pupils did score significantly higher in word knowledge than did the incoming group. The core group remained stable in their grade level of 6.3 in word knowledge and 6.3 in reading level, the new Posttest group which had a grade level of 4.9 in word knowledge had a higher grade level of 5.3 in reading ability. This was an indication of help needed for the incoming group in word knowledge. The group's higher level of reading skill was indicative of the pupils utilizing their abilities well.

Sixth graders in the Pretest/Posttest group at Kimberly had only a representation of 43.1 per cent of the group which achieved a gain of one month or better for every month in school (See Table 22 on page 35). In a close look at this group of pupils, 58.8 per cent showed gain in reading achievement during the six months testing period. There was no significant relatiohship between attendance and reading gain (See Table 26 on page 39).

At the time of posttesting these pupils ranged in reading grade levels from 3.0 to 10.5 (See Table 32 on page 45) and had a mean rating of 6.9 (See Table 25 on page 38). Although, the core Pretest/Posttest group achieved a reading gain of 102 per cent of the expected level of achievement in reading ability (See Table 33 on page 46), it should be noted that the gain in word knowledge only went from a mean of 6.6 to 6.9 (See Table 25 on page 38).

Again, the incoming group was below the core group in reading ability (5.9 as compared with 6.9) but the difference was not statisticaly significant. Also, the incoming group was lower in word knowledge. There was not a significant different in word knowledge between the two groups, however.

Seventh graders in the Pretest/Posttest group at Kimberly had a representation of 49.1 per cent of the group which achieved a gain of one month or better for every month in school. However, 61.4 per cent made at least some gain in reading achievement (See Table 27 on page 40). The range of grade level reading ability for this group of seventh graders was from 3.0 to 10.5 (See Table 32 on page 45) with a mean of 7.5 (See Table 30 on page 43).

The few seventh graders (four) coming into Kimberly as represented by the Posttest group was somewhat lower in reading ability than the core Pretest/Posttest group. However, the difference was not significant.

Attendance did not have a significant relationship with gain in reading. The relationship found between word knowledge and attendance was not significant in the acquisition of skills since the higher gains were made by those pupils who had lower attendance (See Table 31 on page 44).

Overall, the median for the core group at Kimberly was 7.3 (See Table 32 on page 45). This meant that at least half of the pupils in the seventh grade were reading at this level or better at the time of posttesting. However, the mean for the group went from 6.9 to 7.5. Thus, there was a six months gain in approximately 6.5 months period of time between pretesting and posttesting. This is represented by a rate of reading gain of 90 per cent for the group.

IX. COST EFFECTIVENESS

An attempt to make a cost analysis as related to reading gains is shown in Table 33 on page 46. This data broken down for grades 2 through 7 show the total school (K - 7) average daily attendance (ADA), the ADA by grade, and the ADA for the Pretest/Posttest group for which gains were computed.

In order to make this cost estimate funds are separated into general funds and special funds. Subgroups for each of these sections include salary and non-salary funds. Expenditures for non-salary items do not include food services, new equipment or capital outlay. Figures utilized in this table have been taken from the General Funds Financial Report and Trust and Agency Report for June 30, 1971. These per pupil costs are broad estimates based upon information available from both the above reports and from information obtained from the school staff relative to the utilization of resources.

All of the costs have been related to the gains made in reading since it is theorized that reading is a basic academic necessity in all disciplines. Thus, the total expenditures which have been broken down into per pupil costs demonstrate the cost which had been expended to achieve the rate of reading gain in each grade.

A projected cost by grade level has also been calculated. This cost demonstrates what would be the required cost to achieve a one grade level unit of gain if the same rate of progress continued. Thus, this per pupil projected cost is based on the same average pupil whom the rate of gain was originally calculated, who would be utilizing the same materials, with the same teachers using the same teaching methodology in the same school environment.

In the second grade it cost $685 to achieve a 94 per cent rate of reading gain. It would cost $729 to achieve a 100 per cent performance.

The third grade achieved 111 per cent reading gain at the cost of $684 per pupil. Thus, for only a 100 per cent gain it would have cost only $617.

For the fourth grade the projected cost would have again been lower than the actual cost. There would have been needed only $543 instead of $683.

In the fifth grade a reduction in the rate of reading gain from 147 per cent to 100 per cent would have again decreased the per pupil cost. Instead of $683 only $465 would have been necessary.

For the sixth grade, a slight decrease in cost would have occurred. The cost for 100 per cent rate of gain would have been $670 per pupil.

More monies would have been required in the seventh grade to raise the rate of reading gain from 90 to 100 per cent. This would have meant an increase from $687 to $764.

Overall, for the entire school a decrease in per pupil cost from $684 to $611 could have theoretically been used to achieve a 100 per cent rate of gain in reading instead of the 112 per cent rate of gain which was accomplished. These figures are representative for only those pupils who were enrolled in the second through the seventh grades.

X. CONCLUSIONS

The results of this overall survey of progress made in reading at Kimberly seem to indicate several things. However, in most instances such concerns as attendance and pupil mobility were not significant.

Although the average daily attendance (ADA) varied in the various grade levels, it did not show up statistically as making a difference in the gains made in reading. The higher rates of reading gain were accomplished in those grades which were in self-contained classrooms (i.e. the fourth and fifth grades).

The mobility index which indicated that over one-fourth of the school population migrated in or out of Kimberly did not appear to affect the pupil population in a statistically significant manner except on one grade level. Those seven pupils coming into the third grade at Kimberly during the year were lower in reading achievement than the other sixty third graders who were tested.

The mean reading gains made were approximately one month's gain or better for every month in school in practically every grade level. In the second and the seventh grades, there was a slight decrease in the rate of reading gains. However, even in these grade levels the average pupil was well advanced in reading on that level. Theoretically, in grades three, four, five, and six a reduction of costs could have been made and the average gain in reading would have been on the appropriate grade level. However, in grades two and seven an increase in funds would have been necessary to bring the reading gain up to the appropriate grade level.

XI. RECOMMENDATIONS

The longitudinal study of the progress made and cost involved should continue. Comparison of the achievement of the pupils of this school year and the next school year should be made to see if present rates of achievements are able to be maintained next year.

In particular during the school year 1971-72, the third and fourth grades should be scrutinized for gains made. The third grade pupils will represent the second grade of the 1970-71 school year during which time they were not quite achieving on the 100 per cent index. The fourth grade will contain those few pupils who came into Kimberly reading at a significant lower level than the vast majority of pupils comprising that grade level.

The seventh grade rate of gain should also be determined to see if those pupils who were in the sixth grade in 1970-71 were able to maintain their rate of reading gain when in the seventh grade.

Of course, in all grade levels the mobility should be examined. Also, the average mean grade level at the time of pretesting in 1971-72 should be examined to see if it is comparable to the preceding grade level's mean for 1970-71.

If the rates of gains achieved should drop in 1971-72, then a detailed investigation should be made to try and determine what unseen variables might be in operation.

TABLE 1

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SECOND GRADE)
N = 57

Number	Per Cent	Gain (in Months)
3	5.3	-5 - -4
4	7.0	-1 - 0
5	8.8	1 - 2
14	24.6	3 - 4
9	15.8	5 - 6
7	12.3	7 - 8
5	5.3	9 - 10
7	12.3	11 - 12
2	3.5	13 - 14
1	1.8	15 - 16
1	1.8	17 - 18
1	1.8	23 - 24

*There was a period of approximately six months between pretest and posttest.

TABLE 2

FREQUENCY ANALYSIS OF TOTAL MATHEMATIC GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SECOND GRADE)
N = 57

Number	Per Cent	Gain (in Months)
3	5.3	1 - 2
7	12.3	3 - 4
8	14.0	5 - 6
7	12.3	7 - 8
4	7.0	9 - 10
10	17.5	11 - 12
3	5.3	13 - 14
1	1.8	15 - 16
1	1.8	17 - 18
2	3.5	19 - 20
6	10.5	21 - 22
2	3.5	23 - 24
1	1.8	25 - 26
1	1.8	29 - 30
1	1.8	33 - 34

*There was a period of approximately six months between pretest and posttest.

TABLE 3

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
ON PUPILS TAKING PFETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SECOND GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	12	2.7	1.0	56	2.4	0.9	0.84	11	3.0	0.9	56	2.9	0.8	0.55
Word Analysis	12	2.2	0.5	57	2.1	0.7	0.60	10	3.1	1.1	57	2.6	0.7	1.73
Reading	12	2.5	0.9	57	2.2	0.7	1.30	10	2.7	0.7	57	2.8	0.8	-0.57
Total Reading	12	2.5	0.9	57	2.2	0.7	1.26	10	2.7	0.7	57	2.8	0.7	-0.39
Mathematics	12	2.0	0.5	57	1.8	0.5	1.43	10	2.9	0.7	57	2.9	1.0	-0.06

TABLE 4

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(SECOND GRADE)
N = 57

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.10	.22	.10	0.80	1.63	0.75
Word Analysis vs. Attendance	.15	.22	.07	1.15	1.69	0.55
Reading vs. Attendance	.05	.16	.14	0.40	1.22	1.03
Total Reading vs. Attendance	.06	.21	.20	0.45	1.56	1.54
Mathematics vs. Attendance	.06	.14	.14	0.48	1.04	1.07

TABLE 5

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)
N = 60

Number	Per Cent	Gain (in Months)
1	1.7	-11 - -10
1	1.7	-9 - -8
2	3.3	-7 - -6
2	3.3	-5 - -4
2	3.3	-3 - -2
3	5.0	-1 - 0
6	10.0	1 - 2
8	13.3	3 - 4
12	20.0	5 - 6
4	6.7	7 - 8
4	6.7	9 - 10
1	1.7	11 - 12
1	1.7	13 - 14
1	1.7	15 - 16
3	5.0	17 - 18
3	5.0	21 - 22
2	3.3	23 - 24
1	1.7	25 - 26
1	1.7	27 - 28
1	1.7	29 - 30
1	1.7	31 - 32

*There was a period of approximately six months between pretest and posttest.

TABLE 6

FREQUENCY ANALYSIS OF MATHEMATIC COMPUTATION GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)
N = 60

Number	Per Cent	Gain (in Months)
1	1.7	-7 - -6
1	1.7	-5 - -4
2	3.3	-3 - -2
1	1.7	-1 - 0
3	5.0	1 - 2
5	8.3	3 - 4
5	8.3	5 - 6
7	11.7	7 - 8
8	13.3	9 - 10
4	6.7	11 - 12
10	16.7	13 - 14
3	5.0	15 - 16
1	1.7	17 - 18
1	1.7	19 - 20
2	3.3	21 - 22
2	3.3	23 - 24
1	1.7	25 - 26
2	3.3	31 - 32
1	1.7	37 - 38

*There was a period of approximately six months between pretest and posttest.

TABLE 7

FREQUENCY ANALYSIS OF MATHEMATIC PROBLEM
GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)
N = 60

Number	Per Cent	Gain (in Months)
10	16.7	-11 - -10
3	5.0	-9 - -8
3	5.0	-7 - -6
4	6.7	-5 - -4
5	8.3	-3 - -2
5	8.3	-1 - 0
3	5.0	1 - 2
4	6.7	3 - 4
1	1.7	5 - 6
4	6.7	7 - 8
6	10.0	9 - 10
3	5.0	11 - 12
1	1.7	13 - 14
1	1.7	17 - 18
1	1.7	19 - 20
1	1.7	21 - 22
3	5.0	23 - 24
2	3.3	29 - 30

*There was a period of approximately six months between pretest and posttest.

TABLE 8

FREQUENCY ANALYSIS OF MATHEMATIC CONCEPTS GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)
N = 60

Number	Per Cent	Gain (in Months)
3	5.0	-5 - -4
2	3.3	-3 - -2
4	6.7	-1 - 0
4	6.7	1 - 2
6	10.0	3 - 4
2	3.3	5 - 6
6	10.0	7 - 8
6	10.0	9 - 10
7	11.7	11 - 12
3	5.0	13 - 14
2	3.3	15 - 16
3	5.0	17 - 18
2	3.3	19 - 20
1	1.7	21 - 22
2	3.3	23 - 24
1	1.7	25 - 26
3	5.0	27 - 28
1	1.7	29 - 30
1	1.7	31 - 32
1	1.7	37 - 38

*There was a period of approximately six months between pretest and posttest.

TABLE 9

FREQUENCY ANALYSIS OF TOTAL MATHEMATIC GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(THIRD GRADE)
N = 61

Number	Per Cent	Gain (in Months)
1	1.6	-11 - -10
1	1.6	-7 - -6
3	4.9	-3 - -2
3	4.9	-1 - 0
10	16.4	1 - 2
8	13.1	3 - 4
9	14.8	5 - 6
6	9.8	7 - 8
3	4.9	9 - 10
4	6.6	11 - 12
6	9.8	13 - 14
4	6.6	15 - 16
2	3.3	17 - 18
1	1.6	29 - 30

*There was a period of approximately six months between pretest and posttest.

TABLE 10

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
ON PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(THIRD GRADE)

Subtest	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
	No.	Mean	S.D.	No.	Mean	S.D.	Ratio	No.	Mean	S.D.	No.	Mean	S.D.	Ratio
Word Knowledge	13	3.1	1.3	60	3.4	1.1	-0.73	7	3.5	1.6	60	4.2	1.5	-1.17
Word Analysis	13	3.1	1.2	60	3.1	0.8	0.35	7	3.0	1.0	60	3.5	0.9	-1.28
Reading	13	3.2	1.2	60	3.2	1.1	-0.01	7	2.7	0.5	60	3.9	1.3	-2.31*
Spelling	13	3.0	1.3	59	3.2	1.0	-0.40	8	3.2	0.9	59	4.0	1.0	-2.25*
Mathematics Computation	12	2.7	0.5	60	2.9	0.7	-0.77	8	3.1	0.9	60	3.9	1.0	-2.17*
Math Concepts	12	3.0	0.8	60	3.3	0.8	-0.88	8	3.3	1.2	60	4.3	1.3	-2.19*
Math Problems	12	3.0	0.7	60	3.0	0.8	0.01	8	2.1	0.3	60	3.2	1.2	-1.29
Total Math	12	2.8	0.5	61	2.9	0.7	-0.51	7	2.8	0.6	61	3.5	0.8	-2.42*
Total Reading	13	3.1	1.3	60	3.3	1.1	-0.34	7	2.9	0.8	60	4.0	1.3	-2.03*

*Significant at the .05 level.

TABLE 11

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(THIRD GRADE)

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.19	.11	-.04	1.44	0.82	-0.28
Word Analysis vs. Attendance	.14	.05	-.10	1.05	0.37	-0.79
Reading vs. Attendance	.13	.04	-.06	0.97	0.33	-0.47
Spelling vs. Attendance	.18	.04	-.16	1.35	0.32	-1.22
Math Computation vs. Attendance	.16	.12	.02	1.27	0.89	0.14
Math Concepts vs. Attendance	.17	-.05	-.20	1.29	-0.37	-1.54
Math Problems vs. Attendance	.06	.01	-.03	0.49	0.11	-0.22
Total Math vs. Attendance	.05	.06	.02	0.37	0.45	0.13
Total Reading vs. Attendance	.16	.09	-.05	1.24	0.65	-.40

TABLE 12

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(FOURTH GRADE)
N = 55

Number	Per Cent	Gain (in Months)
2	3.6	-11 - -10
1	1.8	-7 - -6
1	1.8	-3 - -2
8	14.6	-1 - 0
2	3.6	1 - 2
6	10.9	3 - 4
7	12.7	5 - 6
4	7.3	7 - 8
2	3.6	9 - 10
6	10.9	11 - 12
5	9.1	13 - 14
2	3.6	15 - 16
3	5.5	17 - 18
1	1.8	19 - 20
2	3.6	21 - 22
2	3.6	23 - 24
1	1.8	33 - 34

*There was a period of approximately six months between pretest and posttest.

TABLE 13

FREQUENCY ANALYSIS OF ARITHMETIC COMPUTATION GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(FOURTH GRADE)
N = 53

Number	Per Cent	Gain (in Months)
1	1.9	-1 - 0
2	3.8	5 - 6
2	3.8	7 - 8
4	7.6	9 - 10
4	7.6	11 - 12
4	7.6	13 - 14
7	13.2	15 - 16
6	11.3	17 - 18
6	11.3	19 - 20
5	9.4	21 - 22
2	3.8	23 - 24
3	5.7	25 - 26
3	5.7	27 - 28
2	3.8	29 - 30
1	1.9	35 - 36
1	1.9	37 - 38

*There was a periof of approximately six months between pretest and posttest.

TABLE 14

FREQUENCY ANALYSIS OF ARITHMETIC PROBLEM SOLVING AND CONCEPTS GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(FOURTH GRADE)
N = 53

Number	Per Cent	Gain (in Months)
2	3.8	-11 - -10
1	1.9	-1 - 0
2	3.8	1 - 2
1	1.9	3 - 4
6	11.3	5 - 6
9	17.0	7 - 8
6	11.3	9 - 10
3	5.7	11 - 12
6	11.3	13 - 14
2	3.8	15 - 16
4	7.6	17 - 18
2	3.8	19 - 20
2	3.8	21 - 22
1	1.9	23 - 24
2	3.8	27 - 28
2	3.8	29 - 30
1	1.9	31 - 32
1	1.9	35 - 36

*There was a period of approximately six months between pretest and posttest.

TABLE 15

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(FOURTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	14	4.4	1.6	55	4.4	1.3	0.14	16	4.5	1.0	55	4.9	1.3	-1.11
Reading	14	4.2	1.7	55	4.3	1.3	-0.29	16	4.5	1.3	55	5.1	1.3	-1.64
Language Total	14	4.1	1.4	55	4.1	1.2	-0.04	16	5.0	1.3	55	5.1	1.3	-0.03
Arithmetic Computation	14	4.0	0.6	53	4.0	0.5	-0.03	18	5.3	1.0	53	5.8	0.9	-1.82
Arithmetic Problem Solving and Concepts	14	4.0	0.9	53	4.2	1.1	-0.62	18	4.9	1.2	53	5.3	1.3	-1.23
Word Discrimination	14	4.4	1.4	55	4.4	1.0	0.10	16	4.6	1.0	55	4.8	0.9	-0.72
Spelling	14	4.8	1.8	55	4.7	1.2	0.25	16	5.3	1.6	55	5.8	1.2	-1.24

TABLE 16

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TEST SUBTEST SCORES
(PRETEST AND POSTTEST) AND ATTENDANCE

(FOURTH GRADE)

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	-.04	.05	.17	-0.28	0.39	1.29
Reading vs. Attendance	-.06	-.03	.05	-0.45	-0.20	0.35
Language Total vs. Attendance	.02	.01	-.01	0.13	0.06	-0.07
Arithmetic Computation vs. Attendance	-.01	-.01	-.11	-0.07	-0.71	-0.78
Arithmetic Problem Solving & Concepts vs. Attendance	.07	-.08	-.16	0.48	-0.58	-1.17
Word Discrimination vs. Attendance	-.08	.08	.22	-0.61	.59	1.66
Spelling vs. Attendance	-.09	-.06	.06	-0.66	-0.43	0.43

TABLE 17

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(FIFTH GRADE)
N = 82

Number	Per Cent	Gain (in Months)
4	4.9	-11 - -10
1	1.2	-9 - -8
3	3.7	-7 - -6
4	4.9	-5 - -4
4	4.9	-3 - -2
9	11.0	-1 - 0
3	3.7	1 - 2
4	4.9	3 - 4
6	7.3	5 - 6
7	8.5	7 - 8
6	7.3	9 - 10
7	8.5	13 - 14
3	3.7	15 - 16
2	2.4	17 - 18
3	3.7	19 - 20
2	2.4	21 - 22
3	3.7	23 - 24
2	2.4	25 - 26
1	1.2	27 - 28
1	1.2	29 - 30
5	6.1	31 - 32
2	2.4	41 - 42

*There was a period of approximately six months between pretest and posttest.

TABLE 18

FREQUENCY ANALYSIS OF ARITHMETIC COMPUTATION GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(FIFTH GRADE)
N = 83

Number	Per Cent	Gain (in Months)
2	2.4	-5 - -4
5	6.0	-3 - -2
5	6.0	-1 - 0
3	3.6	1 - 2
8	9.6	3 - 4
11	13.3	5 - 6
18	21.7	7 - 8
6	7.2	9 - 10
7	8.4	11 - 12
8	9.6	13 - 14
3	3.6	15 - 16
6	7.2	17 - 18
1	1.2	19 - 20

*There was a period of approximately six months between pretest and posttest.

TABLE 19

FREQUENCY ANALYSIS OF ARITHMETIC PROBLEM SOLVING AND CONCEPTS GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(FIFTH GRADE)
N = 82

Number	Per Cent	Gain (in Months)
2	2.4	-11 - -10
1	1.2	-9 - -8
1	1.2	-7 - -6
5	6.1	-5 - -4
7	8.5	-3 - -2
8	9.8	-1 - 0
9	11.0	1 - 2
7	8.5	3 - 4
5	6.1	5 - 6
8	9.8	7 - 8
7	8.5	9 - 10
5	6.1	11 - 12
5	6.1	13 - 14
4	4.9	15 - 16
3	3.7	17 - 18
3	3.7	19 - 20
1	1.2	21 - 22
1	1.2	23

*There was a period of approximately six months between pretest and posttest.

TABLE 20

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(FIFTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	8	4.2	1.4	82	5.4	1.6	-1.95	8	4.9	1.4	82	6.3	1.8	-2.19*
Reading	8	4.3	0.9	82	5.4	1.6	-1.82	8	5.3	2.1	82	6.3	2.0	-1.34
Language	8	4.4	0.8	82	5.5	1.2	-2.45*	8	5.6	1.2	82	6.2	1.4	-1.31
Language Study Skills	8	4.7	1.7	81	5.6	1.6	-1.61	9	5.8	1.7	81	6.6	1.8	-1.29
Arithmetic Computation	8	5.1	0.6	83	5.2	0.5	-0.86	7	5.5	0.6	83	6.0	0.7	-1.84
Arithmetic Problem Solving and Concepts	8	4.5	0.8	82	5.3	0.9	-2.27*	8	5.1	0.9	82	5.8	1.2	-1.82
Social Studies Information	8	4.2	1.1	81	5.2	1.4	-1.91	9	5.1	1.0	81	5.8	1.5	-1.48
Social Studies Study Skills	8	3.9	1.0	81	5.1	1.3	-2.54*	9	4.5	1.5	81	5.8	1.9	-1.99*
Science	8	4.7	1.1	81	5.4	1.3	-1.36	9	5.2	0.8	81	6.1	1.3	-2.06*

*Significant at the .05 level.

TABLE 21

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(FIFTH GRADE)

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	-.04	-.14	-.20	-0.33	-1.26	-1.87
Reading vs. Atterdance	-.07	-.03	.05	-0.61	-0.23	0.43
Language vs. Attendance	.13	.05	-.11	1.20	0.42	-0.95
Language Study Skills vs. Attendance	.10	.03	-.08	0.85	0.24	-0.68
Arithmetic Computation vs. Attendance	.13	.10	----	1.16	0.87	----
Arithmetic Problem Solving & Concepts vs. Attendance	-.07	----	.08	-0.61	----	0.73
Social Studies Information vs. Attendance	----	.13	.19	----	1.20	1.76
Social Studies Study Skills vs. Attendance	-.10	-.08	-.01	-0.91	-0.72	-0.11
Science vs. Attendance	-.02	-.12	-.16	-0.13	-1.04	-1.44

TABLE 22

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SIXTH GRADE)
N = 51

Number	Per Cent	Gain (in Months)
2	3.9	-11 - -10
1	2.0	-9 - -8
3	5.9	-7 - -6
3	5.9	-5 - -4
5	9.8	-3 - -2
7	13.7	-1 - 0
6	11.8	1 - 2
2	3.9	3 - 4
2	3.9	5 - 6
3	5.9	7 - 8
1	2.0	9 - 10
2	3.9	11 - 12
3	5.9	13 - 14
1	2.0	15 - 16
1	2.0	17 - 18
1	2.0	19 - 20
1	2.0	21 - 22
1	2.0	23 - 24
2	3.9	25 - 26
2	3.9	29 - 30
1	2.0	35 - 36
1	2.0	37 - 38

*There was a period of approximately six months between pretest and posttest.

TABLE 22

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SIXTH GRADE)
N = 51

Number	Per Cent	Gain (in Months)
2	3.9	-11 - -10
1	2.0	-9 - -8
3	5.9	-7 - -6
3	5.9	-5 - -4
5	9.8	-3 - -2
7	13.7	-1 - 0
6	11.8	1 - 2
2	3.9	3 - 4
2	3.9	5 - 6
3	5.9	7 - 8
1	2.0	9 - 10
2	3.9	11 - 12
3	5.9	13 - 14
1	2.0	15 - 16
1	2.0	17 - 18
1	2.0	19 - 20
1	2.0	21 - 22
1	2.0	23 - 24
2	3.9	25 - 26
2	3.9	29 - 30
1	2.0	35 - 36
1	2.0	37 - 38

*There was a period of approximately six months between pretest and posttest.

TABLE 24

FREQUENCY ANALYSIS OF ARITHMETIC PROBLEM SOLVING AND CONCEPTS GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(SIXTH GRADE)
N = 51

Number	Per Cent	Gain (in Months)
2	3.9	-11 - -10
2	3.9	-7 - -6
5	9.8	-5 - -4
3	5.9	-3 - -2
8	15.7	-1 - 0
5	9.8	1 - 2
8	15.7	3 - 4
3	5.9	5 - 6
5	9.8	7 - 8
3	5.9	9 - 10
1	2.0	11 - 12
2	3.9	13 - 14
1	2.0	15 - 16
1	2.0	17 - 18
1	2.0	21 - 22
1	2.0	27 - 28

*There was a period of approximately six months between pretest and posttest.

TABLE 25

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SIXTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	7	5.5	1.3	51	6.6	2.1	-1.37	9	6.1	2.6	51	6.9	1.9	-1.10
Reading	7	4.9	1.6	51	6.3	2.0	-1.76	9	5.9	2.7	51	6.9	2.2	-1.20
Language	8	4.2	2.5	51	5.8	1.7	-2.27*	8	7.1	1.7	51	7.1	1.6	0.02
Language Study Skills	7	5.7	2.2	51	7.0	2.2	-1.53	9	6.3	2.6	51	7.5	2.1	1.57
Arithmetic Computation	7	5.8	0.8	51	6.3	1.0	-1.00	9	6.7	1.4	51	7.2	1.7	-0.79
Arithmetic Problem Solving and Concepts	7	6.0	1.1	51	6.8	1.5	-1.34	9	6.7	1.7	51	7.1	1.7	-0.57
Social Studies Information	8	4.7	2.4	52	6.7	2.4	-2.26*	7	5.6	2.1	52	6.6	2.1	-1.22
Social Studies Study Skills	8	5.7	3.0	52	6.7	2.1	-1.20	7	6.8	2.4	52	7.1	2.6	-0.28
Science	9	4.6	3.1	52	6.5	1.8	-2.60*	6	6.8	1.8	52	6.9	1.9	-0.14

*Significant at the .05 level.

TABLE 26

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(SIXTH GRADE)

	Coefficients of Correlation					
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	.10	.08	-.07	0.71	0.58	-0.51
Reading vs. Attendance	.12	.01	-.17	0.83	0.07	-1.24
Language vs. Attendance	.18	.26	.07	1.30	1.86	0.46
Language Study Skills vs. Attendance	.13	---	-.19	0.95	---	-1.35
Arithmetic Computation vs. Attendance	.13	.28*	.33*	0.94	2.03*	2.43*
Arithmetic Problem Solving & Concepts vs. Attendance	.19	.24	.16	1.36	1.74	1.15
Social Studies Information vs. Attendance	.10	.06	-.10	0.73	0.42	-0.68
Social Studies Study Skills vs. Attendance	.19	.13	-.04	1.35	0.92	-0.27
Science vs. Attendance	.16	.19	.07	1.18	1.34	0.52

*Significant at the .05 level.

TABLE 27

FREQUENCY ANALYSIS OF TOTAL READING GAIN
ON METROPOLITAN ACHIEVEMENT TESTS*

(SEVENTH GRADE)
N = 57

Number	Per Cent	Gain (in Months)
5	8.8	-11 - -10
2	3.5	-9 - -8
3	5.3	-7 - -6
1	1.8	-5 - -4
2	3.5	-3 - -2
9	15.8	-1 - 0
3	5.3	1 - 2
4	7.0	3 - 4
4	7.0	5 - 6
4	7.0	7 - 8
2	3.5	9 - 10
2	3.5	13 - 14
3	5.3	15 - 16
5	8.8	17 - 18
1	1.8	19 - 20
1	1.8	21 - 22
1	1.8	23 - 24
1	1.8	25 - 26
2	3.5	27 - 28
1	1.8	29 - 30
1	1.8	37 - 38

*There was a period of approximately six months between pretest and posttest.

TABLE 28

FREQUENCY ANALYSIS OF ARITHMETIC COMPUTATION GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(SEVENTH GRADE)
N = 56

Number	Per Cent	Gain (in Months)
1	1.8	-9 - -8
3	5.4	-5 - -4
4	7.1	-3 - -2
6	10.7	-1 - 0
6	10.7	1 - 2
6	10.7	3 - 4
4	7.1	5 - 6
4	7.1	7 - 8
5	8.9	9 - 10
4	7.1	11 - 12
1	1.8	13 - 14
1	1.8	15 - 16
5	8.9	19 - 20
5	8.9	23 - 24
1	1.8	31 - 32

*There was a period of approximately six months between pretest and posttest.

TABLE 29

FREQUENCY ANALYSIS OF ARITHMETIC PROBLEM SOLVING AND CONCEPTS GAIN ON METROPOLITAN ACHIEVEMENT TESTS*

(SEVENTH GRADE)
N = 56

Number	Per Cent	Gain (in Months)
4	7.1	-5 - -4
1	1.8	-3 - -2
7	12.5	-1 - 0
5	8.9	1 - 2
7	12 5	3 - 4
9	16.1	5 - 6
6	10.7	7 - 8
4	7.1	9 - 10
3	5.4	11 - 12
2	3.6	13 - 14
4	7.1	15 - 16
1	1.8	17 - 18
2	3.6	19 - 20
1	1.8	21 - 22

*There was a period of approximately six months between pretest and posttest.

TABLE 30

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES
OF PUPILS TAKING PRETEST OR POSTTEST ONLY
WITH SUBTEST SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

(SEVENTH GRADE)

Subtest	Pretest Only			Pretest/Posttest			t Ratio	Posttest Only			Pretest/Posttest			t Ratio
	No.	Mean	S.D.	No.	Mean	S.D.		No.	Mean	S.D.	No.	Mean	S.D.	
Word Knowledge	7	7.9	1.9	57	7.0	1.9	1.20	4	5.5	1.2	57	7.5	2.1	-1.88
Reading	7	7.3	2.0	57	6.9	2.0	0.51	4	6.4	2.0	57	7.5	2.1	-1.03
Language	7	7.0	1.6	56	6.6	1.7	0.51	5	6.2	0.8	56	7.4	1.4	-1.85
Language Study Skills	7	8.6	2.7	56	7.5	1.9	1.42	5	5.5	1.6	56	8.4	1.9	-3.20**
Arithmetic Computation	7	5.8	2.7	56	6.6	1.1	-1.62	5	6.1	1.2	56	7.4	1.3	-2.11*
Arithmetic Problem Solving and Concepts	7	6.5	3.1	56	7.2	1.4	-1.06	5	6.6	0.8	56	7.8	1.4	-1.76
Social Studies Information	7	6.9	2.1	57	7.0	1.9	-0.19	4	6.3	1.2	57	7.5	2.2	-1.03
Social Studies Study Skills	7	6.7	4.1	57	6.7	2.1	-0.03	4	5.0	1.2	57	7.6	2.2	-2.34*
Science	7	6.5	3.5	57	6.9	1.7	-0.52	4	5.8	0.6	57	7.6	1.6	-2.21*

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 31

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS SUBTEST SCORES (PRETEST AND POSTTEST) AND ATTENDANCE

(SEVENTH GRADE)

	Coefficients of Correlation			t Ratio		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Word Knowledge vs. Attendance	-.10	-.24	-.28*	-0.73	-1.81	-2.20*
Reading vs. Attendance	-.06	-.17	-.19	-0.41	-1.29	-1.46
Language vs. Attendance	.04	.03	-.02	0.30	0.26	-0.12
Language Study Skills vs. Attendance	-.15	-.06	.11	-1.09	-0.43	0.84
Arithmetic Computation vs. Attendance	.25	.01	-.28	1.89	0.05	-2.17*
Arithmetic Problem Solving & Concepts vs. Attendance	----	-.10	-.22	----	-0.72	-1.67
Social Studies Information vs. Attendance	.03	-.15	-.22	0.19	-1.13	-1.66
Social Studies Study Skills vs. Attendance	.07	-.14	-.28*	0.53	-1.03	-2.16*
Science vs. Attendance	-.10	-.08	.06	-0.78	-0.56	0.41

TABLE 32

POSTTEST

MEDIAN ANALYSIS

SECOND GRADE

Reading Total		Math Total	
Posttest Only	Pretest/Posttest	Posttest Only	Pretest/Posttest
N = 10	N = 57	N = 10	N = 57
Range: [1.6, 3.8]	[1.6, 4.6]	[2.0, 4.0]	[1.2, 4.6]
Median = 2.6	2.9	3.0	2.6

THIRD GRADE

Reading Total		Math Computation		Math Concepts	
Post Only	Pre/Post	Post Only	Pre/Post	Post Only	Pre/Post
N = 7	N = 60	N = 8	N = 60	N = 8	N = 60
Range: [2.4, 4.6]	[1.6, 4.6]	[1.6, 4.4]	[2.2, 4.6]	[1.4, 4.6]	[2.0, 4.6]
Median = 3.2	3.6	3.3	3.8	3.3	4.1

Math Problems		Math Total	
Post Only	Pre/Post	Post Only	Pre/Post
N = 8	N = 60	N = 7	N = 61
Range: [2.2, 3.2]	[1.4, 4.6]	[1.6, 3.6]	[2.2, 4.6]
Median = 2.7	2.9	2.9	3.3

GRADES 4 - 7

Grade	Reading		Arithmetic Computation		Arithmetic Problem Solving & Concepts	
	Post Only	Pre/Post	Post Only	Pre/Post	Post Only	Pre/Post
Fourth	N = 16	N = 55	N = 18	N = 53	N = 18	N = 53
Range:	[2.6, 8.2]	[3.0, 8.2]	[3.8, 7.8]	[3.4, 7.8]	[3.4, 8.2]	[3.4, 8.2]
Median =	4.3	4.9	5.0	5.8	4.7	5.1
Fifth	N = 8	N = 82	N = 7	N = 83	N = 8	N = 82
Range:	[3.0, 10.5]	[3.0, 10.5]	[4.5, 6.5]	[4.5, 8.0]	[3.5, 6.5]	[3.0, 10.5]
Median =	4.7	5.8	5.7	6.0	5.2	5.6
Sixth	N = 9	N = 51	N = 9	N = 51	N = 9	N = 51
Range:	[3.0, 10.5]	[3.0, 10.5]	[4.5, 9.5]	[4.0, 10.5]	[3.5, 10.5]	[4.0, 10.5]
Median =	4.7	6.3	6.0	6.8	6.5	6.8
Seventh	N = 4	N = 57	N = 5	N = 56	N = 5	N = 56
Range:	[4.0, 8.5]	[3.0, 10.5]	[4.5, 8.0]	[5.0, 10.5]	[5.5, 8.0]	[5.0, 10.5]
Median =	6.75	7.3	6.4	7.0	6.4	7.7

TABLE 33

KIMBERLY ELEMENTARY SCHOOL
COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE (ADA)
K-7 -- N = 547

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
ADA for Grade	67	71	80	91	58	61	428
ADA for Pre/Post Population	53	58	51	79	51	54	346
Per Cent of Total Population	9.7	10.6	9.3	14.4	9.3	9.9	63.2
Expenditures - Pre/Post Population							
A. General Funds							
1. Regular							
a. Salary	$31,973	$34,940	$30,655	$47,465	$30,655	$32,632	$208,320
b. Non-salary	3,959	4,327	3,796	5,878	3,796	4,041	25,797
c. TOTAL REGULAR FUNDS	$35,932	$39,267	$34,451	$53,343	$34,451	$36,673	$234,117
2. CIP							
a. Salary	$ 42	$ 46	$ 40	$ 62	$ 40	$ 43	$ 273
b. Non-salary	-0-	-0-	-0-	-0-	-0-	-0-	-0-
c. TOTAL CIP FUNDS	$ 42	$ 46	$ 40	$ 62	$ 40	$ 43	$ 273
3. Total General Funds							
a. Salary	$32,015	$34,986	$30,695	$47,527	$30,695	$32,675	$208,593
b. Non-salary	3,959	4,327	3,796	5,878	3,796	4,041	25,797
c. TOTAL GENERAL FUNDS	$35,974	$39,313	$34,491	$53,405	$34,491	$36,716	$234,390
B. Special Funds							
1. ESAP							
a. Salary	$ 14	$ 16	$ 14	$ 21	$ 14	$ 15	$ 94
b. Non-salary	320	349	307	475	307	326	2,084
c. TOTAL ESAP FUNDS	$ 334	$ 365	$ 321	$ 496	$ 321	$ 341	$ 2,178
2. ELI							
a. Salary	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-
b. Non-salary	14	15	14	21	14	14	92
c. TOTAL ELI FUNDS	$ 14	$ 15	$ 14	$ 21	$ 14	$ 14	$ 92
3. Total Special Funds							
a. Salary	$ 14	$ 16	$ 14	$ 21	$ 14	$ 15	$ 94
b. Non-salary	334	364	321	496	321	340	2,176
c. TOTAL SPECIAL FUNDS	$ 348	$ 380	$ 335	$ 517	$ 335	$ 355	$ 2,270

TABLE 33 (Cont'd.)

	Grades						
	Second	Third	Fourth	Fifth	Sixth	Seventh	TOTAL
Total Expenditures - Pre/Post Population							
A. Salary	$32,029	$35,002	$30,709	$47,548	$30,709	$32,690	$208,687
B. Non-salary	4,293	4,491	4,117	6,374	4,117	4,381	27,973
C. GRAND TOTAL	$36,322	$39,693	$34,826	$53,922	$34,826	$37,071	$236,660
Cost per Pre/Post Pupil							
A. General Funds							
1. Salary	$ 604	$ 603	$ 602	$ 602	$ 602	$ 605	$ 603
2. Non-salary	75	75	74	74	74	75	75
3. TOTAL GENERAL FUNDS	$ 679	$ 678	$ 676	$ 676	$ 676	$ 680	$ 678
B. Special Funds							
1. Salary	$ +	$ +	$ +	$ +	$ +	$ +	$ +
2. Non-salary	6	6	6	6	6	6	6
3. TOTAL SPECIAL FUNDS	$ 7	$ 7	$ 7	$ 7	$ 7	$ 7	$ 7
Total Expenditures - Pre/Post Pupil (All Funds)							
A. Salary	$ 604	$ 603	$ 602	$ 602	$ 602	$ 605	$ 603
B. Non-salary	81	81	81	81	81	81	81
C. TOTAL EXPENDITURES - PRE/POST PUPIL	$ 685	$ 684	$ 683	$ 683	$ 683	$ 687	$ 684
Rate of Reading Gain (Per Cent)	94	111	126	147	102	90	112
Ending Reading Level (Grade)*	2.80	3.88	5.07	6.31	6.90	7.47	
Projected Cost for One-Grade-Unit of Gain							
A. General Funds	$ 722	$ 611	$ 537	$ 460	$ 663	$ 756	$ 605
B. Special Funds	7	6	6	5	7	8	6
C. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$ 729	$ 617	$ 543	$ 465	$ 670	$ 764	$ 611

*This level was achieved by the time of the posttesting on April 15, 1971.