

THE EFFECT OF A KINDERGARTEN-FIRST
GRADE INTERVENTION PROGRAM UPON
THE PROGRESS OF KINDERGARTEN
AND FIRST GRADE STUDENTS
IN MATH

By

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PREFACE

This study is concerned with the effect of a kindergarten-first grade intervention program upon the progress of kindergarten and first grade students in math. The primary objectives are to determine if the intervention program, as it is presently organized, does have an effect on the children's progress and to determine the elements and attributes of the program which should be enhanced, eliminated or targeted for further study. A comparison of matched pairs and a behavior checklist were used in the analysis to provide relevant information on the social growth, parent involvement and home experiences of the involved children.

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CHAPTER I

INTRODUCTION

One of the most persistent realities in American education is the fact that academic achievement of disadvantaged children in urban public schools has been consistently below norm. The lack of achievement of these children begins in the elementary grades and continues throughout the children's school years. Cumulative achievement deficits have probably been the most predominant problem in education in the past decades. Each year hundreds of functional illiterates are graduated from urban high schools.

School is one long obstacle course to many a youth from a disadvantaged environment; throughout the school years there are signs with arrows pointing to the nearest exit. The obstacles are so massive that superhuman willpower is needed to resist these directional signs. Youngsters, who have such a life at school, are uncomfortable and they have become aware of what Thomas Pettigrew calls "the subtle cultural cues which tell you that you don't count and that good school grades and high IQ scores are middle class roads to success, not yours."¹ These children will be either hostile and

aggressive toward their environment or, as a result of repeated failures, apathetic and numbed.²

Children from disadvantaged environments usually live in the inner city or in vast, poor, underdeveloped rural areas of this country. Their parents are, more often than not, unemployable and uneducated. Characteristics found in sufficient frequency of children from deprived environments which differ in children from advantaged environments are language development, self-concept, social skills and attitudes toward society. Children from disadvantaged backgrounds tend to communicate primarily with gestures, sounds and local words. Their receptive skills are, also, inadequate, closing out many noises including the teacher's voice.³

These children may feel inadequate and believe that accomplishment and success are impossible to attain. Usually, this suspicion is confirmed by academic failure, and also, through recognition of lack of social skills, especially in the areas of response mode, coping techniques and acceptance of responsibility.

Frequently, life for youngsters from disadvantaged homes is one in which things just happen. Experiences in goal setting, evaluating or reviewing past actions to make a determination of the worth of those actions have not been common elements in these youngsters' lives. These individuals, having an external locus of control, usually, act in response to an immediate stimulus, leaving little

room for second thoughts, mediation or planning.⁴

Deutsch states

The essential element which is both professionally and psychologically threatening, is simply that, for the child inadequately equipped to handle what the school has to offer, it is up to the school to develop compensatory strategies through a program of stimulation appropriate to his capabilities. Essentially, the disadvantaged child is still further disadvantaged when the school, as the primary socializing and teaching agent, refuses to accept its own failures whenever such a child fails.⁵

Gunnar Myrdal, the distinguished Swedish economist, wrote: "There is an ugly smell rising from the basement of the stately American mansion."⁶ Myrdal was referring to the millions of Americans who were undereducated, underemployed or unemployed. For every two students who graduate from high school, there is one who drops out of school or is pushed out of school before graduation.⁷

Whites make up the greater number of those classified within the lower economic class, but the chances of a minority group member being within this economic classification are almost double that of a white. The percentage of minorities who are undereducated, underemployed or unemployed is so high that it supports the conclusion that the disparity reflects a racist problem.⁸

A possibility exists that schools may be perpetuating the economic cycle of children from economically disadvantaged families. In the early 1960's the federal government began funding "compensatory" education programs. The

funds for these programs were to be used to extend, support, and enrich the schooling of children from economically disabled groups. Conflicting conclusions are presented in the evaluation of the impact of these programs in the release of children from the self-defeating economic cycle. Empirical evidence that schools adequately serve those students locked into poverty has not yet been produced.⁹

Public schools are educating more students for a greater number of years than was the case in previous generations, but school districts are still concerned about students who become disenchanted with school and attempt to hold on to them through special efforts.

In recent years many segments of the public have expressed considerable concern over the lack of maximum education achievement for every child in the public school system.

It has been an ongoing procedure in many school systems to advance students through the grade system with little or no regard to their achievement of basic skills. This practice has become known as "social promotion."¹⁰

Opportunities for the academically illiterate are limited--in securing employment, in achieving future educational opportunities, in voting, in developing a positive self-concept and in becoming cognizant of the world events which affect them.

When children become "stuck" at a level of development behind that of their peers, standards are needed so that failure can be admitted and the children helped to become "unstuck," thus addressing the needs of students who are not achieving up to expectations must be an important component of the mission of all public school districts. Commitments must be made by school districts to develop policies and procedures for intervention and for promotion or retention of students.¹¹

The purpose of education is to enable fuller participation in society. Public education is facing a challenge. The Minneapolis Public Schools in Minneapolis, Minnesota, along with other urban school districts, are experiencing great diversity in their student population with respect to racial and cultural differences, socioeconomic levels, ability to learn, values and expectations for the educational process.

The Minneapolis Public School District has developed a comprehensive Five Year Plan which deals specifically with issues of educational accountability. The school district is in the process of implementing an articulated, coordinated and integrated educational delivery system for all students. The key element of the delivery system is the curriculum, which will be centrally developed based on the developmental needs of all students and supplemented by a system of strategies and interventions to assist each individual student to reach his/her highest potential--

academically, socially, emotionally, intellectually and physically.¹²

As the school district proceeds to develop policies and procedures for promotion, intervention or retention of students, the following commitments will be made:

1. Minneapolis objectives in reading, writing and mathematics for each grade level will be established citywide. Levels for expected achievement will be set for each grade level.¹³

2. Benchmark tests keyed to objectives will be prepared for each grade level.¹⁴

3. Instruction in all Minneapolis Schools will address the citywide objectives as measured by the benchmark tests.¹⁵

4. Individual schools will have flexibility to use various strategies to help students achieve the objectives.¹⁶

5. Benchmark tests and other forms of assessment will provide early identification of needs.¹⁷

6. Students and parents will be informed about needs, intervention strategies and student progress.¹⁸

7. Resources will be directed to achievement of basic skills at the classroom level, the school level and the district level.¹⁹

8. Resources will be equitably provided to students citywide.²⁰

9. Achievement will be a shared responsibility of the schools, the students and the parents.²¹

10. Benchmark test data will be used as primary information to be considered in decisions about promotion or retention.²²

11. In situations where students have received intervention and still do not achieve up to expectations, students will be retained. At certain specified levels, promotion or retention of students who do not achieve up to expectations will be decided according to a mandatory citywide policy.²³

The 1982-83 school year became a "pioneering" year for the intervention programs. The departments of Language Arts and Math designed a number of intervention models and described each in very general terms. The intention was to give the building principals the responsibility for direct leadership and to allow the intervention teachers, with building staff, to form the program to meet the needs of the students. Intervention teachers were encouraged to continue to modify their programs during the year in an effort to find the most productive ways to use the resources provided.²⁴

Effective intervention programs on all educational levels are necessary and every educator must make a concentrated effort to help all students make whatever cognitive and affective strides they can in order to

enhance their chances of becoming productive members of society.²⁵

When one is valued for his/her own self-worth, one's self-esteem is usually heightened, thereby effectively motivating one to work up to his/her capabilities.

Educators must see each student as a person and accept him/her without comfortable prejudice and ready-made expectations in regards to sex, race, social class, sibling performance or any other factor. Preconceived notions that individuals in any group are by nature logical or illogical, excited or bored by school, ambitious or passive with respect to career must be eliminated.²⁶

Educators must remember that there are vast variations in any group and that to ascribe characteristics to an individual solely on the basis of group membership is an intellectually indefensible act.²⁷

Statement of the Problem

Students grow and learn at varying rates. Students are affected by environmental, cultural and motivational factors. Support systems are necessary to provide additional learning opportunities to students during identified times of need. The intervention program is a method through which students can be academically supported. This study will purport to show the effect of a Kindergarten-First Grade Intervention Program upon the success of children in the kindergarten and first grade in math.

It will, also, analyze the gains in readiness concepts, math and reading of matched pairs of students.

Value of the Study

As less federal funds become available to school districts, viable alternatives for compensatory education programs must be sought. The phasing out of a Chapter I program as a delivery vehicle solely for compensatory education programs to disadvantaged children may become a reality. This study is warranted because it will provide pertinent data on the effectiveness of the Kindergarten-First Grade Intervention Program in comparison with the effectiveness of the Title I tutor program and regular education program.

It is hoped that the information derived from this study will be used to provide direction in determining appropriate models and delivery systems for intervention programs.

Definition of Terms

Several terms will be used throughout this study and are defined as follows:

Intervention: Assistance in acquisition of skills.

Social promotion: The practice of moving a student along with age-mates regardless of achievement.

Retention: Repeating the grade with appropriate intervention.

Benchmark tests: Locally developed criterion-referenced tests in the basic skills of reading, writing and mathematics.

Criterion-referenced tests: Tests developed to measure a student's achievement of specific instructional/curriculum objectives.

Standards: Performance criteria that indicate satisfactory, questionable or unsatisfactory proficiency.¹⁸

ENDNOTES

¹Letter from Thomas Pettigrew, Lecturer in Social Psychology at Harvard University to Franklin Patterson, Director of the Lincoln Filene Center for Citizenship and Public Affairs at Tufts University, January 30, 1964.

²Joseph O. Loretan and Shelley Umans, Teaching the Disadvantaged, 3rd ed. (New York, 1966), p. 1.

³Ibid., pp. 3-4.

⁴Ibid.

⁵Martin Deutsch, "Some Psychological Aspects of Learning in the Disadvantaged." Revised version of a paper presented at the Boston University Developmental Conference on the Teaching of Disadvantaged Youth, 1964, p. 5.

⁶Gunnar Myrdal, "It's Time To Face The Future," Look, (November 19, 1963), p. 105.

⁷William B. Ragan and Gene D. Shepherd, Modern Elementary Curriculum, 5th ed. (New York, 1977), pp. 47-48.

⁸Ibid.

⁹Ibid.

¹⁰Five Year Plan for the Minneapolis Public Schools, (Minneapolis, Minnesota, April 1982), pp. 1-20.

¹¹Ibid., p. 6.

¹²Ibid., pp. 20-21.

¹³Ibid.

¹⁴Ibid.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Ibid.

18Ibid.

19Ibid.

20Ibid.

21Ibid.

22Ibid.

23Ibid.

24Ibid., p. 6.

25Elizabeth Fennema, Mathematics Education Research: Implications for the 80's, (Virginia, 1981), pp. 108-109.

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27Ibid.

28Five Year Plan, pp. 6-18.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The United States represents a land of vast disparities in wealth. The toleration for extremes of abject poverty and wealth is higher here than in most other western countries. The belief in individual initiative in America assumes that both the rich and poor have gotten what they deserve and that the person with motivation and talent will have the opportunity to succeed. Thus, education is often viewed in economic terms and is seen as the vehicle to provide individuals with greater opportunity for economic success. For many years Americans believed that public education, if provided equally to all, would make it possible for all persons with talent, regardless of their background, to succeed.¹

The public school system, since its inception, has been viewed as a vehicle to eliminate intolerance, injustice and racial prejudice by bringing together diverse populations and providing common education in citizenship. Segregated and inferior schools are the reasons emphasized for lack of achievement by impoverished

minorities. An equal opportunity for education, it is argued, would enhance the minority groups' chances for achievement equal to other Americans. Schools are again viewed as an effective mechanism to provide equal opportunities to minority persons.²

The validity of the belief that schools alone can provide equalization of income and amelioration of injustice in America has been doubted by social scientists. Several recent studies purport to show that schools are accomplishing neither task very effectively.³

Equality of Educational Opportunity

Equality of Educational Opportunity, commonly termed the "Coleman Report" of 1966 had as its primary purpose the establishment of data which would show whether schools were or were not providing pupils with equal opportunities for achievement. The Coleman Report surveyed 4,000 public schools across the country. Teachers, principals, school district superintendents and pupils at various grade levels contributed to the gathering of the data. From the 645,000 pupils involved in the study statistics on standardized achievement tests constituted the major source of data. Other statistics were gathered concerning characteristics of the schools, neighborhoods, teachers and background information about pupils and their aspirations and attitudes toward school. Controls for extraneous

influences on the study were provided from the data concerning community, teachers and pupils' environment.

There were three major findings concerning schools and achievement identified by the Coleman Report. First, performance of minority pupils was at a substantially lower level than that of white pupils. A greater disparity in performance was found at the upper grade levels. Second, substantial variation of availability of school services and school quality was apparent both within and among regions of the country. Schools in the southern part of the country were found to be of lower average quality than schools located in other parts of the country. The third finding indicated that achievement in school was highly dependent upon the student's social background and that school characteristics appeared to have little influence upon achievement. After the researchers had formulated evidence of background characteristics of the students, indices of school quality, per-pupil expenditure and the like appeared to have little relationship to pupil achievement.

This last finding has exerted much influence over the critics of American education, tempting them to believe that additional funds to upgrade schools will have little effect on the achievement of students. However, the Coleman Report did reflect that school quality makes more of a difference for minority students than it does for white students.

The report also indicated that student achievement was related to the backgrounds and educational aspirations of other students in the school. The expectation would then be for a child from a disadvantaged background to achieve at a higher level in a school where the other pupils were achieving highly. Finally, the report stressed the relationship of the average quality of teachers to student achievement. This relationship was found to be stronger for minority students than for white students and stronger at the upper grade level.⁴ This finding suggests a "cumulative impact of the qualities of teachers in a school on the pupil's achievements."⁵

The Coleman Report provided insight to those who believed additional allocation of funds to schools would alleviate the disparity of levels of achievement and endorsed the move toward compensatory education programs. Another facet of the Coleman Report gave wisdom to those who believed that achievement varied as a function of pupil aspiration and teacher ability thus engaging the ire of critics who state that fundamental reforms must be made in United States society, as a whole, in order for all children to achieve in school.

America is a land of great inequities in which it is believed that the function of education will lead us to the ideal of equality. Americans, also, believe that schools will solve the problems of racial prejudice and injustice and will provide experiences that will enable

all students to make up for disadvantaged home environments through equal, if not compensatory educational programs.⁶

Compensatory Education

The nation's concern for disadvantaged youth functioning at considerably lower levels of achievement than their more affluent counterparts, initiated the move toward compensatory education programs. According to some social and educational reformers, compensatory education programs will improve the achievement levels of lower functioning students through an improved school environment with remedial programs and special activities.

The federal government has been the major contributor to compensatory education programs. In 1965 the Elementary and Secondary Education Act (ESEA) provided one billion dollars in Title I funds to supplement and improve poor and minority-group children's education.⁷

Title I is a federally funded program that recognizes the impact that concentrations of children from low-income families have on a school district's ability to support educational programs. The purposes of Title I are (a) to provide extra financial assistance to school districts in relation to the numbers of children from low-income families, (b) to allocate within a district funds to those attendance areas which have the greatest relative concentrations of children from low-income families, and (c) to

provide extra assistance to those students in those eligible schools who are significantly behind their age-mates in math and reading skills.⁸

Launched in an era of unprecedented educational innovation and experimentation, Title I provided funds which were used for a variety of projects in 1965. Some school programs addressed the basic skill needs of the children, others used Title I funds to provide motivating experiences, such as camping and field trips, and still others used Title I funds to hire nurses for an entire school or to build swimming pools.⁹ The 1968 and 1969 national evaluations of Title I programs were unable to identify better than expected gains among average participants.¹⁰

Of more than 1,200 educational projects evaluated between 1970 and 1972 only 10 were found successful on the basis of measurable data, according to the former director of the Division of Compensatory Education in the U.S. Office of Education, Richard Fairly.¹¹

Head Start, the most well-known and heavily funded compensatory educational program, also, was ineffective according to the Westinghouse-Ohio University evaluation of 104 centers. The evaluation report indicated that there was no significant difference in learning between the Head Start children and the matched control group. The report, also, stated that the program failed to alleviate the cognitive deficiencies of these children and

failed to help students from disadvantaged homes catch up to their middle-class counterparts.¹²

Congress passed legislation in the early 1970's that specifically indicated direction in the use of Title I funds. The directives stated that the funds were to be spent in schools with high concentrations of low-income children and only on children with the greatest need in basic skill areas (reading, math, and language arts) regardless of family income. Title I programs were, also, to include detailed coordination with other school programs, parent involvement, evaluation, informational pamphlets to community and staff describing the program and requirements that the program would be supplementary to the regular school program.¹³

In the latter half of the 1970's federal and state governments improved monitoring procedures and required local school districts to spend comparable amounts of funds on all students before the addition of compensatory funds. The federal government, also, required more effective evaluation methods, provided technical assistance to meet the needs of evaluation processes and initiated national studies designed to assess and improve compensatory education.¹⁴

In 1975, Title I funds totaled two billion dollars per year or about two hundred dollars extra per each disadvantaged child. (In 1976 a disadvantaged child was

defined as a child from an urban family of four with an income of \$5,200 or less.)

Title I expenditures in 1980 were more than three billion dollars per year. Other federal compensatory expenditures exceeded two billion dollars which in total amounted to five hundred dollars extra for each disadvantaged child's education.¹⁵

Title I became Chapter I in the "Education Consolidation and Improvement Act of 1981." Several of the program components remain intact, however the parent involvement component has been nearly eliminated. Programs must be designed and implemented in conjunction with parents and teachers of Chapter I children, but parent advisory councils are no longer mandated.¹⁶

Evidence of Effective Programs

Studies from the late 1970's produced data which supported conclusions that compensatory education can and frequently does have relatively successful results.¹⁷ Reports from big city schools indicated that the achievement level of students from disadvantaged homes equaled or exceeded the national average through the second or third grades. These reports would indicate that early childhood compensatory programs, such as Head Start and Follow Through, were beginning to succeed.¹⁸

Francis Palmer's¹⁹ longitudinal study of working class black children who participated in a special

preschool program in New York City is an outstanding example of an early childhood education program which has exhibited a long-lasting effect on the involved participants. David Weikart's 18-year longitudinal study of 123 black children who enrolled in preschool at ages 3 and 4 is also deemed a study which has produced long lasting effects on the involved participants.²⁰

A national evaluation, also, provided information which indicates that "models emphasizing basic skills succeed better than other models in helping children acquire these skills."²¹ (The term "basic" skills in this research referred to skills such as spelling, reading and simple arithmetic computation.) This finding supports the conclusion that "direct instruction"--highly structured instruction organized on a step-by-step basis--is the most effective way to teach basic skills in primary grades to students from disadvantaged environments.²²

A study of compensatory education is being conducted by the Systems Development Corporation (SDC) to analyze achievement data collected over a three-year period from a national sample of elementary school children who received compensatory education services. The purpose of this study entitled the "Sustaining Effects Study" is to assess the longitudinal effectiveness (3 years) of Title I and other related programs. Data published from the first year of the study show Title I children making greater gains in reading and math than those children from

disadvantaged homes not enrolled in compensatory education programs.²³

The National Assessment of Educational Progress (NAEP) over a period of ten years tested a national sample of 9-, 13-, and 17-year old children in reading during the school year intervals of 1970-71, 1974-75 and 1979-80. A common pool of items of comparable difficulty in the area of reading were used during each assessment period to ensure reliability of measured changes in student performance over periods of time. The findings in this report indicated that between 1970 and 1980 black nine-year old students gained 9.9 percentage points on the National Assessment of Educational Progress's reading assessment measure while white students gained 2.8 percentage points during this period.²⁴ The National Assessment of Educational Progress reported significantly greater gains for students in Title I eligible schools at all three grade levels tested. According to the National Assessment of Educational Progress,

These significant changes and the overall pattern of a narrowing gap for most population groups at all ages strongly suggest that students in Title I schools are improving at a faster rate than students in non-Title I schools.²⁵

Components of Effective Compensatory Education Programs

Stickney indicates that the following principal requirements of effective compensatory programs have emerged from empirical research and educational theory:

1. Supplement and provide for increased learning time. The Title I child must receive instruction in reading and math which is additional to regular classroom instruction in those areas.

2. Evaluation. The monitoring of pupil progress by pre-post testing ensures program effectiveness and enhances the ability of teachers to plan effectively for instructional activities focusing on reading and math.

3. Coordination of effort. A united academic front, coordination of regular school activities and Title I, appears to be an important ingredient for success of children whose home environment is incongruent with that of the school.

4. Parent involvement. Developing and implementing partnerships between the home and the school permits people who have been denied access to the political process to have input in educational decision making. Linkages between the home and school, also, encourage a greater harmony of the home environment with the

school's environment, thus increasing the responsiveness of both institutions to the child.

5. Dissemination of information. The community must be knowledgeable about the Title I program and its current research and practices.

6. Staff development. The level of competence in teachers of an entire school can be upgraded by capitalizing on the increased expertise of Title I staff, who generally have access to more in-service opportunities than the regular classroom teacher.²⁶

With evidence of effective compensatory education programs and knowledge of components of effective compensatory education programs there are varied opinions as to the reasons why many children enrolled in these programs are still not learning in the public schools.

Responses of Critics to Efforts of Compensatory Education Programs

The essential question regarding compensatory education programs and other educational reform efforts is whether they can provide a chance to succeed in schools and in later life for minority students in concentrated poverty neighborhoods. Many critics of U.S. schools and society have offered strong arguments concluding that provisions for equal opportunity for the poor have failed in public schools and will fail in the future unless

fundamental reforms are made in U.S. society, as a whole.²⁷

Prominent critics Samuel Bowles and Herbert Gintis, in Schooling in Capitalist America,²⁸ argued that hierarchical social relations in the schools correspond to the hierarchical division of labor in the economy in order to prepare students from disadvantaged backgrounds for low-menial jobs and to prepare middle-class students for positions requiring independent thinking and advanced education.

According to Bowles and Gintis the public schools are systematically organized to develop discipline among deprived students and channel them into menial occupations that perpetuate their low social status. Bowles states:

The children of managers and professionals are taught self-reliance . . . , the children of production-line workers are taught obedience The authoritarian social relations of working class high schools complement the discipline-oriented early socialization patterns experienced by working-class children.²⁹

Richard deLeone's Small Futures argues that there is little social mobility in the United States and that children from economically disadvantaged backgrounds do not have much opportunity to develop or demonstrate "meritocratic" abilities which would enhance their chances for success in school and society.³⁰

deLeone concurs that reform programs such as Head Start and/or parent education programs may briefly succeed

in making apparent changes in achievement levels of students from deprived backgrounds. He then concludes that only major economic and social changes in basic policies dealing with full employment of affirmative action and income distribution can give those from deprived backgrounds a meaningful opportunity to improve their status.³¹

John Ogbu argues that unless caste type barriers to minority advancement are systematically eliminated in all aspects of U.S. society, black children in poverty communities will unlikely exhibit adequate motivation and performance in school.³² Ogbu attacks the assumption that "improving black school performance and education attainment is a prerequisite to increasing opportunities in society."³³ He concludes:

. . . there is a need to plan the policies and programs dealing with social and occupational barriers in terms of their possible effects on black school performance.³⁴

A. H. Halsey after examining research on mobility and education in western countries concluded:

The articulation of education to the first entry into the labor market has been tightening. Thus education is increasingly the mediator of the transmission of status between generations.³⁵

The central theme of the writing and research of the critics is summed-up by deLeone: A successful education intervention for children in poverty must be "sufficient

in scope to influence both the life chances and the theory of social reality" perceived by a child, but "neither our understanding nor our social technology is sophisticated enough to produce intervention like this willfully and systematically."³⁶ With the understanding that schools can't be all things for all people, schools can be effective in providing a basic respect for the intellect and for the power of education to all children.

Effective Schools

Regardless of students' socio-economic status, schools can be effective in producing high student achievement, appropriate student behavior, low delinquency, high attendance and a safe environment.³⁷

Brookover's (1979) research examined school processes while controlling socio-economic status (SES) variables in order to discover which of those processes are associated with higher student achievement. Brookover's data indicated that students with higher levels of achievement feel that they have control or mastery of their academic studies and the school system has unconditional positive regard for them. Expectations of teachers and principals are expressed in such a way to students who exhibit high levels of achievement, that they perceive they are expected to learn and the academic norms of the school are recognized as high achievement standards. Teachers of high achieving students reward them consistently for

demonstrated achievement in the academic subjects and do not reward students, indiscriminately, regardless of the correctness of their response.³⁸

Students, achieving at a low level, are characterized by feelings of futility in regard to their academic performance. These students believe that the system functions in such a way that they cannot achieve, that the teachers are not committed to their high achievement and that other students will ridicule them, if they actually try to achieve. Low expectations for these students on the part of teachers and principals, low teacher evaluations of their ability, and the devotion of less time to their instructional activities write off a large proportion of students as unable to learn and perpetuate their feelings of futility.³⁹

Wellisch et al. (1978) found that administrators in schools where achievement was improving, emphasized academic standards, were more concerned with instruction, communicated their views about instruction, took responsibility for decisions relating to instruction and coordinated instructional programs through regularly discussing and reviewing teaching performance.⁴⁰

Weber (1971) in examining four inner-city schools that were successful in teaching children to read, found eight factors that affected reading achievement: high expectations, effective leadership, warm learning climate, strong emphasis on reading, additional reading personnel,

use of lesson plans, individualization and precise evaluation of student progress. These factors are usually under the direct control of the principal.⁴¹

Expectations of Teachers

It is likely that in most classrooms many students are not reaching their potential because their teachers do not expect much from them and are quite satisfied with mediocre or poor performance when they could obtain something better.⁴²

Attitudes are associated with student achievement. One of the few attitudes that differentiated teachers who were getting good student gains in their classes from those who were not was the belief that students could and would learn.⁴³

Teachers' expectations can act as self-fulfilling prophecies. Expectations can influence behavior and the behavior in turn can help produce the originally expected results. It is not just the existence of an expectation that causes self-fulfillment; it is the behavior that this expectation produces. This behavior affects the other person, more likely encouraging him or her to act in the expected ways. The process in the classroom is as follows:

1. Specific behavior and achievement is expected from particular students by the teacher.

2. The teacher behaves differently toward different students, because of these different expectations.

3. This treatment tells the students the teacher's expectation of behavior and achievement for them and this affects their achievement motivation, self-concept and level of aspiration.

4. If this treatment is consistent for a period of time and if the students do not resist or change it in some way, it will shape their behavior and achievement. High-expectation students will be led to achieve at high levels, while the achievement of low-expectation students will regress.

5. Over a period of time, students' behavior and achievement will conform more and more closely to that originally expected of them.⁴⁴

Teacher expectations must be translated into behavior that will communicate expectations to the students and will shape their behavior toward expected patterns.

It has been suggested by some authors that teachers try to avoid forming expectations altogether. This would mean avoiding or ignoring cumulative records or test information and refusing to discuss students with their previous teachers. However, expectations cannot be suppressed or avoided. Events, which occur repeatedly, are gradually seen as normal and expected and expectations are reinforced every time repetition occurs. By simply interacting with their students, teachers form expectations about them.⁴⁵ Teachers' uses of school records and test

information will create expectations about students, but they will also prove to be very useful in planning an instructional program to meet the needs of the students.⁴⁶

Teachers' expectations for students should be appropriate rather than necessarily high and they must be followed up with appropriate behavior. Accommodation of this means planned learning experiences that take students at the level they are now and move them along at a pace they can handle. The correct pace is the pace that will allow continued success and improvement and will vary with different students.⁴⁷

Regularly repeated student behavior will build up strong expectations in all teachers. In order to avoid undesirable self-fulfilling prophecy effects, teachers should remain alert to the formation of and changes in their own expectations and should monitor their own behavior to see that negative expectations are not communicated.⁴⁸

Direct Instruction

"Process-product" researchers have for a number of years studied the relationship between teacher behaviors (process) and student achievement (product) with the end result in mind of determining what teacher behaviors will lead to increases in student achievement and attitude. Researchers have now concluded that effective teaching is

characterized by a pattern of teaching behaviors that they have called "direct instruction."⁴⁹

Barak Rosenshine (1979) states that direct instruction has the following characteristics: an academic locus; a teacher-centered locus; little student choice of activity; use of large groups rather than small groups for instruction; and use of factual questions and controlled practice in instruction.⁵⁰

Thomas Good (1979) describes direct instruction as "active teaching":

A teacher sets and articulates the learning goals, actively assesses student progress and frequently makes class presentations illustrating how to do assigned work.⁵¹

These reviews of process-product researchers may indicate that direct instruction is the most effective way of teaching. The research literature, however, suggests that the questions of direct instruction for what and for whom must be asked.⁵²

Peterson (1979) concluded that with direct instruction, students tend to do slightly better on achievement tests, but slightly worse on tests of abstract thinking such as problem solving or creativity.⁵³

Wright and DuCette (1976) cited that students who had an external locus of control--felt that their success and failures were due to fate, luck, or other forces outside their control--achieved well in direct instruction situations.⁵⁴

Terence Janicki (1979) found that students with an external locus of control were more successful in an educational setting which fostered a direct approach to teaching children as a large group and then working on seatwork individually.⁵⁵

These findings indicate that the effectiveness of direct instruction depends on the students' senses of personal control. In direct instruction students have little control over instructional events because learning activities are directed, monitored and controlled by the teacher. Students who have an external locus of control should benefit from direct instruction because their locus of control matches the teaching situation.⁵⁶

The research in "process-product" implies that a teacher, teaching basic skills to low-ability students who have an external locus-of-control, would find more success using the direct instruction approach.⁵⁷

The Effective School Environment

According to Dewey (1916), environment is

the particular medium in which an individual exists which leads him to see and feel one thing rather than another . . . it strengthens some beliefs and weakens others, it gradually produces in him a certain system of behavior . . . the environment consists of those conditions that promote or hinder, stimulate or inhibit the characteristics or activities of a human being.⁵⁸

A school is made up of individual classrooms, each forming its own climate or environment, in which physical, social, emotional and intellectual stimuli set the conditions for the behaviors of teachers and students. Thus, the overall attitudes, actions and feelings of those in the classroom formulate the instructional and learning environment.⁵⁹

Research studies have defined major dimensions of effective classroom environments, the total of which makes up the "effective" school environment, which seem to have direct consequences on the level of achievement of all students.

The first dimension for an "effective" school is its "achievement orientation." Classrooms in achievement oriented schools focus on and emphasize academic activities.

The second dimension of an "effective" school is one which has "high expectations." Teachers and principals in effective schools express their expectations for success in such a way that students know what is expected of them and believe they can measure up to those standards. The school also communicates its expectations for students by providing rewards for work well done and creating opportunities for student participation and leadership. Academic success, usually, leads to enhanced self-concept on the student's part. In "effective" schools both

principals and teachers not only believe students can succeed, but model those expectations to the school, as a whole.

The third dimension of an "effective" school is evaluation. Evaluation reveals strengths and weaknesses of instruction, as well as learning. In "effective schools" student progress in achieving the established instructional goals is frequently and systematically monitored and the learning tasks are appropriately modified.

"Active learning" is the fourth dimension of "effective schools." "Active learning" is characterized by students "doing" rather than "studying about." "Active learning" is the planned use of additional resources and approaches which provide for a wider variety of learning styles. This range of approaches capitalizes on the motivation of in-depth involvement with unique materials, people, places and strategies.⁶⁰

Summary

The review of literature pertinent to the need of intervention and compensatory education programs, so that all children can attain the levels of achievement according to their capabilities, is indicative of the text of the report A Nation At Risk: The Imperative for Educational Reform.

This report states that "learning is the indispensable investment required for success in the 'information age' we are entering."⁶¹

The report, also, shares that people of the United States need to know that there are individuals in our society who because of lack of appropriate skills, training and literacy, will be effectively disenfranchised from material rewards that accompany competent performance and will also never have the chance to participate fully in our national life.⁶²

Part of what is at risk is the promise first made on this continent: All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment and to manage their own lives, thereby serving not only their own interests but also the progress of society itself.⁶³

The review of literature also states that in most instances intervention has not adequately worked to the advantage of disadvantaged children. Thus those children who lacked achievement without intervention, lacked achievement with intervention. Compensatory education programs funded with the express purpose of providing extra financial assistance to school districts with large numbers of disadvantaged children have had little success.

Critics of the compensatory education programs have concluded that provisions for equal opportunity for the disadvantaged have failed in public schools and will continue to fail unless fundamental reforms are made in United States society, as a whole. Can intervention programs change the achievement record of disadvantaged students?

It is this author's position that intervention programs can change the achievement levels of the involved students. Student's who attend "effective" schools as outlined in this literature and who are treated with "unconditional positive regard" can be successful. It is upon this premise that this study will be conducted.

Statement of the Hypotheses

The following hypotheses will be tested:

Hypothesis 1 -- There will be no significant difference in Benchmark math test results between kindergarten students who participated in the intervention program and kindergarten students who did not participate in the intervention program.

Hypothesis 2 -- There will be no significant difference in the Benchmark math test results between kindergarten students who participated in the Title I tutor

program and kindergarten students who did not participate in the Title I tutor program.

Hypothesis 3 -- There will be no significant difference in the Benchmark math test results between first grade students who participated in the intervention program and first grade students who did not participate in the intervention program.

Hypothesis 4 -- There will be no significant difference in the Benchmark math test results between first grade students who participated in the Title I tutor program and first grade students who did not participate in the Title I tutor program.

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CHAPTER III

METHOD AND PROCEDURE

Introduction

To address the needs of students who are not achieving up to expectations, the Minneapolis Public Schools introduced intervention programs in the school year 1982-83. Recognizing that students learn and grow at varying rates and are affected by environmental, motivational and cultural factors, the school district is providing additional learning opportunities at identified times of need through the intervention programs.¹

Bethune Elementary School, an inner-city school in Minneapolis, Minnesota, was selected to pilot a kindergarten-first grade intervention program. The objectives of the program were to provide a program for kindergarten and first grade students identified as needing additional instruction in reading and math, to enhance the students' self-concepts and to promote growth in listening, following directions and work habits.

It was the school's intent to develop an intervention program which would provide additional learning activities and experiences for students who were functioning at a lower level of maturation, development, achievement and

who were from homes lacking positive models of educational experiences.

In developing the intervention program the Bethune School faculty attempted to integrate into the model cognitive learning activities, indicative of those active learning experiences espoused by Piaget and Dewey, which would help to increase the rate of success in raising the level of attainment of basic skills for the children in the intervention program.

Developing Readiness

The concept of natural readiness subscribes to the viewpoint that each child should be allowed to become ready for school at his/her own pace. Hymes states,

All the evidence says: readiness comes as a healthy child grows and matures. Time is the answer--not special drills or special practice.²

In addition, Zike states that

Only about 25 percent of the children in kindergarten have reached a neurological maturity to cope with the symbolization necessary for reading. The eye may be ready to receive the visual image, but for more than 75 percent of the children, the neurological system has not reached the maturity needed to make connections between what they see and what they understand. There is nothing that can be done to speed up this readiness--only time can do this. (Quoted in Brenner, 1967.)³

Piaget's work strongly suggests that certain shifts in children occur naturally around the five to seven age

range, these shifts justify the traditional practice of beginning formal intellectual training at about six years of age.⁴

It makes little sense to begin formal instruction in school subjects, since all formal school work involves rules, until the teacher has assurance that the children can internalize and perform according to these rules. Formal learning should be delayed until the age of six or seven when most children can learn rules. Until that time youngsters should become familiar with the subject matter of rules which they will learn later. Elkind states that facility in rule learning is more crucial than rote learning in formal instruction.⁵ Rote knowledge of addition and subtraction facts can be the reason for higher scores on arithmetic tests, but these scores reflect little genuine capacity to order quantitative relations.⁶

Piaget's theory suggests that teaching materials and methods should be consistent with children's levels of conceptual development. The most important school-related factors in cognitive development are the physical and social interactions of the child with the environment. In regards to cognitive development and school experiences, Piaget (1964) writes:

Experience is always necessary for intellectual development . . . but I fear that we may fall into the illusion that being submitted to an experience [a demonstration] is sufficient for a subject to disengage the structure involved. But more than this is required. The subject must be active, must transform things and find

the structure₇ of his own actions on the objects.

Peer interactions become important with respect to cognitive development when children are able to assimilate the viewpoint of others when they are different from their own. From the time a child enters school peer interactions are of cognitive importance. Peer interactions can be an effective means of stimulating natural cognitive conflicts that can generate accommodation to another's view and evaluation of one's own concepts. Role playing, games and play stimulate peer interaction. Through the use of peer activities interactions centered on particular concepts can facilitate concept development.⁸

Active Education

John Dewey advocated schools which would represent life as real and vital to children as that which they experience at home. He believed schools should work with those activities familiar to children and that the school's influence should flow into the community. Dewey advocated education as an active and constructive process, which would require the school environment to be equipped with agencies for doing, with tools and physical materials. Methods of instruction and administration must be modified to allow and to secure direct and continuous occupation with things. Dewey recommended less dependency

on books and conversation and more thrust in the development of opportunities for conjoint activities in which those instructed take part, so that they may acquire a social sense of their own powers and of the materials and appliances used.⁹

Dewey states that schools should provide opportunities for all children to learn and to achieve as much as their individual abilities and efforts allow. He concludes that schools should be evaluated in terms of the quality of living which they foster and should help to develop those traits and abilities needed for building a better society and should separate themselves from the perpetuation of undesirable features in society of today.¹⁰

Intervention Program

The instructional program and the room environment were designed to focus attention on specific individual needs. Small group instruction, learning stations and independent follow-up activities corresponding to the Minneapolis Schools' objectives in readiness concepts, math and reading were developed to meet the needs of the students involved in the program. These activities were planned around manipulative and pictorial materials intended to extend and clarify concepts and refine skills in reading and math.

Kindergarten readiness concepts, such as "above," "below," "in front of," "left" and "right," were developed through using physical activities and apparatus.

Kindergarten and first grade math concepts were developed by using a variety of materials and activities. Materials, activities, and experiences used in developing the math concepts are listed below:

1. Systems 80 -- A self-teaching and self-correcting audio-visual activity. Basic readiness and math concepts correlated to the Minneapolis objectives were provided to each student on an individualized basis. A pre- and posttest were, also, part of this activity.¹¹

2. Math Their Way -- A math program based on a hands on approach to learning. The materials consist of templates, blocks, cubes, cuisenaire rods and unifix cubes.¹²

3. Workjobs -- Individual learning centers or stations correlated to the Minneapolis objectives.

4. Other materials used to develop basic concepts in reading and math were sand, sandbox, paper bags, clay, macaroni, puppets, plexiglass over printed numerals and chalkboards, large and individual.

Activities used to reach specific kindergarten math concepts are listed below.

Concept 1 -- Smallest to Largest

Flannel board objects
 Picture cards--graduated sizes
 Unifix cube activities (cards)

Concept 2 -- Sorting

Attribute cards
 Pattern blocks
 Shapes

Concept 3 -- More/Fewer

Name tag comparison--number of letters in names
 Gluing one more (felt shapes, templates, stickers)

Concept 4 -- Same Number

One to one correspondence

- Tongue depressors in containers
- Push pins on sponge with same amount
- Dog biscuits in doghouses
- Painted lima beans--sandpaper
- Frogs--ponds
- Fish--beaches
- Bacon--eggs

Concept 5 -- Ordering Numbers 1-5

Carpet squares with numerals

- Sit on them in order
- Jump on them in order
- Cooperatively put them in order

Small individual sets to put in order

Concept 6 -- Patterns

- Unifix cubes
- Shapes
- Beads on string
- Pattern blocks
- Various stickers
- Various felt shapes

Concept 7 -- Empty Set

- Comparing sets--pictures
- Flannel board
- Painted beans
- Counters
- Cubes
- Blocks

Concept 8 -- Counting to 31

- Grid with numerals
- Note counting
- Calendar

Concept 9 -- Numeral Recognition 0-9

- Objects on numerals

Concept 10 -- Cardinal Numbers

- Matching numerals to objects
- Beans
- Chips
- Dice
- Dog biscuits
- Popcorn
- Toothpicks
- Shells

Concept 11 -- Ordinal Numbers

- Line up own self (bodies)
- Manipulative objects

Concept 12 -- Joining Sets

- Manipulative objects
- Work jobs

Concept 13 -- Removing Objects

- Manipulative objects
- Work jobs

Concept 14 -- How Many More Objects the Larger Set Has Given Two Unequal Sets

- Comparing sets of manipulatives
- Compare pictures on worksheets

Concept 15 -- Location Concepts

- Cars and garages
- Jungle gym
- Following verbal directions

Concept 16 -- Identify Square, Circle, Triangle, Rectangle

- Shape blocks
- Shape paper
- Shape walk

Concept 17 -- Money

- Real coins
- Counting/exchanging
- Buying objects

Above and beyond direct contact with the students in the intervention program the intervention teacher provides the following services:

1. Assessment of students in the areas of math, reading and readiness.

2. Identification of student skill deficiencies and correlation of the skills to the Minneapolis objectives in reading and math.

3. Development of alternative teaching strategies, techniques and materials to meet the students' needs in identified skill areas.

4. Development of resource materials, lessons and other resource personnel to classroom teachers.

5. Development of small and large group activities to enhance the skill levels of students.

6. Monitoring of student achievement using charts and graphs, correlated to the Minneapolis objectives in reading and math.

7. Co-teaching in classrooms.

8. Communicating with district curriculum consultants.

9. Proposal writing for staff development in the areas of learning centers and parent involvement.

Students who are participants in the intervention program leave their regular classroom each day to receive 30 minutes of readiness concepts, math or reading instruction. This instruction is supplemental to the instruction the students receive in their classrooms. A classroom aide also provides direct instructional services to the children and maintains the intervention classroom materials and machines.

Description of Subjects

The sample group for this study was selected from the kindergarten and first grade population of 394 students at Bethune Elementary School, an inner-city school with 50 percent minority population and 53 percent of its population qualifying as Title I students. (The Title I of the Elementary and Secondary Education Act was enacted in 1965 by the Federal Government to give financial assistance to meet special educational needs of children from disadvantaged homes.)

The children in the kindergarten intervention group have been identified as children with serious needs for basic concept skill development. This determination was made by their test scores on the kindergarten Benchmark Test given in October.

The first grade students have been identified for the intervention program by their low mastery of reading and math skills, as determined by their performance on the

Ginn 720 Placement test,¹³ D.C. Heath Placement test¹⁴
and the Metropolitan Readiness Test.¹⁵

Description of Instruments

The Benchmark Tests are criterion-referenced tests that are now mandated for Minneapolis Public School students (Appendix A). These tests in reading, writing, and mathematics are based on the district's curriculum objectives for reading, writing and mathematics. The kindergarten and first grade tests were piloted in the winter/spring of 1982-1983.

Setting Standards for Benchmark Tests

Standards of performance for the Benchmark Tests are being centrally established. The process to be used correlates test results with teacher determined criteria of performance.

For each student in the sample group, Benchmark Test scores will be compared to the teacher's judgments of proficiency or lack of proficiency. A statistical method called "contrasting groups method" is then used to determine the test score that best separates those judged to be proficient from those that are judged not to be proficient.

Test scores that are closest to the test score (standard) that separates proficiency from non-proficiency may not accurately reflect performance due to error of

measurement present in all tests. Teachers may make errors in their judgment about student proficiency. Since those errors exist, scores from each Benchmark Test will be divided into three bands: "satisfactory", "questionable" and "unsatisfactory." Following is a graphic illustration of how the bands may appear:

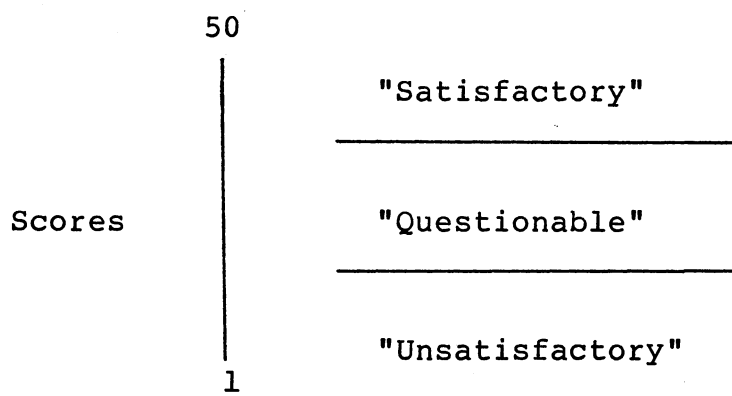


Figure 1.

Research Design

The design used in this study was the pretest, post-test, control group design for the kindergarten students. Three groups were formed for the kindergarten study: Group 1, intervention; Group 2, Title I tutors; and Group 3, non-treatment, to use regular classroom procedures. The design for the first grade group was the posttest only, control group design. The control group will be

referred to as the non-treatment group because this group was not identical to the intervention and Title I group in regard to overall test scores.

The pretest, posttest, control group design was chosen because the combination of random assignment and the presence of a pretest and a non-treatment group serve to control for all sources of internal invalidity. Random assignment controls for regression and selection factors; the pretest controls for mortality; randomization and the non-treatment group control for maturation; and the non-treatment group controls for history, testing and instrumentation.

Possible interaction of testing and treatment was not considered to be a major threat to the external validity of the study since six months had elapsed between pretesting and posttesting.

The posttest only design is exactly the same as the pretest-posttest control group design except there is no pretest; subjects are randomly assigned to groups, exposed to the independent variable and posttested.

The combination of random assignment and the presence of a non-treatment group serve to control for all sources of internal validity except mortality. While mortality is a potential threat to validity with this design, it did not prove to be a threat in this study since the group sizes remained constant throughout the duration of the study.

Procedure

Eighteen subjects were randomly selected from a group of 27 kindergarten students who had scored between 0 and 10 on the pretest of the Benchmark Math Test and who had scores on the reading pretest between 0 and 23 which indicated these students were most needy in regards to intervention (Appendix B). Ten was used as the cut-off number for the math scores because the students who were most similar and most needy in regard to intervention scored between 0 and 10. These students formed the kindergarten intervention group.

From a group of 78 kindergarten students who had scores between 0 and 10 on the pretest of the Benchmark Math Test and scores on the reading pretest between 24 and 46, 18 students were randomly selected to form the Title I tutor groups.

The non-treatment group was randomly formed from a group of 26 students who had scores on the Benchmark Math Test between 6 and 10 and reading pretest scores which ranged from 24 to 59.

All groups were formed by using a table of random numbers.

In forming the first grade intervention group, three sets of criteria were used. The first criterion was a score between the second and thirty-fifth percentile on the Metropolitan Readiness Test.¹⁶ The second criterion was a reading level below level two in the Ginn 720.¹⁷

series which indicated the child had not mastered letters and beginning sounds. This reading level, when translated to Title I Needs Assessment scores, contained a range of scores between 50 and 0 with 50 indicating students with the most serious needs (Appendix C). The third criterion was a score less than 50 percent correct on the Level I D.C. Heath placement test.¹⁸ This math level, when translated to Title I Needs Assessment scores, indicates a score of 50 which is the score of the most needy students. From a group of 42 children, identified by the above criteria, 17 first grade students were randomly assigned to the intervention group.

Seventeen students from a group of 25 were randomly assigned to work with Title I tutors. These students scored between the second and thirty-fifth percentile on the Metropolitan Readiness Test and using the same criterion as was used for the children of the intervention program, scored in the serious range or 50 in both reading and math. The difference between the reading scores in the two groups is the Title I group children all had reading scores of 50 (a score of 50 indicative of the most serious skill deficiencies) and the intervention students had reading scores between 0 and 50 with the scores of 0 being average, a score of 20 being poor and a score of 50 being serious.

From a group of 25 students who scored between the second and thirty-fifth percentile on the Metropolitan Readiness Test¹⁹ seventeen students were randomly selected to form the non-treatment group. The students in this group scored between 50 and 75 percent correct on the D.C. Heath²⁰ math placement test, which translated to a Title I Needs Assessment score from 0 to 20 and also had the same level of scores in reading, as did the students in the intervention group.

All groups were formed by using a table of random numbers.

<u>Kindergarten Groups</u>	<u>Pretest</u>	<u>Treatment</u>	<u>Posttest</u>
Group 1N = 18R	Benchmark Math Test	Kindergarten Intervention	Kindergarten Benchmark Math Test
Group 2N = 18R	Benchmark Math Test	Title I Tutors	Kindergarten Benchmark Math Test
Group 3N = 18R	Benchmark Math Test	Usual Classroom Procedures	Kindergarten Benchmark Math Test

Figure 2. The Experimental Design

<u>First Grade Groups</u>	<u>Treatment</u>	<u>Posttest</u>
Group 1N = 17R	First Grade Intervention	First Grade Benchmark Math Test
Group 2N = 17R	Title I Tutors	First Grade Benchmark Math Test
Group 3N = 17R	Usual Classroom Procedures	First Grade Benchmark Math Test

Figure 3. The Experimental Design

In October, 1982, the kindergarten students at Bethune Elementary School were administered the Benchmark Tests in math and reading. The first graders were administered the Metropolitan Readiness Test. Upon receiving results of the tests and Title I Needs Assessment Surveys student selection was determined for the study groups.

The kindergarten and first grade intervention programs and Title I tutor services began on October 15, 1982.

All teachers of the groups have a minimum of 10 years teaching experience and only one of the teachers involved has not had inner-city experience.

The Title I tutors are certificated teachers and each has a minimum of 10 years teaching experience, a portion of that in the inner-city schools.

The intervention teacher has a minimum of 10 years experience at various grade levels, a portion of that time spent in the inner-city.

All children, when not being serviced by the intervention or Title I tutor programs, followed the academic curriculum for that grade level.

Kindergarten and First Grade Intervention Programs: Students left their regular classrooms each day to receive 30 minutes of reading, language, readiness concepts or math instruction. This instruction was supplemental to the instruction presented in the regular classrooms.

Five to 10 students with similar needs formed the intervention groups.

Kindergarten, Group 1, Intervention: The instructional program and the room environment were designed to focus attention on specific individual needs.

The Kindergarten Benchmark Test results were used to identify priority needs of kindergarten students. Both small group instruction and independent follow-up focused on these needs. Physical activities built around games, climbing apparatus and the jungle gym, were used to develop concepts such as "below," "left," "right," "in front of" and "above." Concrete materials such as clay, sand and blocks added visual and manipulative dimensions to learning color and number concepts.

Kindergarten, Group 2, Title I Tutors: For a period of 30 minutes daily, kindergarten children worked outside

of the classroom in a small group setting of three to five students with similar needs, with a Title I tutor to increase their skills in reading and math. The classroom teacher worked directly with the tutor to define the skill needs area and activities for the children. The tutors used a variety of flash cards, worksheets, and games to supplement the reading and math programs.

A notebook, which included the activities and progress of each child, was logged weekly by the Title I tutor. The Title I Resource teacher monitored the notebook on a bi-weekly schedule to ensure that the classroom teacher and tutor were in close communication in regards to the activities and progress of the children.

Kindergarten, Group 3, The Non-Treatment Group:

Regular classroom academic procedures and programs were followed.

First Grade, Group 1, Intervention: Experiences provided in the intervention program supplemented and reinforced reading and math instruction which students received in their regular classrooms. Small group and individual activities were planned around pictorial and manipulative materials intended to extend and clarify concepts and refine skills in reading and math. Some of the materials used were: Math Their Way,²¹ Systems 80,²² cuisenaire rods, unifix cubes, and Spell Binder.²³

First Grade, Group 2, Title I Tutors: For a period of 30 minutes daily a tutor worked with four to six first grade students with similar needs to increase their skill levels in reading and math. The classroom teacher worked directly with the tutor to define the skill needs area and activities for the children. The tutors used a variety of flash cards, worksheets, and games to supplement the reading and math programs.

First Grade, Group 3, The Non-Treatment Groups: Regular classroom academic procedures and programs were followed.

In May, 1983, the Benchmark Tests for both kindergarten and first grade were administered to all subjects, as a posttreatment measure of the success of a Kindergarten-First Grade Intervention Program. The Metropolitan Readiness Test Form B was also administered to the first graders.

Supplemental Data

A comparison of data from four matched pairs of students will be analyzed to determine the effectiveness of parental involvement, school attendance and educational stimuli on the children's academic success in school.

Analysis of Data

The "t" test will be used to determine whether the two means of the randomly formed groups for each grade

level are significantly different at a .05 probability level. The possibility of regression toward the mean does exist, however the regression effect should be minimal since the children in the study groups are considered to be extreme in their lack of skills achievement.

To determine the effect of external factors such as family involvement with the school, educational stimuli in the home and family stability in the academic progress of the children, two checklists were developed to gather this information.

A social growth checklist for each child was developed to be completed by the teachers every first Friday from November to May (Appendix D).

A checklist which would indicate the parents' involvement in the child's learning activities over the past six months was also developed. A personal interview with eight parents was held to gather the information.

Four matched pairs of students will be analyzed using the above data. The data collected will allow for the examination of teachers' perceptions of the students and for the comparative analysis of the influence of parents' involvement on the success of children in school.

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²J. J. Hymes, Before the Child Reads (Evanston, Ill., 1958).

³A. Brenner, Readiness for School and Today's Pressures In the 12th Interinstitutional Seminar in Child Development (Waldenwoods Conference Center, Edison Institute, 1967).

⁴L. Kohlberg, "Early Education: A Cognitive Developmental View," Child Development 39 (1968), pp. 1013-1062.

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⁶Ibid.

⁷J. Piaget, "Three Lectures" in Piaget Rediscovered, ed. by R. E. Ripple and U. N. Rockcastle (Ithaca, New York, 1964).

⁸Barry J. Wadsworth, Piaget's Theory of Cognitive Development (New York, 1971).

⁹John Dewey, Democracy and Education: An Introduction to the Philosophy of Education (New York, 1966).

¹⁰Ibid.

¹¹Borg Wamer Educational Systems, Systems 80 Concept Development Series (Arlington Heights, Mass., 1977).

¹²Mary Baretta-Lorton, Math Their Way (Addison Wesley, Reading, Mass., 1979).

¹³Theodore Clymer, William Blanton, Jack Humphrey, Dale Johnson, Diane Lapp and Constance McCullough, Ginn Reading 720 Placement Test (Ginn and Co., Lexington, Mass., 1976).

¹⁴D.C. Heath and Co., Level I Placement Test
(Lexington, Mass., 1979).

¹⁵Gertrude Hildreth, Nellie Griffiths and Mary
McGavoran, Metropolitan Readiness Tests (Harcourt, Brace
and World, Inc., 1965).

¹⁶Ibid.

¹⁷Clymer.

¹⁸D. C. Heath and Co.

¹⁹Hildreth.

²⁰D.C. Heath and Co.

²¹Baretta-Lorton.

²²Borg Warner.

²³Spellbinder Console Station (Concord, Mass.,
1980).

CHAPTER IV

RESULTS

The Kindergarten Benchmark Math Test was administered as a pretest to children in the intervention, Title I tutor and control groups. Although each group of children scored at a low level the scores of the control group were essentially higher at the beginning of the study and the scores of the Title I and intervention groups were essentially equivalent. (See Tables I and II.) Treatment was administered to the intervention group and Title I tutor group over a seven-month period and at the end of this period the Kindergarten Benchmark Test was readministered to all three groups.

The Statistical Package Social Science Program was used to calculate a t test for independent samples in order to compare the achievement for each of the two groups. This statistical technique was used because the groups were independent of each other, that is, the subjects were randomly assigned to either the non-treatment, intervention or Title I tutor group. It was found that the means of the non-treatment group did differ significantly from the means of the intervention and Title I tutor group. (See Tables I and II.)

Therefore, data do not support the following hypotheses:

Hypothesis 1 -- There is no significant difference in the Benchmark Math Test results between kindergarten students who participated in the intervention program and kindergarten students who did not participate in the intervention program.

Hypothesis 2 -- There is no significant difference in the Benchmark Math Test results between kindergarten students who participated in the Title I tutor program and kindergarten students who did not participate in the Title I tutor program.

TABLE I
 MEANS, STANDARD DEVIATIONS, AND t FOR THE
 KINDERGARTEN NON-TREATMENT AND TITLE I TUTOR
 GROUPS ON THE PRETEST AND POSTTEST

Test	Group		t
	Non-treatment	Title I Tutor	
Pretest			
Mean	9.27	3.5	
SD	0.675	1.25	
Posttest			
Mean	12.5	9.1	
SD	1.64	2.15	5.23*

*df = 34, $p < .05$

TABLE II
 MEANS, STANDARD DEVIATIONS, AND t FOR THE
 KINDERGARTEN NON-TREATMENT AND
 INTERVENTION GROUPS ON THE
 PRETEST AND POSTTEST

Test	Group		t
	Non-treatment	Intervention	
Pretest			
Mean	9.27	2.66	
SD	0.675	1.35	
Posttest			
Mean	12.5	7.38	
SD	1.64	3.11	6.03*

*df = 34, $p < .05$

The First Grade Benchmark Math Test was administered as a posttest to children in the non-treatment, intervention and Title I tutor groups. Examination of the children's Metropolitan Readiness Test scores and Title I Needs Assessment scores indicated that the children in all three groups were essentially equal in regards to their level of achievement at the beginning of the study. (See Tables III and IV.) Treatment was administered to the intervention group and Title I tutor group over a seven-month period and at the end of this period all three groups were administered the First Grade Benchmark Math Test. A t test for independent samples was used to compare the achievement for each of the two groups. It was found that the mean of the non-treatment group did not differ significantly from the means of the intervention and Title I tutor groups. (See Tables III and IV.)

Therefore, the following hypotheses were supported:

Hypothesis 3 -- There is no significant difference in the Benchmark Math Test results between first grade students who participated in the intervention program and first grade students who did not participate in the intervention program.

Hypothesis 4 -- There is no significant difference in the Benchmark Math Test results between first grade students who

participated in the Title I tutor program and first grade students who did not participate in the Title I tutor program.

TABLE III
 MEANS, STANDARD DEVIATIONS, AND t FOR THE
 FIRST GRADE NON-TREATMENT AND
 TITLE I TUTOR GROUPS ON
 THE POSTTEST

Test	Group		t
	Non-Treatment	Title I Tutor	
Posttest			
Mean	75.2	67.4	
SD	12.07	12.23	1.83*

*df = 32, $p > .05$

TABLE IV
 MEANS, STANDARD DEVIATIONS, AND \bar{t} FOR THE
 FIRST GRADE NON-TREATMENT AND
 INTERVENTION GROUPS ON
 THE POSTTEST

Test	Group		\bar{t}
	Non-Treatment	Intervention	
Posttest			
Mean	75.2	67.4	
SD	12.07	11.11	1.916*

*df = 32, $p > .05$

Additional Analysis

An analysis of gain scores was used to compare the average gains on the posttest of the Title I, Intervention and non-treatment kindergarten groups.

TABLE V

GAIN SCORES: MEAN OF THE DIFFERENCES, STANDARD DEVIATION OF THE DIFFERENCES, STANDARD ERROR OF THE MEAN OF THE DIFFERENCES AND \underline{t} FOR THE NON-TREATMENT TITLE I TUTOR AND INTERVENTION KINDERGARTEN GROUPS ON THE POSTTEST

Test	Group
<u>Posttest</u>	<u>Non-treatment</u>
Mean of the difference	3.22
SD of the difference	1.82
SX_D of the difference	0.44
\underline{t} test	7.32
df = 17, $p < .05$	
	Title I Tutor
Mean of the difference	5.72
SD of the difference	1.95
SX_D of the difference	0.47
\underline{t} test	12.17
df = 17, $p < .05$	
	Intervention
Mean of the difference	4.72
SD of the difference	2.89
SX_D of the difference	0.70
\underline{t} test	6.74
df = 17, $p < .05$	

A t value was calculated for the difference between the two average mean differences.

The following can be determined from the comparison of the average gains on the posttest:

- A. The Title I tutor group made the most significant gains.
- B. The intervention group made better gains than the non-treatment group.
- C. The gains made by the non-treatment group were the least significant.

Comparison of Matched Pairs

A comparison of eight children was made in regard to social growth, attendance, parent involvement with the school, home reading and television experiences and academic growth (Appendixes D and E). The eight children chosen for this comparison had essentially equivalent scores at the beginning of this study. Two first grade students and two kindergarten students, who were participants in the non-treatment groups, were selected for the matched pairs comparison. Also, two first grade students, one from the Title I group and one from the intervention group, and two kindergarten students, one from the Title I group and one from the intervention group, were selected for the matched pairs comparison.

Explanation of Terms for Comparison
of Matched Pairs

Attendance--the number of days a child is in attendance at school during the school year.

Parent Contact--the number of times a parent(s) comes in contact with members of the school staff.

Examples: Parent Conferences

Open House

School Programs

Telephone Conversations

Home Visits

Weekly Reading--the number of times a week a parent reads to his/her child or the child reads to his/her parents, siblings or self.

Weekly Minutes Watching Television--the number of minutes each week the child spends watching television.

The following observations were yielded by the interview:

- A. First Grade Non-Treatment Group and Title I Group (See Table VI, Appendix F).
 1. The child in the Title I group was in attendance 14 more days than the child in the non-treatment group.
 2. There was no significant difference in the amount of parental contact with the school.

3. There was no significant difference in the amount of time parents read to their children each week.
4. The child in the Title I group spent twice as much time watching television than the child in the non-treatment group.
5. The child in the non-treatment group scored two points higher on the Metropolitan Readiness Test A administered in October and 13 points higher on the Metropolitan Readiness Test B in May than the child in the Title I group.
6. The child in the non-treatment group progressed in the Ginn first grade reading series from Level 1, unit 4 to Level 3, unit 2. The child in the Title I group progressed in the Ginn first grade reading series from Level 1, unit 3 to Level 5, unit 3.
7. The child in the non-treatment group progressed in the D.C. Heath first grade math series from chapter 1 through chapter 6. The child in the Title I group progressed in the D.C. Heath first grade math series from chapter 1 through chapter 12 and D.C. Heath second grade math series chapters 1 and 2.

B. First Grade Non-Treatment Group and Intervention Group. (See Table VII, Appendix F)

1. The child in the non-treatment group was in attendance 15 days more than the child in the intervention group.
2. The parental contact with the school was four times greater for the intervention child than for the non-treatment group child.
3. The amount of time parents read to their children each week was equal.
4. The child in the non-treatment group spent 420 minutes more a week watching television than the child in the intervention group.
5. The scores of the children in each group were equal on the Metropolitan Tests A and B.
6. The reading levels in October and May were essentially equivalent for both groups.
7. The child in the non-treatment group progressed in the D.C. Heath first grade math series from chapter 1 to chapter 4. The child in the intervention group progressed in the D.C. Heath first grade math series from chapter 1 to chapter 6.

The summary of results for the first grade groups might suggest the following:

1. The amount of television watched each week is not significant in the progress of children in reading.
 2. The time parents spend reading to their children has an impact on their reading performance in school.
 3. Absence from school in the amount of 15 days or less has no significant impact on the child's progress in reading or math.
 4. In most instances, parental contact with the school makes a difference in the child's progress.
- C. Kindergarten Non-Treatment Group and Title I Group. (See Table VII, Appendix F).
1. There was no noteworthy difference in the attendance of each child.
 2. The parental contact with the school was two and one-half times greater for the child in the Title I group than for the child in the non-treatment group.
 3. The amount of time the parents read to their child on a weekly basis was three times greater for the Title I child than the non-treatment group child.

4. The amount of time spent watching television was equal.
5. The scores of the children in each group on the readiness concept test in October were essentially equivalent. The score of the Title I child on the readiness concept test in May was 13 points higher than the child in the control group.

D. Kindergarten Non-Treatment Group and Intervention Group. (See Table IX, Appendix F).

1. The child in the intervention group was in attendance four more days than the child in the non-treatment group.
2. The parental contact with the school was two times greater for the child in the intervention program than for the child in the non-treatment group.
3. The amount of time the parents read to their child on a weekly basis was three times greater for the intervention child, than for the non-treatment group child.
4. The child in the non-treatment group spent 420 more minutes watching television each week than the child in the intervention program.

5. The child's score on the May readiness concept test in the non-treatment group was 35.5 points higher than the October test score. The child's score on the May readiness concept test in the intervention group was 16 points higher than the October test score. The score of the non-treatment group child on the readiness concept test in October was eight and one-half points higher than the child in the intervention group. The score of the non-treatment group child on the readiness concept test in May was 28 points higher than the child in the intervention group.

The summary of results for the kindergarten groups might suggest the following:

1. The amount of television watched each week is not significant in the progress of children developing readiness concepts.
2. The time parents spend reading to their children may or may not have an impact on the development of readiness concepts.
3. Absences from school in the amount of 15 days or less have no significant impact on the child's performance in readiness concepts.
4. Parental contact with the school makes a difference in the child's progress.

The results of the Social Growth checklist would indicate that in each area of comparison the children in the compared groups were essentially the same. (See Tables X and XI, Appendix F.)

CHAPTER V

CONCLUSIONS, DISCUSSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this study was to show the effect of a Kindergarten-First Grade Intervention Program upon the success of children in the kindergarten and first grade in the area math. This study, also, tried to ascertain the effects of Title I programs on the children's level of achievement and analyze matched pairs of children in regard to social growth, attendance, parent involvement and academic growth.

Based on the results of the data of the Kindergarten-First Grade Intervention study the following conclusions have been made:

1. Kindergarten children in the non-treatment groups performed higher on the Benchmark math test, than the children in the intervention and Title I tutor groups.

2. Kindergarten children in the Title I tutor group performed higher on the Benchmark math test than the children in the intervention groups.

3. First grade children in all three groups demonstrated equally significant progress.

The comparison of matched pairs indicated the following:

1. The amount of television watched each week is not significant to the progress of children in reading.

2. In most instances the time parents spend reading to their children has an impact on their reading performance in school.

3. Absences from school in the amount of 15 days or less has no significant impact on the child's progress in reading or math.

4. In most instances, parental contact with the school makes a difference in the child's progress.

The results of the Social Growth checklist indicated that in the area of comparison the children in the paired groups were essentially the same.

The results suggest the following:

1. A pre-kindergarten experience for children with diverse needs should be incorporated into the public school system. This would afford these children the opportunity of exposure to activities and experiences outside of their home necessary for them to compete in the regular school setting.¹

2. Teachers must use a variety of instructional modes to accommodate the learning styles of the children.²

3. Teachers must use a direct instructional approach to teaching:

- a. Set learning goals.
- b. Give little student choice of activities.
- c. Illustrate how to do assigned work.
- d. Actively assess student progress.³

4. Teacher expectations must be translated into behavior that will communicate expectations to the students and will lead to expected gains in achievement.⁴

5. Teachers must plan activities which are familiar and relevant to the students.⁵

6. Teachers must have "unconditional positive regard" for each student in order to enhance a positive self-concept.

7. Teachers must develop a partnership with parents to encourage cooperation between home and school which will enhance the educational progress of the children.⁶

Discussion

Many questions come to mind as to why the results of the study for the kindergarten group did not support the intervention program. Was the literature which pointed

out the general non-success of intervention programs correct? Were the critics' views of compensatory education being confirmed? Do effective schools exist and if so, can disadvantaged children profit from their quality educational environment? Did the use of the t test, as the statistical method to determine significance, camouflage the results due to the fact that the groups did differ on the pretests? Did the intervention program meet the expressed needs of the students? Why didn't the conclusions of the kindergarten study support the hypotheses?

It was this author's expectation that the kindergarten and first grade studies would support the hypotheses. However, this was not so in the kindergarten study and now through a reflective process this author believes that the kindergarten groups, although very similar, were also very different. The children were dissimilar in the amount of pre-school experiences which ranged from none in the intervention group to approximately two and one-half years in the non-treatment group. They were also dissimilar in nutrition, health, social and emotional experiences and expectations. All of these factors, of course, created an impingement on the results of the study.

This author was prompted to perform an analysis of gain scores in order to secure additional information as to why the kindergarten intervention program did not support the hypotheses. The result of this analysis revealed that the Title I and intervention groups did make

better gains than the non-treatment group. (See Table V, page 73.)

This information provided support for the hypotheses in the study. It can then be speculated that given the opportunities to learn and grow in an effective and nurturing educational environment most children will be able to experience successful levels of academic achievement.

Recommendations

It is suggested that teacher-training institutions develop programs which would provide students with first-hand experiences of working with children from disadvantaged backgrounds and the tools, materials and ideas necessary to provide effective learning experiences for these children.

It is, also, very important for staffs to be provided with developmental opportunities which advocate equity and excellence for all students. Staff development sessions which provide opportunities for increasing the level of awareness of human relations should be an ongoing activity in school districts.

An understanding of curriculum objectives for each subject area by staff members is a necessary prerequisite, in order for all children to reap the benefits of an effective educational program. Thus, staff development opportunities must be provided by curriculum consultants for each subject area and principals must assume that

monitoring of lesson plans and pupils' progress in each subject area.

Children cannot progress in school, if they do not attend. It is recommended that the school social worker, or other designated adult, follow up on attendance of those children who miss school for three consecutive days without an appropriate excuse.

A partnership between the home and school is an important element which can enhance the educational achievement of all students. It is, therefore, recommended that schools provide opportunities for parents to become involved.

Suggested opportunities for parent involvement:

1. Parent-Teacher Association
2. Building advisory councils
3. Parents as partners groups
4. Parent-aides
5. Room parents
6. Parent volunteers

It is, also, advisable to provide in-services or programs for parents which will enable them to help their children's educational progress.

Suggestions for such programs:

1. Make-and-take sessions. Parents can make games or activities for skill areas which can be used at home.
2. Parent-effectiveness training.

3. Sessions on developing self-esteem for parents and for children.

It is, also, recommended that a designated person from the school staff make periodic home visits.

Research has indicated that children from disadvantaged backgrounds frequently have less positive self-concepts than children from advantaged backgrounds. Schools must provide opportunities for children to develop a positive self-image.

Suggested programs:

1. Friendship Groups. Children in a group of six meet for a 45-minute period each week to experience activities which will help improve self-concept.

2. Children-in-Change Groups. Children who have experienced a change in their family unit through divorce, death or separation meet once a week to share experiences and provide support for each other.

Finally, it is recommended that total school staffs develop a building behavior policy, which would include assertive discipline training for the staff, in order to convey consistent expectations to the children and provide positive rewards and reinforcement.

Recommendations for Future Research

This author recommends an extension of this research study to investigate: 1) the impact of a pre-kindergarten program on the level of awareness of students entering kindergarten in the areas of social, coping and readiness skills; 2) the impact of an all day kindergarten program, one-half day intervention program and one-half day kindergarten program, on the achievement levels of students from disadvantaged backgrounds; 3) the impact of daily parental involvement in the child's classroom on the achievement levels of students from disadvantaged backgrounds; and 4) the impact of teachers, who have been trained in programs which provided direct experiences and appropriate strategies and materials to be used with children from disadvantaged backgrounds, on the achievement levels of students from disadvantaged backgrounds.

This author believes that all children can learn and must learn according to their capabilities. Thus, it is imperative that administrators, teachers, staff and parents work together to provide the best educational opportunities for all students.

ENDNOTES

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APPENDIXES

APPENDIX A
KINDERGARTEN BENCHMARK MATHEMATICS
TEST RECORD SHEET

**KINDERGARTEN BENCHMARK MATHEMATICS TEST
RECORD SHEET**

Student Name _____

Teacher _____

Recording Symbols for Items:

School _____

- X = Skill mastered (as measured by item)
- 0 = Skill not mastered

Completion of Scoring Box:

In space above diagonal line in box that appears in Objective Mastery column, record total number of X's recorded in Item Mastery column. (The figure below the diagonal line indicates number of items tested in that objective.)

Strand	Objective Number	Item No.	FALL		WINTER		SPRING		Description
			Mastery of		Mastery of		Mastery of		
			Item	Obj.	Item	Obj.	Item	Obj.	
↑ N U M E R A T 	ON01	1		/2		/2		/2	Small to large
		2		/2		/2		/2	Largest
	ON02	3		/2		/2		/2	Circles
		4		/2		/2		/2	Same color
	ON03	5		/2		/2		/2	More
		6		/2		/2		/2	Same number
	ON04	7		/2		/2		/2	Same number
		8		/2		/2		/2	Same number
	ON05	9		/2		/2		/2	Order numerals 1-9
		10		/2		/2		/2	Order numerals 0-9
	ON06	11		/2		/2		/2	Patterns
		12		/2		/2		/2	Patterns
	ON07	13		/2		/2		/2	Empty set
		14		/2		/2		/2	Empty set
	ON08	15		/2		/2		/2	Count to 31
		16		/2		/2		/2	Count to 31
	ON09	17		/2		/2		/2	Read numeral 31
		18		/2		/2		/2	Read numeral 31
	ON10	19		/2		/2		/2	Cardinal number of sets
		20		/2		/2		/2	Cardinal number of sets
	ON11	21		/2		/2		/2	Ordinal number
		22		/2		/2		/2	Ordinal number

APPENDIX B

CHAPTER I LANGUAGE STATUS CHECKLIST

CHAPTER 1 LANGUAGE STATUS CHECKLIST

During Kindergarten

NAME _____		
SCHOOL _____		SCHOOL YEAR _____
DATE	TEACHER	
_____	_____	
_____	_____	
_____	_____	

PARENT/GUARDIAN SIGNATURE
X _____ If no signature, note the follow-up efforts below: Telephone _____ Written _____ Other _____

Symbols: / indicates the skill has been introduced and indicates skill area needing improvement. X indicates mastery.

OCT.	FEB.	MAY	The student:
_____	_____	_____	Language Concepts/Information can provide basic language information and identify language concepts.
_____	_____	_____	Body Parts can identify body parts.
_____	_____	_____	Colors can name the eight basic colors.
_____	_____	_____	Classification can point to the one picture, out of four, that does not belong in the same category.
_____	_____	_____	Rhyming can select the picture that rhymes with the stimulus word from three pictures.
_____	_____	_____	Auditory Memory can repeat an orally presented sentence.
_____	_____	_____	Motor can print his/her first name without a model using correct capital and small letters.
_____	_____	_____	Sequence can arrange four pictures in a logical sequence.
_____	_____	_____	Alphabet can identify each letter by name.
_____	_____	_____	Visual/Auditory Discrimination can name the letter that stands for the beginning consonant sound of the word that names the picture.

Total Total Total

*All of the benchmark objectives are included in this Kindergarten checklist.

APPENDIX C

ESEA TITLE I NEEDS ASSESSMENT
AND PUPIL CLASSROOM RECORD

ESEA TITLE I NEEDS ASSESSMENT AND PUPIL CLASSROOM RECORD

MINNEAPOLIS
PUBLIC
SCHOOLS



0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

STUDENT NAME		STUDENT NO.	BIRTH DATE	SEX
SCHOOL		GRADE	ROOM	RUN DATE

PLEASE RATE THIS PUPIL IN THE AREA BELOW
ACCORDING TO TITLE I GUIDELINES.

RESULTS OF ADDITIONAL ASSESSMENTS. e.g. TEST SCORES. CASE STUDY OR INSTRUCTIONAL DIAGNOSIS

	EXC	AVG	POOR	SER	OCT.	FEB.	MAY
READING/LANGUAGE STATUS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	0	0	20	50			
MATH STATUS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	0	0	20	50			
ENTER TOTAL SCORE HERE					OCT. TOTAL	FEB. TOTAL	MAY TOTAL

SAMPLE

DATE (IF OTHER
THAN OCTOBER)

TEACHER'S SIGNATURE

BEHAVIORAL CHARACTERISTICS				PUPIL IS RECEIVING THE FOLLOWING TITLE I DIRECT SUPPORTIVE SERVICES			
OCT	FEB	MAY		OCT	FEB	MAY	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WORKS INDEPENDENTLY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I READING TEACHER
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LISTENS ATTENTIVELY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I MATH TEACHER
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ACCEPTS ADULT CONTROL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I READING TUTOR
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ACCEPTS CONSTRUCTIVE CRITICISM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I MATH TUTOR
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IS ABLE TO FOLLOW DIRECTIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I AIDE
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILL ASK FOR HELP AND DIRECTIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I READING LAB
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TAKES PRIDE IN OWN WORK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TITLE I MATH LAB
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RESPONDS WITH EASE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OTHER
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RESPECTS RIGHTS OF OTHERS				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	USES TIME PRODUCTIVELY				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RESPONSIBLE FOR OWN ACTIONS				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CARRIES OUT RESPONSIBILITIES				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HAS ADEQUATE ATTENTION SPAN				

INSTRUCTIONAL OBJECTIVES:
SEE READING AND MATH CHECKLISTS

IN MAY, MARK ONE: PUPIL WILL NOT REQUIRE ANY FOLLOW-UP
PUPIL SHOULD BE FOLLOWED TO INSURE RETENTION IN PROGRESS

TEACHER'S SIGNATURE

APPENDIX D

SOCIAL GROWTH CHECKLIST

 Student's Name

 Date

 Room Number & Grade Level

CHECKLIST OF SOCIAL GROWTH

During the last week how often has the student exhibited the following classroom behaviors?

	<u>Rarely</u>	<u>Some- times</u>	<u>Usually</u>
1. Got along well with others.	3	2	1
2. Was willing to try new things.	3	2	1
3. Listened during instruction time.	3	2	1
4. Followed directions.	3	2	1
5. Used time productively; attended to task.	3	2	1
6. Finished work.	3	2	1
7. Cared for self & work materials without undue prompting.	3	2	1
8. Worked independently; did not disturb others.	3	2	1

APPENDIX E

INTERVIEW FORM

Minneapolis Public Schools
BETHUNE SCHOOL

Dear Mrs. _____

I am conducting a survey which would provide information on parent involvement in their children's educational program. I would appreciate your taking a few minutes to answer the following questions.

- 1) How often in the past year did you visit Bethune School?
_____.
- 2) Please check the following reasons why you visited school.
Conference _____ Partnership Day _____ Program _____
P.T.A. _____ Lunch _____ Other _____
- 3) What types of books does your child read?
_____.
- 4) How often do you read to your child?
Daily _____ Three times a week _____ Once a week _____
Other _____
- 5) How often does your child visit the library?
Weekly _____ Monthly _____ Other _____
- 6) What are your child's favorite television programs?

- 7) How many minutes a day does your child watch television?

Please return this form to school with your child as soon as possible.

Thanks so much for your help. If you have questions, please call me at 377-3240.

Sincerely,

MAE GASKINS
Assistant Principal

APPENDIX F

TABLES VI THROUGH XI

TABLE VI

ITEM TABULATION FOR COMPARISON OF FIRST
GRADE CHILDREN IN THE NON-TREATMENT
GROUP AND TITLE I GROUP

	Atten- dance	Parent Contact	Weekly Reading	Weekly Minutes T.V.	Metropolitan Test Scores % Rank		Reading Level		Math Level	
					Oct.	May	Oct.	May	Oct.	May
First Grade Non-Treatment	153	2	1	300	29	48	1-4	3-2	1-1	1-6
First Grade Title I	164	3	1	630	27	35	1-3	5-3	1-1	2-2

TABLE VII

ITEM TABULATION FOR COMPARISON OF FIRST
GRADE CHILDREN IN THE NON-TREATMENT
GROUP AND INTERVENTION GROUP

	Atten- dance	Parent Contact	Weekly Reading	Weekly Minutes T.V.	Metropolitan Test Scores & Rank		Reading Level		Math Level	
					Oct.	May	Oct.	May	Oct.	May
First Grade Non-Treatment	170	1	3	1260	33	69	2-5	5-1	1-1	1-4
First Grade Intervention	155	4	3	840	33	69	2-4	5-2	1-1	1-6

TABLE VIII

ITEM TABULATION FOR COMPARISON OF KINDERGARTEN
CHILDREN IN THE NON-TREATMENT GROUP AND
TITLE I TUTOR GROUP

	Days Present	Parent- School Contact	Times/Week Reading	Minutes/ Week T.V.	Readiness Concepts	
					Oct.	May
Kindergarten Non-Treatment	164	4	1	1260	47-1/2	68-1/2
Kindergarten Title I	165	10	3	1260	46	81-1/2

TABLE IX

ITEM TABULATION FOR COMPARISON OF KINDERGARTEN
CHILDREN IN THE NON-TREATMENT GROUP AND
INTERVENTION GROUP

	Days Present	Parent- School Contact	Times/Week Reading	Minutes/ Week T.V.	Readiness Concepts	
					Oct.	May
Kindergarten Non-Treatment	156	2	1	1260	43-1/2	79
Kindergarten Intervention	160	4	3	840	35	51

TABLE X

SOCIAL GROWTH CHECKLIST FOR FIRST
GRADE STUDENTS

	Gr. 1 Non- Treatment	Gr. 1 Title	Gr. 1 Non- Treatment	Gr. 1 Intervention
1. Gets along well with others	1	2	1	1
2. Willing to try new things	1	1	1	1
3. Listened during instruction time	2	2	1	1
4. Followed directions	2	2	1	1
5. Time on task	2	2	1	1
6. Finished work	1	1	1	1
7. Responsible for self and work materials	2	2	1	1
8. Worked independently; did not disturb others	2	2	1	1

Scale: 1 = Usually
2 = Sometimes
3 = Rarely

TABLE XI

SOCIAL GROWTH CHECKLIST FOR
KINDERGARTEN STUDENTS

	Gr. 1 Non- Treatment	Gr. 1 Title	Gr. 1 Non- Treatment	Gr. 1 Intervention
1. Gets along well with others	2	1	2	1
2. Willing to try new things	2	1	2	1
3. Listened during instruction time	2	2	2	1
4. Followed directions	2	2	2	2
5. Time on task	2	2	2	2
6. Finished work	2	1	2	1
7. Responsible for self and work materials	2	2	2	1
8. Worked independently; did not disturb others	2	2	2	1

Scale: 1 = Usually
2 = Sometimes
3 = Rarely

2
VITA

Mable Ethel Gaskins

Candidate for the Degree of

Doctor of Education

Thesis: THE EFFECT OF A KINDERGARTEN-FIRST GRADE INTER-
VENTION PROGRAM UPON THE PROGRESS OF KINDERGARTEN
AND FIRST GRADE STUDENTS IN MATH

Major Field: Educational Administration

Biographical:

Personal Data: Born in Lynn, Massachusetts,
January 20, 1941, the daughter of Clayton and
Rhoda Rucker; married to Richard S. Gaskins and
have two children, Keesha, 15 years, and Malik,
12 years.

Education: Graduated from English High School, Lynn,
Massachusetts, in June, 1958; received the Bach-
elor of Science Degree in Elementary Education
from Boston University, Boston, Massachusetts,
in 1963; received the Master of Science degree
in Educational Administration from Oklahoma
State University in July, 1980; completed
requirements for the Doctor of Education degree
at Oklahoma State University in May, 1984.

Professional Experience: Teacher of grades three
through six for Lynn Public Schools, Lynn,
Massachusetts, 1963-1969; teacher and team-
leader for Fairfax County Public Schools,
Reston, Virginia, 1970-1973; teacher of grades
four and five for Bloomington Public Schools,
Bloomington, Minnesota, 1973-1976; part-time
recruiter-counselor for Gustavus Adolphus
College, St. Peter, Minnesota, 1974-1976;
teacher of grades one through four for the
Waterford Public Schools, Pontiac, Michigan,
1976-1978; teacher of grade two for the Edmond
Public Schools, Edmond, Oklahoma, 1979;

internship in Educational Administration and Curriculum Development with the Edmond Public Schools, Edmond, Oklahoma, 1980; teacher of grade five for Hopkins Public Schools, Hopkins, Minnesota, 1980-1981; elementary school principal, Minneapolis Public Schools, Minneapolis, Minnesota 1981-1984.

Professional Organizations: Phi Kappa Phi, National Honor Society; Phi Delta Kappa, Educational Fraternity; Delta Kappa Gamma, Educational Sorority.

Community Involvement: Board of Directors, Y.W.C.A., Minneapolis, Minnesota, 1982-1983; Board of Directors, Minneapolis Council of Churches, Minneapolis, Minnesota, 1982-1983; Chairperson of Television Concerns, Parents and Teachers Association, Minneapolis, Minnesota; Board of Directors, Phyllis Wheatley Community Center, Minneapolis, Minnesota, 1983.