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An evaluation of an academic design to upgrade the achievement scores of children in the Washington D.C. public schools.

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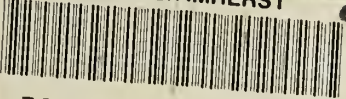
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An Evaluation of an Academic Design to Upgrade

the Achievement Scores of Children in the

Washington, D. C. Public Schools (September 1972)

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M. A., Jersey City State College

Directed by: Dr. David Yarrington

The major purposes of this study were: (1) to evaluate the overall effectiveness of The Clark Plan in upgrading the achievement levels of children in the Washington, D. C. Public Schools; (2) to evaluate a graduate teacher training program in urban education offered by The Staff Development Laboratory located in Washington, D. C. A secondary purpose of this study was to evaluate the effectiveness of a teacher selection instrument utilized by The Staff Development Laboratory for screening applicants for the training program.

The major criterion for measuring success was the test scores of children assigned to Staff Development teachers. A total of 498 children in Grades 2 through 7 were tested in reading and arithmetic. The standardized tests used were the California Achievement Tests for second grade students, and the Comprehensive Test of Basic Skills for Grades three through seven. In addition, the results of The Metropolitan Readiness Tests were analyzed and reported for first grade children in this population.

The results of the tests indicated a number of important facts. First, the test data reveal that in terms of total reading and total arithmetic, this group of children's achievement was at "expected" levels. In other words, at the end of the seventh grade their achievement scores were not unlike the normative group. This was an important finding since the results contradicted the notion of "cumulative deficit" often referred to by researchers when discussing urban children. Second, the schooling process had a "positive cumulative effect" on this group of children. The longer this group remained in school, the more they progressed as measured by standardized achievement tests.

Furthermore, it was discovered that there existed an optimum time for learning certain cognitive tasks as indicated in test profile analyses. The most critical growth period appeared to occur between the third and the fifth grades. It was suggested that the higher level and more abstract learnings such as arithmetic concepts and reading comprehension needed a certain "incubation" period before maturity was reached. Also, it was concluded that certain "rote" learnings such as arithmetic computation and reading vocabulary were

learned at an earlier age than the other skills. As no test data were available for children not in the program, city-wide comparisons could not be made.

It was recommended that the teacher training model developed by The Staff Development Laboratory be articulated to the local boards of education and other educators in the Washington, D. C. Public Schools. Also, it was recommended that a similar evaluation be undertaken in the Fall, 1972, in order to compile and analyze longitudinal data on this group of children.

It was strongly recommended that a careful study and evaluation of the readiness testing program be undertaken with possible elimination of the current method of reporting and evaluating reading readiness. Finally, it was recommended that if the standardized testing program is continued in the schools, they must develop a multi-dimensional model for measuring children's progress in learning.

AN EVALUATION OF AN ACADEMIC DESIGN TO
UPGRADE THE ACHIEVEMENT SCORES OF CHILDREN
IN THE WASHINGTON D. C. PUBLIC SCHOOLS

A dissertation Presented

By

JOSEPH F. BRUNNER

Submitted to the Graduate School of the
University of Massachusetts in
partial fulfillment of the requirement for the degree of

DOCTOR OF EDUCATION

July 1972
(month) (year)

Major Subject Education

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A Dissertation

By

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July 1972
(Month) (Year)

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C H A P T E R I
ORIENTATION AND BACKGROUND INFORMATION

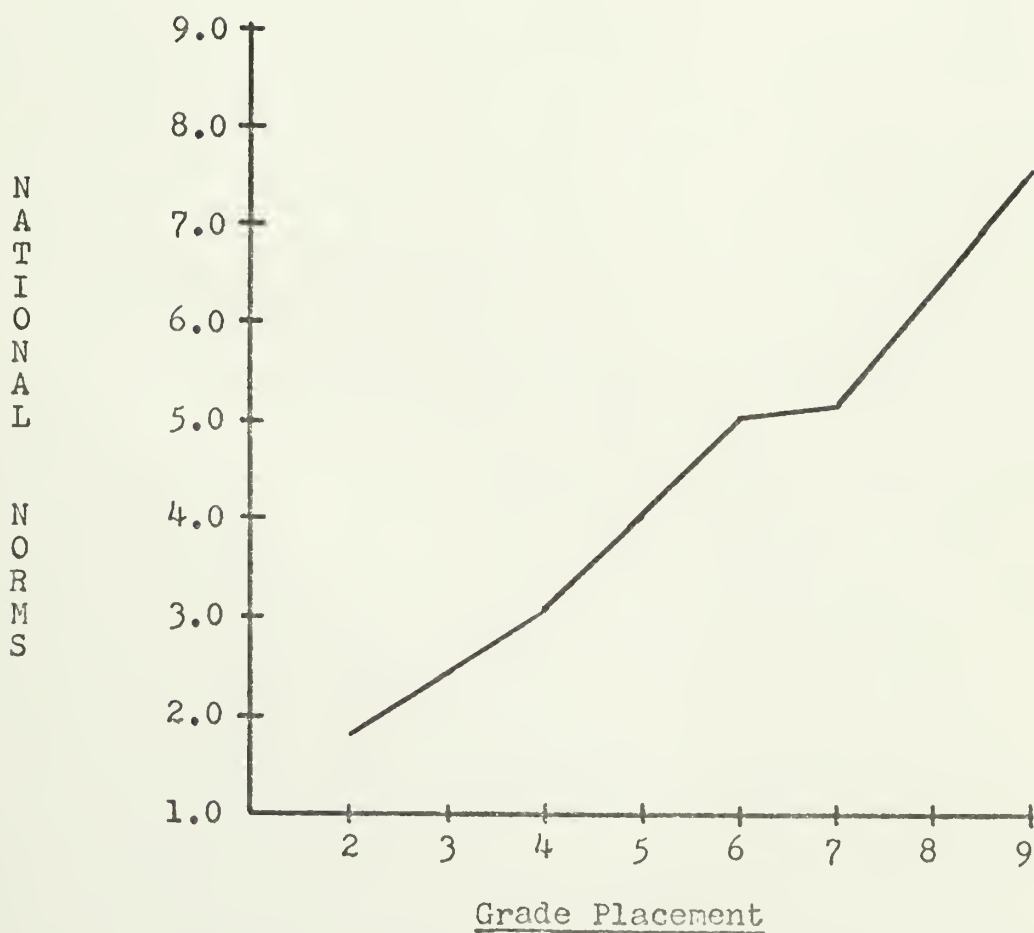
In 1970, James Allen, then Commissioner of Education, proclaimed the decade of the seventies as The Right To Read decade. In essence, what this meant was that each child would be reading up to his potential by the end of this ten-year period. It would be an understatement to say that this was an altruistic and ambitious goal for a country's educational system to undertake.

Once the residue of rhetoric has been cast aside, what does the empirical evidence suggest regarding the attainment of this goal? Most of the indices of academic achievement poignantly demonstrate our dismal record of teaching large groups of children in this country. In our large city schools this evidence of the schools' failure is even more apparent.

In the past few years these facts of low achievement are not difficult to come by. On the contrary, the schools readily admit their failure as they report their low scores to the public. The New York Times (Buder, 1972) contained an article which described

the reading scores of children attending the public schools in New York City. The data in Figure 1 depict the reading scores of those children.

FIGURE 1
Reading Levels in
New York City Compared to
National Norms^a- 1971
Grades 2-9



^aFigure 1 reflects the data on reading levels reported in The New York Times, February 20, 1972.

Furthermore, this represents 62.8 percent of the children in the second grade reading below grade level, 67.7 percent in the sixth grade, and 73 percent in the seventh grade. In total, approximately 63 percent of all students from second through ninth grades were reading below grade level in 1971.¹ Unfortunately New York City is not an atypical case.

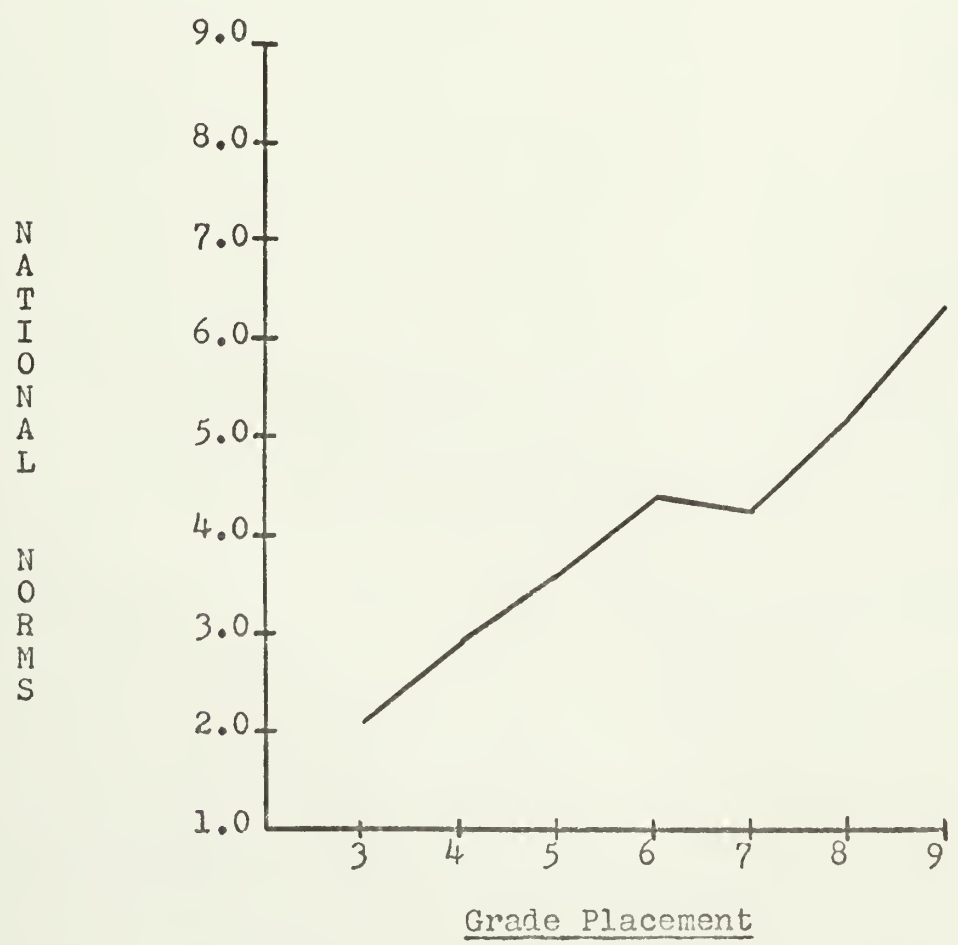
For example, when one looks at the achievement scores for the District of Columbia Public Schools (Figure 2 and Figure 3), the following pattern also emerges. In terms of achievement in reading the children at the third, fourth and fifth grades scored from 9 months to 1.4 months below national norms. In the sixth, seventh and eighth grades, the scores are even lower. For example, in grade six, the reading scores were 1.6 months below national norms; grade seven, 2.7 months below; grade eight, 2.8 months below. In arithmetic, the pattern is almost identical.

In order to make the above data comparable to the New York City analysis, the following percent figures were used. Approximately 67 percent of the students in the Washington, D. C. Schools in the sixth

¹A total of approximately 580,000 students in second through ninth grades took the Metropolitan Reading Achievement Tests. It was also reported that approximately 100,000 students did not take the tests due to absence or lack of English fluency.

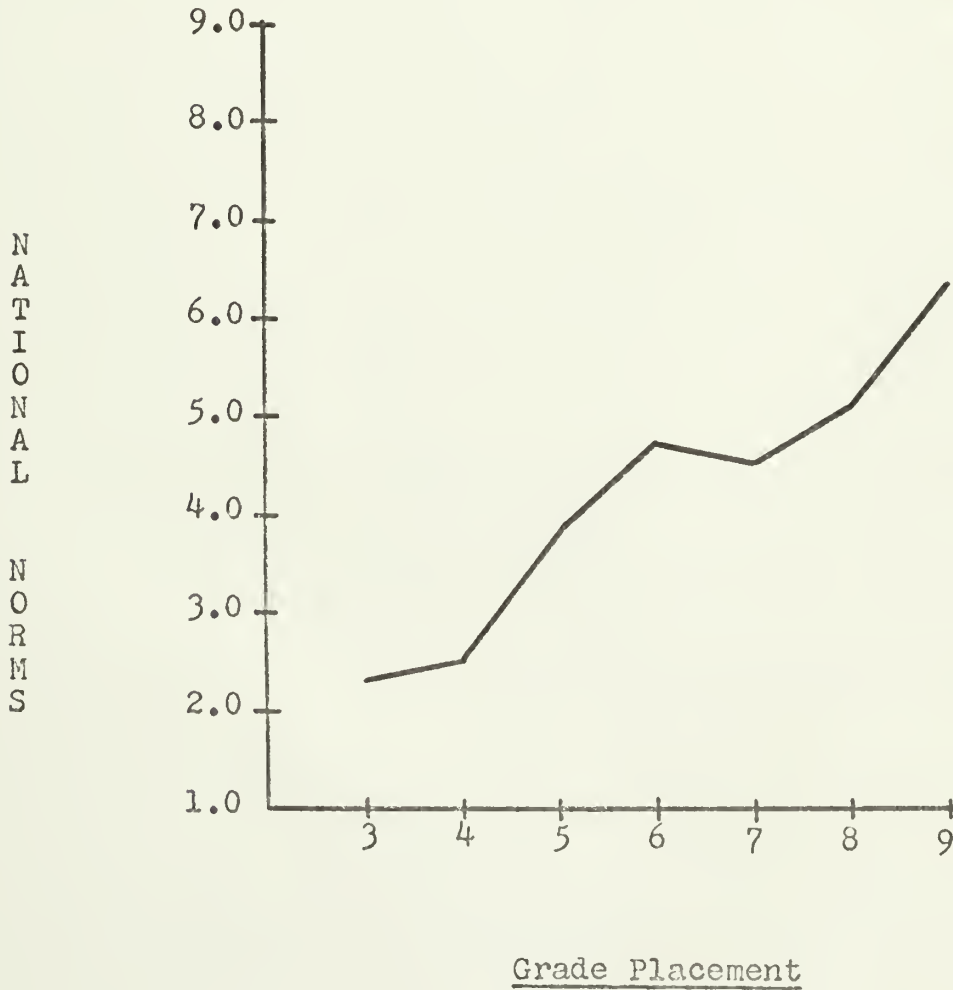
grade scored one year or more below national norms;
in the seventh grade 78 percent; in the eight grade
77 percent below national norms.

FIGURE 2
Reading Levels in Washington, D. C. Public Schools
Compared to National Norms - 1971^a
Grades 3-9



^aFigure 2 represents the grade level scores reported in a summary test report dated December, 1971 - District of Columbia Public Schools.

FIGURE 3
Arithmetic Levels in Washington, D. C. Public Schools
Compared to National Norms - 1971^a
Grades 3-9



^aFigure 3 represents the grade level scores reported in a summary test report dated December, 1971 - District of Columbia Public Schools.

Although there were "only" 70,000 children tested in the Washington, D. C. sample, as compared to the 580,000 children tested in New York City, the evidence leads to the same conclusion. Whether talking in a relative or an absolute sense, these achievement scores serve as testimony to the schools repeated failure to teach the children who come to them to learn. The paradoxical situation is obvious; the schools claim they teach the three R's, but the facts indicate that this claim is more of a myth than a reality.

The current trends in the mis-education of our children attending large city schools must be reversed if we are to combat some of the racists who use these achievement scores to support their pernicious beliefs about racial inferiority. One of the purposes of this study is to identify salient variables in the instructional environment of children that may reverse this current trend in urban education.

The Endless Search for Causation

When children fail to learn in school, one can investigate various areas to ascertain the possible causes. One possible area for investigation is the child himself. Unfortunately, in our urban schools this has been the major focus of attention. Stated in the form of a question, it reads, "What can the

schools hope to do with children who are deprived both culturally and linguistically?" This deficit model of expectations is most evident in the statements used to describe children. Writing in the Harvard Educational Review, Charles Valentine (1971) reported on a conversation between a guidance counsellor and a mother of eleven children. The mother had asked the counsellor why so many of the children in this school failed. The counsellor replied, "We find that children in our school who don't learn either are brain-damaged or don't have a father in their home."

The children who attend these schools quickly perceive the schools' expectations of them. These expectations become internalized by the students; in other words, they behave the way they are expected to behave. The self-fulfilling prophecy is once again evident.

The second area to investigate when looking for causes of low achievement scores is the instructional environment in which the child spends most of his school day.

It seems obvious to this writer that classroom teachers play an important role in at least a number of significant ways that may effect a child's achievement. If, for example, we can assume that part of the

cognitive development in children is a result of their interaction with verbal environments, and if our language serves as a conduit for the attainment of some of these concepts, then a classroom teacher who is conscious of this relationship will make use of it to facilitate specific concept learnings. A teacher's use or misuse of verbal facilitators is also important for developing the affective environment in the classroom. Most of the classroom observation systems² are based on these premises about the importance of the teacher and his use of language devices as a tool for instruction.

One of the purposes of this study was to evaluate the validity of a classroom interaction system³ as part of a total screening process in predicting teacher effectiveness in influencing achievement scores of children in the Washington, D. C. Public Schools.

A Design for the Washington, D. C. Schools

In 1970 the Board of Education in the District of Columbia adopted a plan developed by the Metropolitan Applied Research Corporation (MARC) of New York. The title of this plan, A Possible Reality, had as its major theme the upgrading of the reading

²There currently exists some seventy-nine classroom observation "systems" for analyzing teacher influence in the classroom.

³The system referred to here is the one developed by Ned Flanders at the University of Minnesota in 1960.

and arithmetic skills of the students in the District of Columbia Public Schools. The plan quickly became known as "The Clark Plan" named after the prominent sociologist, Dr. Kenneth Clark, its prime architect. The design was based on the following educational, psychological and sociological premises:

...A normal child will learn if...properly taught.

...Learning of normal children can be positively or negatively manipulated...

...Whatever the reasons...responsible for learning retardation in normal children, if these reasons are not identified and corrected, academic retardation will be cumulative...

...Although there is, at present, no evidence that entire large city public school systems can raise significantly the academic achievement of the children..., simply because none has, there is evidence,...., that individual schools...can and have done so....(Clark, 1970a, pp. 15-17)

One of the strategies suggested in the design was to identify and duplicate the success components of those small scale programs that proved their effectiveness.

Any educational plan whether it is for a particular classroom, a school, or an entire system, must answer the following inevitable question. What criteria are to be used to measure desired changes in the participants' behavior?

The task force (MARC) is succinct when discussing the issue of measurement. "The most important and

severe test of the seriousness and relevance of any suggested educational design is that it demonstrate, through frequent and periodic and objective evaluation, observable, and hopefully dramatic, improvement in the academic achievement of the children in the schools which the program is intended to serve."

(Clark, 1970a, p. 23)

The Purpose of the Study

The overall framework within which this study was conducted was: (1) an evaluation of the overall effectiveness of The Design for Academic Achievement in the Washington, D. C. Public Schools; (2) an evaluation of the validity of a teacher selection model based on classroom observation techniques and an interview, and its effectiveness in predicting those teachers who will influence children's achievement scores; (3) an assessment of the effectiveness of a staff development graduate degree program in urban education.

Within the context of this general frame of reference, the specific purposes of this study are:

- A. Through an analysis of achievement test data in the areas of reading and arithmetic, the following information will be gleaned:

1. Identification of the amount of growth in achievement as measured by standardized testing data during the design period.
 2. Identification and description of specific and unique growth patterns in a particular school, or between schools.
 3. Identification of significant achievement patterns unique to a particular grade or student characteristics.
 4. Identification of the cumulative effect of schooling on this population of children.
 5. Identification of specific sub-skills in reading and arithmetic for critical significances in achievement.
- B. Through an analysis and description of the teacher selection procedures, the investigator will:
1. Assess the overall predictive validity of this model in selecting teachers to raise the achievement scores of their children.
 2. Identify, where possible, sub-components of this selection model that seem to have a significant effect on children's

achievement scores.

3. Evaluate the cumulative effects of Staff Development Teachers on their children in reading and arithmetic.

Assumptions of the Study

1. It was assumed that the reliability of the testing phase was controlled through proper teacher training on how to administer and monitor a series of tests.

2. It was also assumed that in cases where the standardized tests could not be machine scored, that classroom teachers scored, recorded and reported the results accurately.

3. It was further assumed that the classroom observers who used observation systems to select teachers for the staff development program in urban teaching were trained, competent, and skillful recorders.

4. It was assumed that the interview portion of this staff development selection process was conducted by competent, well-trained interviewers.

5. It was assumed that the results of this study will provide insights into the following areas:
(1) developing workable models for effectively training teachers in urban schools; (2) isolating

those variables that seem to account for pupil performances in the area of reading and achievement;

(3) assessing the quality of growth in achievement areas with this population of children.

Limitations of the Study

No study can be ubiquitous in nature, especially in the area of the behavioral sciences. Therefore, the following limitations have been set forth by the writer.

1. Standardized achievement test analysis has been used as the criterion for determining the effectiveness of The Design for Academic Achievement. Other important changes in the behavior of the students has been omitted such as a noticeable increase in the amount and nature of the reading materials being read by the students.

2. A "truer" picture of students' arithmetical abilities would have resulted if no reading was involved in taking this portion of the test. This overlapping nature in the achievement areas needs to be recognized so that one does not make incorrect inferences about the computational abilities of the students in the sample.

3. It was impossible to control for the particular methodology employed in classroom instruction. Therefore, it was possible that valuable information regarding teacher input went unnoticed.

4. A further impossibility was to control for the "non-school" inputs and their effect on achievement scores. For example, a section of The Design for Academic Achievement called for the involvement of parents in "home oriented reading instruction." Changes in the students' achievement scores could have been the result of these efforts rather than those of the classroom teachers.

5. Generally speaking, scores on standardized tests yield "frustration level indices" regarding a child's achievement in a particular academic area. They bear little relevance to: (1) a child's independent level in reading, for example; and (2) to the instructional level of a school or a particular class. It must be recognized that these scores are inflated by at least 1.0 years over the scores indicated on standardized achievement tests.

A Summary of the Treatment of the Data

The data extracted from the standardized instruments is presented in both a tabular and narrative form. The initial analysis of the data was made so that the

investigator could answer the following two questions: Did The Design for Academic Achievement achieve its stated goals? How effective was the urban teacher education program developed by The Staff Development Laboratory?

The statistical analyses used were: (1) A measure of central tendency (mean scores for grades 1-7); and (2) A measure of dispersion of variability (standard deviations for grades 1-7). Furthermore, a qualitative measure was developed and utilized for the purposes of describing rates of growth for this population of children.

Importance of the Study

It would be an understatement to say that our urban schools are in trouble. In the past decade they have been maligned and attacked by various ethnic groups, by outraged parents, and by teacher groups.

In reaction to some of these criticisms, certain schools have taken initial steps to remedy some of these situations. Although minute in comparison to what needs to be done, some schools have made conscious attempts to introduce pluralism into the curriculum, to be more accountable and responsive to the community, and to involve teachers in more of

the decision-making processes than before.

By and large, the one major area where they have not succeeded is in upgrading achievement levels of their students on a system-wide basis. Some tinkering and demonstration projects have been carried on with some success, but that is all.

Since this upgrading of achievement levels has never occurred, administrators, teachers, political leaders and even the students are beginning to believe that it can't be done. Herein lies the possible major contribution and importance of this study. If observable features of the Staff Development Laboratory Program, for example, are shown to have a positive effect on the achievement levels of the students, then these features can be tried out on a larger basis. What is needed is the duplication of success models for system-wide implementation.

The urban schools must be held accountable to the children who come to them ready to learn. If not in a peaceful fashion today, perhaps a violent one tomorrow.

Organization of the Study

Chapter I is concerned with background information of the topic, statements of the study's major

purpose and significance, and the assumptions and limitations of the study.

Chapter II is a review of the literature with specific reference to achievement data as reflected in national studies as well as studies of urban school systems. Chapter II is also a review of some pertinent literature on successful achievers in large city schools.

Chapter III presents an historical description of major studies conducted in the Washington, D. C. Public School System. Special emphasis is also given to The Clark Plan and its implementation. A portion of Chapter III also describes the standardized tests used in the Washington, D. C. Public Schools.

Chapter IV describes in detail the standardized instruments used in the Washington, D. C. Schools. Also included is the design for the study and the particular components to be analyzed for evaluation purposes. Chapter IV also describes the Staff Development Laboratory Program in urban education. Also described is the teacher selection criteria used by Staff Development Laboratory for screening applicants to the Program. A final inclusion in this chapter is a discussion and evaluation of specific program objectives.

Chapter V is a presentation, analysis, and discussion of the collected achievement data for grades 1-7.

A summary of the major findings is also presented.

Chapter VI is a summary of the study, a presentation of the conclusions based on the data analyzed, and a discussion of both general and specific recommendations.

CHAPTER II

REVIEW OF RELATED LITERATURE

Major studies that have analyzed the performance of children (as measured by standardized tests) can be grouped into two categories. The first category reflects a belief that it is necessary to identify the resources the children bring with them to the school. Most, if not all, of these "resources" are givens. For example, a particular child's socioeconomic status (SES), sex, race, position in family, and the like are all dependent variables that may effect his achievement in school. A word of caution is necessary at this time. This writer stated "may" effect his achievement, not his capacity or potential for achievement. Implied in this statement is the fact that the child interacts with the environment of the school (curriculum, teacher, tests); if this interaction process is devastating to the child, he may fail to achieve. A monolithic curriculum, a racist teacher, or a biased testing policy are all examples of a devastating environment. Children who manifest so-called "deviant behaviors" in reaction to these circumstances would be labelled "failures" by the schools.

On the other hand, however, this reaction by the child could be psychologically healthy in order to maintain a state of homeostasis for the organism.

The second category that most of these studies fall into is that of analyzing the resources of the schools the children attend. Examples of school resources are: teacher qualification and effectiveness, library facilities, school expenditure per child, administrative leadership, special services available (guidance, psychological or reading specialists). This category has received much attention in the literature and will be discussed later in this chapter.

Some of the resources that the children bring with them to schools can be generally agreed upon and also measured objectively. For example, using the father's occupation is widely considered as a scale for determining socioeconomic status. Other objective information devices can be employed for items as sex, race and ethnicity, position in the family, and the like.

However, there exists an emerging set of not so objective data that have had an impact on educational policies of large urban school systems.

The following discussion is offered as evidence of these rather dubious data.

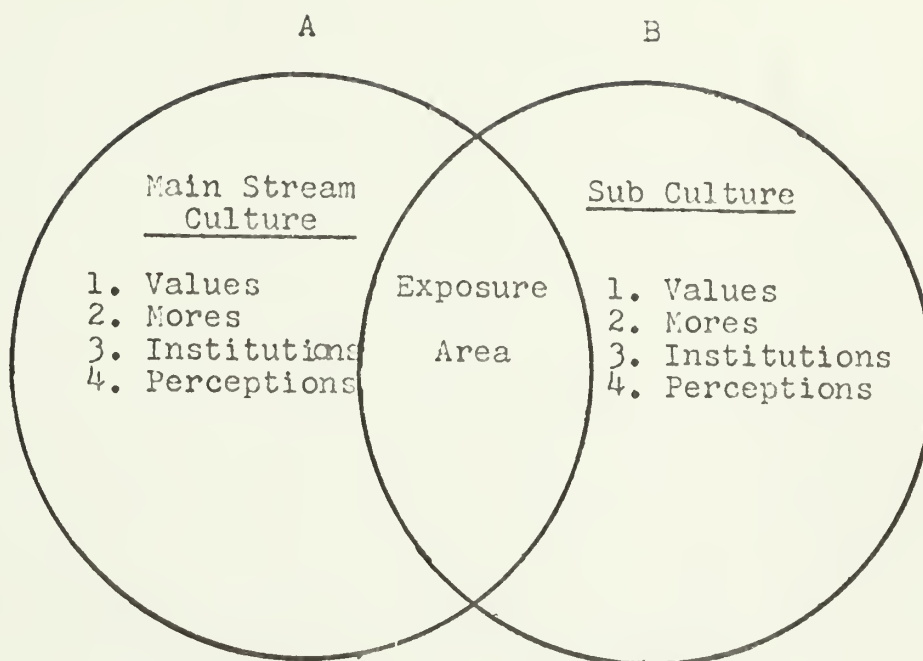
In Chapter I (p. 9) this writer attempted to demonstrate that school systems put the blame for failure on the children. The children who attend large city school systems are thought to be deprived in various perceptual, linguistic and social aspects. Given these severe deficits in behavior, what can the schools hope to do? The assumptions underlying HEAD START and other compensatory programs are based on a "deficit-behavioral model."

Two major questions need to be raised regarding this assumption. First, how accurate are these labels placed on children? Second, if these labels are accurate, so what? In other words, can children who suffer from "true" handicaps in these areas learn to read and do arithmetic?

It is this writer's contention that the labels "culturally deprived" and "culturally disadvantaged" are political and economic labels, not educational or psychological ones.

For example, Figure 4 below attempts to show how these various categories are arrived at.

FIGURE 4



In Figure 4 the circle A represents the main stream culture with all of its values, institutions, mores and perceptions. The amount that circle B intersects with circle A will determine the style that A reacts to B. In this case anyone belonging to circle B will have a low degree of exposure (not just visual exposure) and therefore, a high degree of alienation. The same phenomenon occurs with A obviously. However, because the main stream culture is by definition politically and economically powerful, other systems become viewed as inferior, or less desirable.

A child who must attend an educational system in circle A soon finds out that the teachers, curriculum, and the entire educational milieu view his culture (language and behavior) as inferior, less desirable, and something to be changed. The rubric "compensatory education" implies something is not present in the child's culture, and therefore, the school must compensate for it.

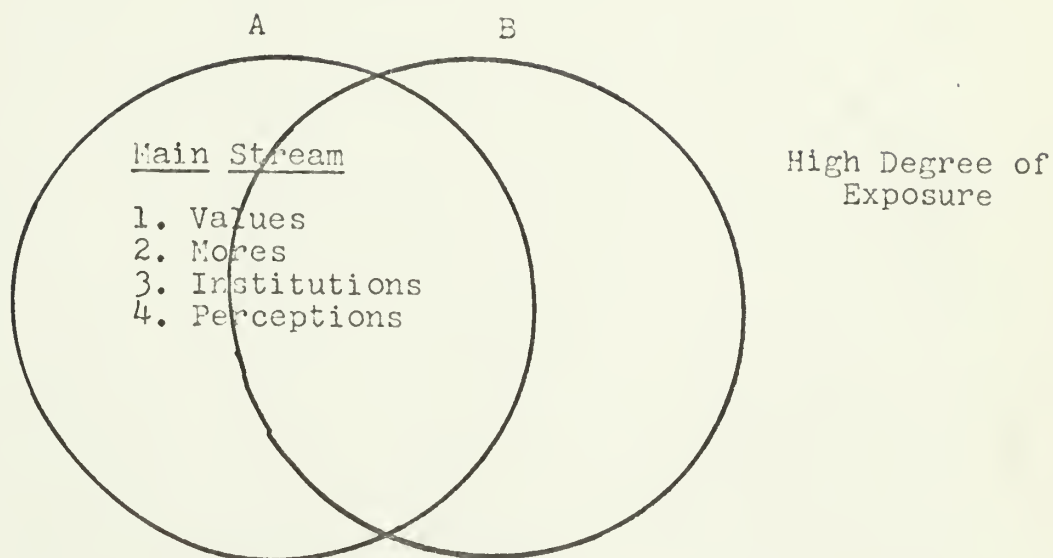
In essence, what the schools have done is internalize the values, mores, and expectations of this main stream culture depicted in circle A. The obvious place where this internalization is most evident is in the curriculum, especially reading, writing, and arithmetic.

The preoccupation with so-called "Black English" is an example of this. Many reading teachers today are not teaching the children how to comprehend the language (writing, reading, spelling) but are teaching the children a "preferred pronunciation" that is reflective of political and social expectations, not educational and cognitive realities.

As the degree of interaction becomes increased, a concomitant change in the severity of the labels results. For example, in Figure 4 a child from circle B would be labelled "culturally deprived" while in Figure 5 below, a child might be labelled "educationally disadvantaged"

or "culturally disadvantaged."

FIGURE 5



The major conclusion to be drawn from this discussion is that these labels have little or no educational meaning, but high political and social meanings.

In the area of language arts instruction, children are often viewed as "language deprived" (Birch & Gussow, 1970) or "linguistically impaired." Aside from yielding very little information about the child and how he might be taught, these labels are also specious. In a paper presented at the International Reading Association Convention, Brunner (1972) stated, "A child who does not, or will not perform in some given language context (school) should not be judged as being unable to perform. He may be very

competent linguistically, but because of other variables, e.g., the affective environment that he is asked to perform in may lack support; he chooses to remain laconic."

There also exists some evidence which suggests that classroom teachers often make mistakes when talking about their children's language output. Roger Shuy (Baratz & Shuy, 1969) reported on the results of a doctoral dissertation in which the researcher asked a group of urban teachers to identify the language problem of their students. After listening to a tape recording of their children and then characterizing the linguistic problems, Shuy reported that the researcher found a very low correlation of response to reality. (Eighty percent of the teachers reported their children having a meager or limited vocabulary.)

Furthermore, reading specialists, classroom teachers, and some psychologists point to visual perceptual deficits in urban children as the reason for poor reading ability. The research on visual perception and its relationship to reading improvement does not support this perceptual deficit notion in a positive way.

Commenting on perceptual-motor activities in the treatment of reading disability, Balow (1971) stated:

Surprisingly, in numerous searches of the literature by this author..., no experimental study...of research design has been found that demonstrates special effectiveness for any of the physical, motor, or perceptual programs claimed to be useful in the prevention or correction of reading.... (p. 523)

Similar findings were reported by Cohen (1969a) as he interpreted the visual perceptual deficit in terms of reading instruction. He reported that his clinic records "did not show any differences in the treatment success rate between retarded reading children with perceptual deficits and those without." (p. 502)

In her summary of the research on perceptual training and its relationship to reading improvement, Robinson (1971) concluded: "The research shows no conclusive answers to the question of the effectiveness of perceptual training to improve reading."

What does seem likely to be effective is a well-planned instructional program in certain basic reading skills.

The conclusion that seems most tenable after this brief but pertinent review of the literature is that those proponents who believe that perceptual deficits in disadvantaged children are the cause for reading disability have failed to answer the following question.

Why is it that basic perceptual programs don't result in concomitant gains in reading achievement?

Those serious students of perception and reading must develop a theory that includes not only an analysis of those children who fail and have perceptual "deficits" but also an analysis of those children who succeed in spite of their perceptual "deficits."

The writer felt that this preface to the review of the literature related to the topic was necessary in order to question what appears to be the educator's propensity to seek quick and easy answers to often complex problems.

Major Studies of a National Nature

The first national study on the state of the nation's schools was completed in 1966. (Coleman, et. al., 1966) The importance of this study in relation to this investigation lies in its magnitude and scope. Background information, and a summary and analysis of the report's major findings are reported below.

The Coleman Report

The Civil Rights Act of 1964, Section 402, reads:

The Commissioner shall conduct a survey and make a report to the President and the Congress, ...concerning the lack of availability of equal educational opportunities for individuals by reason of race, color, religion, or national origin in public

educational institutions at all levels in the United States... (Coleman, et. al., 1966, p. iii)

Hence, the famous Coleman Report (named after its chairman James Coleman from Johns Hopkins University) came into existence.

The survey addressed itself to four basic questions, two of which are presented here because of their direct relationship to this study. Those two questions were: (1) How much do students learn as measured by their performance on standardized achievement tests, and (2) what are the relationships between students' achievement and the kinds of schools they attend.

It should be noted that Coleman and his associates conducted a descriptive study of the state of the art in our schools, not a prescriptive study of what should happen in our schools. (Pettigrew, 1969) This writer feels that this crucial difference cannot be overstated because many educators missed this important fact. In this writer's opinion, it would be impossible to take Coleman's "non-results" and simply reverse them and expect guaranteed achievement.

The Coleman Report has also been criticized for its overemphasis on a particular definition of success; (Kirp, 1970) that is, students' scores on standardized tests. Although this criticism is indeed a valid one,

and no one would argue that "affective" factors are not important, it must be remembered that Coleman looked at what the schools deemed important. For example, the results of a questionnaire to school administrators revealed that approximately ninety percent of the nation's pupils attended schools where intelligence and achievement tests are given at both the elementary and secondary levels. (Coleman, 1966, p. 105) Perhaps of even greater significance was the fact that eighty-one percent of the schools in the survey gave no interest inventories to their students.

The Equality of Educational Opportunity survey included some 4,000 schools representing the North, South, East and West (both metropolitan and non-metropolitan areas) and approximately 250,000 students from various racial or ethnic groups. The following table provides an overall illustration of the test results for the various groups.

TABLE I
 NATIONWIDE MEDIAN TEST SCORES FOR 1ST AND
 12TH GRADE PUPILS, FALL 1965a

Test	Racial or ethnic group				
	Puerto Ricans	Indian Americans	Mexican Americans	Oriental Americans	Negro Majority
1st grade:					
Nonverbal-----	45.8	53.0	50.1	56.6	43.4
Verbal-----	44.9	47.8	46.5	51.6	45.4
12th grade:					
Nonverbal-----	43.4	47.1	45.0	51.6	40.9
Verbal-----	43.1	43.7	43.8	49.6	40.9
Reading-----	42.6	44.3	44.2	48.8	42.2
Mathematics-----	43.7	45.9	45.5	51.3	41.8
General information-----	41.7	44.7	43.3	49.0	40.6
Average of the 5 tests-----	43.1	45.1	44.4	50.1	41.1

Median test score is the score which divides the group in half. For example, half of the white 1st grade students had scores above 53.2 on the verbal test and half below 53.2. (Source: The Equality of Educational Opportunity, 1966, p. 20)

Scores on each test at each grade level were standardized so that the average over the national sample equaled fifty, and the standard deviation equaled ten. Therefore, for all students in the nation, about sixteen percent would score below forty and about sixteen percent above sixty.

Coleman reported the constant difference in standard deviations over the grades represented an increasing difference in grade level gap.

...Negroes in the metropolitan Northeast are about 1.1 standard deviations below whites in the same region at grades 6, 9, and 12. But at grade 6 this represents 1.6 years behind; at grade 9, 2.4 years; and at grade 12, 3.3 years.
(Coleman, 1966, p. 21)

Because the table reports median test results, it means that one half of the white or Oriental children are below that score, even though they may show higher test results overall. Therefore, a theory of academic achievement (or the lack of it), needs desperately to address itself to these two points. First, what is there unique about a child or a class that accounts for his success when his entire school or system is failing? Conversely, what accounts for his failure when his entire school or system is succeeding?

This important issue aside, the data revealed that the longer minority group children remained in school, the further they fell behind the national

average in grade level achievement. This continual decline in relation to national norms has been referred to as the "cumulative deficit." (Deutsch, 1960)

Although the Coleman Report collected and reported data on a national level, what is most relevant for this investigation is the data pertaining to the Northeast.

In a review of the Coleman survey, Dentler (1966) summarizes the principal findings as they relate to the metropolitan Northeast.

Table II is a summary of the data regarding the student's notion of self-control over his destiny.

TABLE II^a

Percent Who Agree That:	Northeastern Metropolitan		
	White	Negro	Puerto Rican [*]
Good luck is more important than hard work for success.	4	9	19
Every time I try to get ahead, something or somebody stops me.	13	21	30
People like me don't have much of a chance to be successful in life.	5	12	19

^{*}Puerto Ricans not restricted to Northeast.

^a(Source: Dentler, 1966, p. 23)

These attitudinal variables as indicated in the tables were found to show the strongest relation to achievement at Grades 6, 9, and 12. As Dentler pointed out, "Very little educational research and development work is currently aimed specifically at these student attitudes...." (Dentler, 1966, p. 28)

For our purposes it is also necessary to analyze another factor that relates to achievement. Although Dentler reported that teacher characteristics were relatively unimportant and accounted for only about a "2 percent contribution for sixth grade Northern whites and Negroes", in relation to the "non-results" reported by Coleman, teacher characteristics did have a positive effect even though small.

The following chart demonstrates the variance in verbal achievement accounted for by teacher variables. Those variables were:

1. The average educational level of teacher's families (mother's education was used).
2. Average years of experience in teaching.
3. The localism of the teachers in the school: whether they had attended high school and college in the area and had lived there most of their lives.

4. The average level of education of the teachers themselves.
5. The average score on self-administered vocabulary tests by teachers.
6. The teacher's preference for teaching middle-class, white-collar students.
7. The proportion of the teachers in the school who were white.

TABLE III
 PERCENT OF VARIANCE IN VERBAL ACHIEVEMENT
 ACCOUNTED FOR BY 7 SELECTED TEACHER VARIABLES AT
 GRADES 12, 9, 6, 3, AND 1, WITH BACKGROUND
 FACTORS CONTROLLED^a

	Gr. 12	Gr. 9	Gr. 6	Gr. 3	Gr. 1
Puerto Ricans	18.38	9.70	8.11	2.60	4.70
Indian Ams.	15.75	7.25	17.95	3.71	10.97
Mexican Ams.	14.63	11.71	12.59	2.31	2.18
Negroes, South	9.97	7.72	5.29	1.73	.91
Negroes, North	4.35	1.58	2.19	2.38	1.38
Oriental Ams.	1.77	3.18	4.19	3.92	6.04
Whites, South	2.07	2.49	1.12	1.08	.46
Whites, North	1.89	1.02	1.67	.85	.87
Negroes, total	9.53	6.77	3.52	2.83	.52
Whites, total	1.82	1.03	1.23	.59	.37

^a(Source: Coleman, 1966, p. 317)

The table reveals that the overall effect of teacher characteristics is cumulative in nature. Generally speaking, the teacher influences verbal achievement factors greater between Grades 6-12 rather than Grades 1-3.

Two other important factors become obvious upon closer examination of the reported data in Table III.

The first of these is that effectiveness is greater for those minority group students who usually perform less well on standardized achievement tests. The second important factor is that children who have a tendency to come from homes that speak another dominant language (Puerto Rican, Indian American, Mexican American, Oriental American) are influenced significantly greater than children from "mono-linguistic" homes.

The data in the following table demonstrate the added variance in achievement as teacher variables were added.

TABLE IV

CUMULATIVE VARIANCE IN ACHIEVEMENT EXPLAINED FOR NEGROES AND WHITES

AT EACH GRADE LEVEL BY ADDING SCHOOL AVERAGE OF

SPECIFIED TEACHER VARIABLES IN ORDER LISTED^a

(4 background variables controlled)

Variable added	Grade 12		Grade 9		Grade 6		Grade 3		Grade 1	
	N	W	N	W	N	W	N	W	N	W
Teachers' family educational level.....	2.26	0.10	1.42	0.14	0.58	0.21	0.03	0.01	0.03	0.00
Years experience.....	3.37	.12	1.53	.22	.61	.21	1.50	.05	.14	.15
Localism.....	3.38	.47	1.54	.47	.93	.49	2.34	.21	.26	.19
Teachers' educational level.....	4.87	1.08	3.20	.60	.93	.51	2.40	.23	.26	.21
Score on vocabulary test.....	7.05	1.21	5.05	.62	2.82	.67	2.74	.27	.34	.27
Preference for middle class.....	8.09	2.07	5.42	.69	3.03	.82	2.76	.56	.35	.33
Proportion white.....	8.23	2.10	5.55	1.04	3.33	1.20	2.83	.59	.52	.37

^a(Source: The Equality of Educational Opportunity, p. 318)

For the purposes of this investigation, it should be noted that teachers' educational level and verbal skills (score on vocabulary test) have strong positive effects on minority group students. The cumulative effect of teachers' verbal skills manifests itself at Grade 6, suggesting the profundity of the verbal environment that classroom teachers must be aware of.

In summary, Coleman and his associates found that the nation's schools operated like a huge monolith that had little or no positive effect on the children. On the contrary, the survey documented the fact that minority group disadvantaged children emerged from the schooling process more disadvantaged than upon entry.

In their study of various mental abilities (verbal ability, reasoning, number facility and space conceptualization) in Chinese, Jewish, Negro and Puerto Rican children Stodolsky & Lesser (1967) offered an alternative argument to the concept of equality of educational opportunity. Their findings suggested that "ethnic groups are markedly different ($p < .001$) both in the absolute level of each mental ability and in the pattern among these abilities." (pp. 566-567)

According to Stodolsky and Lesser, Coleman "failed to consider either the role of diversity and pluralism in our society or several alternative definitions of

the function of schooling." (p. 583) What the schools must learn to do is match the instructional milieu to the child's mental ability and learning pattern.

Furthermore, their replication study which gathered data on Chinese and Negro children in Boston, "duplicated almost exactly . . . earlier data on similar samples in New York City." (p. 573)

The Mayeske Report

Whereas, Coleman and his associates addressed themselves to the child, the second comprehensive study addressed itself to the school for analysis. (Mayeske, et. al., 1969) This study was conducted by the Office of Program Planning and Evaluation of the United States Office of Education, Department of Health, Education and Welfare.

The raw data used in this study came from the Coleman report. Approximately 650,000 students from some 4,000 schools, with their teachers, principals, and superintendents were included in the study. Approximately 400 questionnaire items were reduced into three groups: student's social background, school's characteristics, and school outcomes. In addition, these three groups were further subdivided (for example, school outcomes were grouped into students' attitudes and motivations, and students' achievement).

Among the principal findings of the study were:

...The influence of the school cannot be separated from that of the student's social background...

...schools exert a greater influence in terms of both attitude and achievement, on students who have relatively high socioeconomic status, are either white or Oriental-American, and come from homes where both parents are still living together...(Mayeske, et. al., 1969, p. xiv)

The study also indicated that school facilities (physical) seem unimportant compared to the school's personnel in effecting the achievement levels of children. (This was also pointed out by Coleman and associates.) The study also pointed out that the influence of the school is closely tied to the background experiences of the children. Once again, the evidence suggests that the schools have internalized a model of expectations for a select group of students. If the resources of the child do not match this internal model, the evidence suggests that the child leaves school more disadvantaged (in terms of achievement) than when he entered.

The correlates of school achievement levels are reported in Table V below.

TABLE V

CORRELATES OF SCHOOL ACHIEVEMENT LEVELS^a

	1	3	6	9	12
Specialized Staff and Services	.16	.20	.20	.31	.21
Pupil Assignment	.16	.16	.21	.21	.12
Availability of Texts	.16	.14	.19	.21	.22
Compulsory Attendance Law	.30	.27	.34	.40	.27
Pupil-Teacher Ratio	-.14	-.11	-.12	-.34	-.21
Teacher Examinations	-.22	-.17	-.21	-.14	-.18
Scope and Severity of School Problems	-.22	-.17	-.19	-.22	-.20
Daily Attendance	.31	.31	.36	.43	.27
Principal's Estimate of School Reputation	.18	.25	.28	.27	.24
Teaching Conditions	.50	.55	.59	.47	.53
Teacher's Socio-Economic Background	.13	.26	.29	.33	.27
Teacher's College Attended	.17	.19	.29	.31	.33
Teaching Related Activities	-.16	-.14	-.18	-.30	-.23
Preference for High Ability Students	.29	.32	.38	.32	.40
Teacher's Racial-Ethnic Group Membership	.52	.53	.73	.77	.75
Pct White Student at Teach's Undergrad Ins	.49	.51	.70	.76	.76
Teacher's Salary	.16	.19	.27	.24	.36
Pct White Students in Teacher's Class	.56	.58	.73	.75	.78
Teacher's Vocabulary Score	.44	.47	.62	.58	.65
Stundt Body's Expectations for Excellence		.25	.50	.31	-.23
Stundt Body's Socio-Economic Status	.61	.68	.82	.82	.81
Stundt Body's Attitude Toward Life		.22	.60	.64	.62
Stundt Body's Family Structure and Stability	.37	.46	.67	.66	.63
Stundt Body's Educational Plans and Desires		.36	.64	.50	.34
Stundt Body's Study Habits		.52	.59	.46	.22
Proportion of Females in Stundt Body	.04	.12	.14	.28	.22
Stundt Body's Racial-Ethnic Composition	.56	.63	.80	.84	.80

TABLE V
(Continued)

	1	3	6	9	12
Student Body's Kindergarten Attendance	.33	.33	.49	.46	.40
Student Spks a Foreign Language at Home	.08	.28	.42	.43	.33
Parent Spks a Foreign Language at Home	.07	.27	.39	.23	.09

^a(Source: Mayeske, et. al., 1969, p. 120)

A school that scores high on this index has a high proportion of students with high scores on the achievement composite for their grade level; a school that scores low has a high proportion of students with low scores.

When we look at the teacher correlates of school achievement, the data reveal that: (1) teachers believe that they work in more desirable working conditions (students try harder, are brighter, and create fewer problems); (2) teachers have higher verbal scores on vocabulary test; (3) teachers prefer to teach high ability students.

Furthermore, the Table reveals that students in schools with high achievement levels when compared with students in low achievement schools tend to:

- (1) have high expectation for excellence (this shows itself at the 6th grade)
- (2) come from high socioeconomic levels

- (3) have positive attitudes toward life (manifesting itself at 6th grade)
- (4) be racially homogeneous (white students are favored here)
- (5) have attended Kindergarten

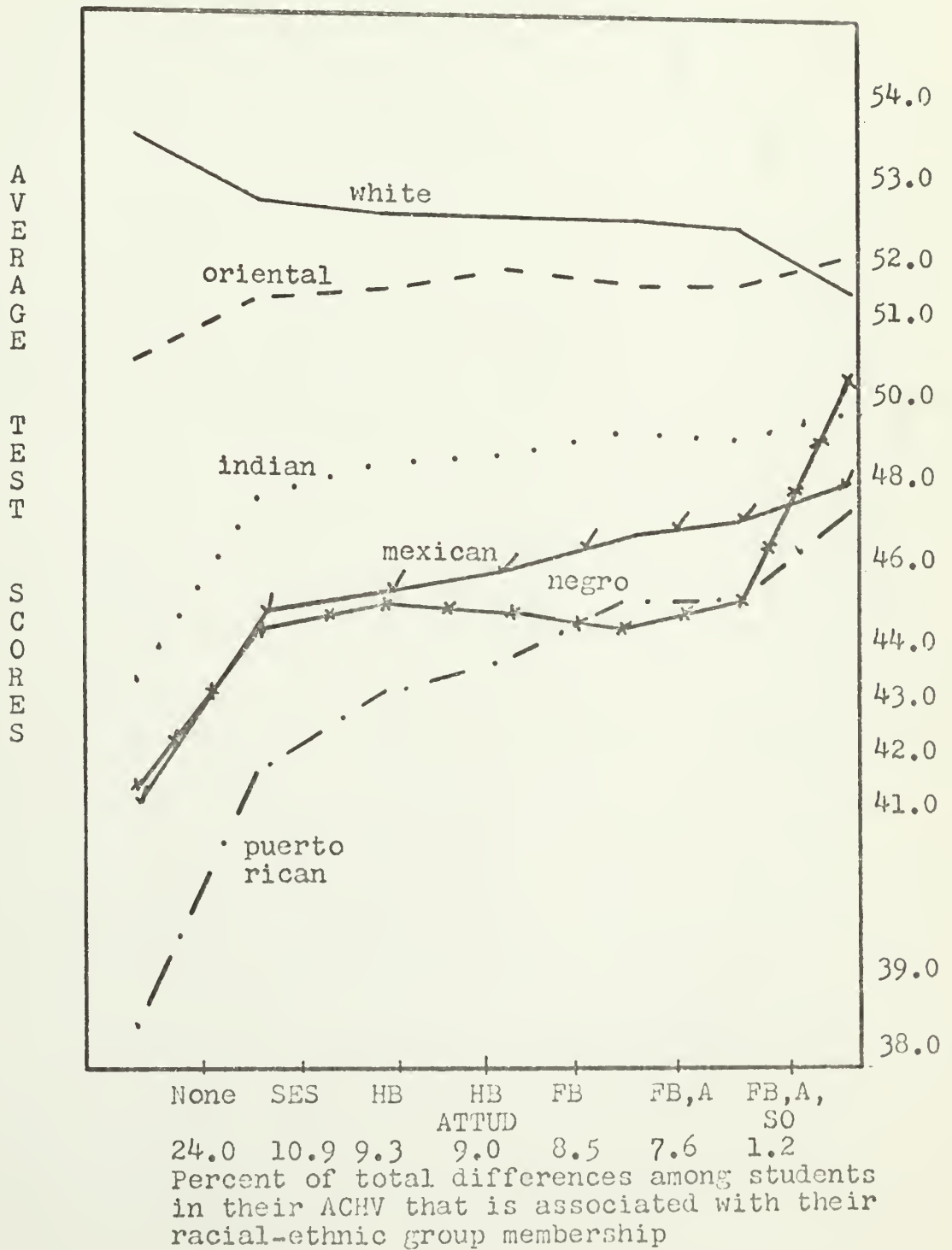
Both Mayeske (1969) and Coleman (1966) reinforced each other in their findings regarding student population, SES, and teaching influence (verbal skills) on achievement level of students.

Since much of the data regarding achievement reflects relationship between racial-ethnic group differences (Stodolsky & Lesser, 1967; Coleman, 1966; Mayeske, 1969) and level of school achievement, it becomes necessary to account for this so as not to be misinterpreted by future researchers. For example, Mayeske (n.d.) controlled for socioeconomic differences among students in order to answer the question of variation in achievement and racial-ethnic group association. His findings indicate that "the trend we observe ...is that the differences among the racial-ethnic groups in the ACHV levels approach zero as more and more considerations related to differences in their social conditions are taken into account." (Mayeske, n.d.)

In Figure 6 that trend is clearly demonstrated.

FIGURE 6

Racial Ethnic Group Achievement Means Adjusted For Social Background Conditions^a



^aMayeske, "On the Explanation of Racial-Ethnic Group Differences in Achievement Test Scores," United States Office of Education.

Codification of Various Factors
Affecting Achievement

- HB - Mean differences after considerations of both SES and the students Family Structure (FSS) have been taken into account.
- HB, ATTUD - Magnitude of the mean differences after considerations of SES, FSS and the students Attitude Towards Life (ATTUD) have been taken into account.
- FB - Magnitude of the mean differences after the indices which we felt represented all aspects of the students Family Background (FB) had been taken into account.
- FB, A - After FB and Area of Residence (a) whether it be South, Far West or North, or Rural-Suburban or Urban have been taken into account.
- FB, A, SO - After FB, A and the five school attributes of the achievement and motivational mix of the students one goes to school with have been taken into account, only 1.2 percent remains.

The investigations of Stodolsky & Lesser (1967) on mental abilities of disadvantaged children support these findings of Mayeske. Basically their research suggested that middle-class children from various ethnic groups resemble each other on mental ability tests more than their racial counterparts from lower-class groups.

The previous discussion has drawn heavily on the two national studies relating to effects of schooling on achievement. It is this writer's opinion that the magnitude of these studies warranted such a lengthy discussion. In no other time in our history has such massive educational data been compiled. Both of these studies have gathered ample data for future researchers to analyze and reinterpret.

The Literature on Large City School Systems

A Survey of the Chicago Public Schools

In 1963 the Chicago Board of Education appointed Dr. Robert J. Havighurst (University of Chicago) as Director of a survey team consisting of thirty-eight outside consultants (chiefly from universities) and

twelve staff associates. They were charged with the task of evaluating the "quality" of the Chicago Public Schools. Table VI indicates the number of schools they visited in order to get this information.

TABLE VI
NUMBERS OF SCHOOLS VISITED^a

	No. Vsts	No. Vsts	No. Vsts	No. Vsts	No. Differnt Schools
Elementary schools	116	75	92	70	119
General high schools	62	25	85	33	34
Vocational high schools	26	10	15	6	10
Junior college	20	8	2	2	8
Teachers college	6	3	15	3	3

^a(Source: Havighurst, 1964, p. 11)

About one-fourth of the elementary schools were visited, and two-thirds of the general high schools. In addition, 800 elementary school teachers and approximately 500 high school teachers were interviewed. A teacher questionnaire was sent to all teachers with about seventy percent responding.

As previously indicated, one of the major purposes of the survey was to seek answers to important questions concerning the quality of Chicago's Public Schools. In this survey "quality" was assessed by the following methods:

- (1) By asking outside experts in various aspects of education to study the Chicago schools and report their findings and conclusions.
- (2) By assigning members of the survey staff to observe the schools, interview teachers and administrators, and collect data on the schools.
- (3) By asking teachers and administrators systematically how they feel about their work and how they think the schools could be improved. (Havighurst, 1964, pp. 18-19)

For the purposes of this investigation, the writer has reported on the two critical areas of school achievement and teacher characteristics. According to the Havighurst survey, the variations in academic achievement closely parallel the differences in the socioeconomic makings of the city.

Table VII shows the relationship between SES and level of school ability and achievement.

TABLE VII
 SOCIOECONOMIC STATUS, SCHOOL ACHIEVEMENT
 AND RACE BY SCHOOL DISTRICTS^a

Rank order in SE status District no.	IQ	Grade 6, 1963 Achievement in Reading & Arith. Grade Level	Grade 1, 1963 Reading Edness % Average or Above	Oct. 63 Elem. Pupils Negro
2	111	7.5	75	0
18	104	6.8	74	37
1	112	7.8	89	0
17	108	7.4	74	7
16	101	6.4	67	77
4	107	7.1	78	1
3	107	6.8	74	0
14	95	5.8	48	85
7	94	5.8	44	48
5	109	7.2	85	0
15	109	7.2	79	16
10	96	6.0	48	67
20	93	5.7	47	100
12	103	6.7	65	1
6	99	6.3	52	69
21	91	5.5	41	92
8	89	5.4	33	81
11	92	5.5	45	96
19	93	5.6	45	61
13	90	5.5	42	100
9	90	5.3	34	81
City wide	99	6.2	55	

^a(Source: Havighurst, 1964, p. 39)

The achievement tests were given in March of the school year. This indicates that the children have completed .6 of their 6th year in school. The so-called

norms for this test should read 6.6. According to Havighurst, "The table shows that the top third of the district rankings range in achievement from grade level to one year above level. The bottom third, with the exception of district 6 scored about one year below grade level." (Havighurst, 1964, p. 38)

The obvious irony in this data is the fact that (1) districts with low SES rankings (16, 17, 18) have scored significantly higher on both the I.Q. test and the achievement tests; and (2) districts with relatively high SES rankings (6, 8, 9) scored from .3 to 1.3 years below expected grade level.

These wide discrepancies in "expected achievement" based on SES have not validly been accounted for or were glibly written off with a statement such as, "with the exception of districts X, Y, Z, ..."

Educators need to address themselves to these "exceptions." Why is it in spite of all the disadvantages (social, economic) we still find large numbers of children succeeding in "inner-city schools"?

The results of the teacher questionnaire which reflected teacher characteristics, attitudes and perceptions of their jobs revealed some interesting facts.

Table VIII reports the attitudes and experiences of teachers toward teaching in different schools.

TABLE VIII
 EXPERIENCE IN AND ATTITUDES TOWARD TEACHING
 IN DIFFICULT SCHOOLS^a
 (PERCENTAGES OF TEACHERS)

	Yes		No	
	Elem.	H.S.	Elem.	H.S.
Have experience in such a school?	83	66	17	34
If yes, do you like working in such a school?	53	52	47	48
If no experience, willing to accept such assignment?	28	31	72	69

^a(Source: Havighurst, 1964, p. 166)

The overwhelming indication from these figures is that a definite negative attitude towards working in difficult schools exists. Of those teachers with no experience in inner-city schools, seventy-two percent at the elementary level said they would not be willing to accept such an assignment.

One other area of teacher attitudes is germane to our discussion. In response to a question pertaining to making the schools more attractive, the teachers questioned preferred the following in order of popularity:

- (1) Reduce class size substantially.

- (2) Group children with more attention to learning ability and/or social maturity.
- (3) Adjust the curriculum to fit in with the pupils' needs and experiences.
- (4) Provide the teacher with assistants to work with individual children. (Havighurst, 1964, p. 167)

Thus, while teachers seem to prefer smaller class sizes and indeed it may be necessary for their daily survival, research demonstrates that class size does not add up to upgrading achievement levels. (Fry, 1966; Coleman, 1966)

Also, the research on the effects of ability grouping and its relationship to improved instruction (providing for individual student's needs and abilities) suggests that ability grouping has little or no effect on children's performances. (Esposito, 1971; Justman, 1967)

Most teachers are familiar with the following arguments for homogeneous ability grouping: generally speaking, ability grouping takes individual difference into account by offering them methods and materials geared to their level; pupils are challenged more in homogeneous groups; more individual attention can be given to the children.

The proponents of homogeneous ability grouping place major importance on the instructional advantages of such a practice. In reality, Esposito concluded, "that in the urban elementary self-contained classroom, the patterns of instruction found in classes organized according to the principle of homogeneous self-contained classrooms are very similar." (Esposito, 1971) The researcher's position is that regardless of the principle governing the pupil composition of the classroom, the essential pattern of teacher-student interaction manifested in the homogeneous classroom is comparable to that found in the heterogeneous classroom.

The fact that it becomes difficult to implement the concept of ability grouping along absolute lines is evident if we consider the following: If we have a school that serves as a "magnet-school" in a particular geographic location and its clientele has a wide range of experiences and background, then a so-called "homogeneous" grouping system might in actuality result in greater heterogeneity than a school whose clientele is similar in background but practices heterogeneous grouping.

In many instances the labels "homogeneous" and "heterogeneous" are administratively convenient, but not pedagogically precise. In his study on the effects of grouping on achievement gains in reading, Justman (1967) concluded, "It is very clear that reducing the

range of ability in . . . classes was not associated with increased achievement in reading. The lesson . . . is . . . clear--homogeneous grouping is not a panacea for educational ills." (p. 3)

A Survey of the Philadelphia Public Schools

At least two other surveys of large city school systems are pertinent to our discussion. The first of these was conducted by thirty-three task forces, each dealing with a specified problem area. The survey was undertaken by Teachers College, Columbia University, and involved a fifteen-month effort in the District of Columbia Public Schools. (Passow, 1967) The results of this study will be discussed in detail in Chapter III.

The other survey was carried out in the Philadelphia Public Schools. In June, 1963, Dr. William R. Odell of Stanford University, School of Education, was contracted by the Board of Education in Philadelphia to serve as director of the study. The survey covered an eighteen-month period and involved an appraisal of Philadelphia's preschool, elementary, secondary, and adult educational programs. Also included was an assessment of pupil services, guidance services, school-community relationships, and other school related items. (Odell, 1965)

What Passow and Odell found in relation to achievement levels was similar to most studies of large city

school systems. For example, the Philadelphia survey indicated that approximately one-third of the Philadelphia students attended schools where averages in skill subjects ranged from one and one-quarter to two and one-quarter years below grade norms at the end of the sixth grade.

In his book Dark Ghetto, Kenneth Clark (1965) portrayed another dismal picture of the cumulative deleterious effects of schooling on minority group children. Intra-city comparisons between Harlem children and other areas of New York City strongly suggested that at sixth grade children from Harlem have median scores of 5.0 in achievement, while New York City children have median scores of 6.4 in achievement. At the eighth grade level the scores are 5.8 and 8.1 respectively.

Stein (1971) asked the question, "How is it possible to fail to teach reading to the great majority of any population after eight years of trying?" (p. 159) She continued:

...The curve of reading achievement by school in New York City (the tendency is the same in all urban areas) is strange. It is bi-modal, a double-humped "normal" curve. It peaks at two-and-a-half years below grade level, falls to nearly zero at grade level. Black and Puerto Rican schools lie on the below-grade half of the curve, continental white schools on the above grade. There are, in effect two independent curves, one for Blacks and Puerto Ricans, the other for whites....

Thus, the accomplishment of the school system is even more impressive. Their task is not only to succeed in failing the Black and Puerto Rican children; they must, at the same time, succeed in teaching the white children how to read well. (Stein, 1971, p. 159)

In city after city, Stein's description of the "bi-modal curve" of achievement is evident. The following Table IX graphically illustrates this phenomenon.

TABLE IX
AVERAGE READING ACHIEVEMENT GRADE LEVELS
OF STUDENTS IN THE 6TH GRADE^a

	Reading Achieve- ment Level	Difference
Detroit Grosse Point, Mich.	5.1 8.0	2.9
Atlanta Fulton County, Ga.	4.3 6.9	2.6
New York Scarsdale, N. Y.	5.0 7.5	2.5
Cleveland Shaker Heights, Ohio	5.4 7.8	2.4
Los Angeles Beverly Hills, Calif.	5.0 7.0	2
Philadelphia Lower Merion, Pa.	5.6 7.5	1.9
Newark Tenafly	6.2 7.3	1.1

^a(Source: Riles, 1970, p. 169)

The scores of urban "inner-city" schools range from 1.1 to 2.9 years below their more affluent counterparts in the suburbs.

The redundancy of information regarding the achievement scores of lower socioeconomic and minority group children in urban schools is great enough to prohibit further reporting of the research into the "literature of failure".

Successful Achievers

As stated previously, no theory of school failure is adequate unless it takes into account those children who are successful.

Before looking at some evidence of successful students in "inner-city" schools, it is necessary for the investigator to state his biases. It is assumed by the writer that little is known about who succeeds in the so-called ghetto school, about how he succeeds, nor about why he succeeds.

As stated previously in this chapter, the traditional attempts to isolate causes for children's failure included descriptions of "cultural deprivation"; descriptions of "perceptual dysfunctions"; and descriptions of "linguistic deficits".

Most of the literature in the late fifties and sixties explained school failure in terms of one or a

combination of these disabilities.

No one would deny the fact that there are minimal levels of competency needed in both language and perception in order to achieve in school. However, it is this writer's contention that too much emphasis has been focused in this direction.

Ironically, too much research on learning disabilities in urban schools tends to yield counter-productive results. After all, if the research states that children with perceptual problems can't read, then what can be expected of classroom teachers?

The major assumption of the writer is that our understanding of successful achievers from "disadvantaged" backgrounds is minimal. Little is known about who succeeds, why, and how. One of the reasons for this lack of knowledge and paucity of research in this area has been educators' preoccupation with "failure" theories.

One comprehensive study that addressed itself to the question of achievers from deprived backgrounds was conducted by Davidson & Greenberg (1967). Recognizing the fact that some children from deprived backgrounds do achieve in school, the research was designed to investigate "a broad spectrum of cognitive, affective, and physical traits, as well as background factors." The

sample was chosen from a normal fifth-grade population, and equally divided by sex. All children were about the same age, between ten and eleven years old, and came from urban Negro families, that were classified lower socioeconomic status.

The children were all given a battery of thirteen individual and group psychological tests, plus a standardized achievement battery, plus teacher ratings of children. From this group the task was to choose eighty "high" and eighty "low" achievers who met all the criteria for selection. The selected fifth graders came from forty-three different classrooms in ten Harlem schools.

The "high" achievers were distributed in sixteen classrooms and the "low" achievers in twenty-seven classrooms. They varied in achievement from a high of 9.9 in reading for "high" achievers, to a low of 1.8 for "low" achievers.

In their summary treatment of the data, Davidson and Greenberg concluded:

The major differences occurred in basic cognitive skills and convergent thinking abilities; in ego strength, emotional stability, and self-competence; in the teachers' perception of their learning behavior and willingness to conform; in their expressed academic interests, curiosity, and directed achievement drive. In all

these characteristics, the high achievers surpassed the low achievers to a statistically significant degree. (p. 79)

Although both groups showed anxiety on doing well in academic settings, the high achievers "possessed more effective controls and coping mechanisms." (Davidson & Greenberg, 1967, p. 79)

In their analysis of the variability of performance in lower-class children, Davidson and Greenberg listed the strengths of the "low achievers."

"They were responsive and could produce ideas..., Both in verbal and nonverbal situations, many individuals showed a high level of imaginativeness and capacity to use the stimulus material appropriately." (p. 129)

Two other important findings of this study were:

(1) "high" achievers seem to be more "convergent" oriented in their thinking abilities, while "low" achievers tend to be divergent thinkers. (The questions of reward system and conformity of thinking are apparently interrelated.) (2) "High" achievers were deemed superior in aspects of self-concept and ego strength.

The task of the school becomes even clearer as a result of Davidson's and Greenberg's work. First, the schools must address themselves to the interrelationships of their reward system and conformity of thinking (convergent thinking). Second, the schools

have a responsibility for developing ego-strength and self-concept in children. Especially since this "affective" variable is closely linked to achievement. (Coleman, 1966; Mayeske, 1969; Davidson & Greenberg, 1967)

In a longitudinal study specifically related to achievement in reading, Durkin (1966) reported the results of her first study with regard to family background. Her data show that fourteen percent of the early readers came from homes that were classified "upper-middle class", while thirty-one percent of the earlier readers came from homes that were classified "lower-middle class", and a surprising fifty-three percent of the early readers came from homes that were "upper-lower class."

It should also be reported that approximately twenty-five percent of the "early readers" in Durkin's study were Negro.

In his investigation of successful inner-city schools Weber (1971) reported his findings of four successful schools where children were learning to read. There were two criteria established for determining "success". "I thought it reasonable to require that an inner-city school, ..., would have to achieve a national grade norm score as a median." (Weber, 1971, p. 5) The second criteria set was that the percentage of gross failure be low.

The four successful schools were located in New York City (2 schools), Kansas City, Missouri (1 school), and Los Angeles, California (1 school).

In his reporting of success factors, Weber discussed eight factors that he found common to all four schools.

They were:

- Strong leadership
- High expectations
- Good atmosphere
- Strong emphasis on reading
- Additional reading personnel
- Use of phonics
- Individualization
- Careful evaluation of pupil's progress
(Weber, 1971, p. 26)

Perhaps as important are the factors that had little or no positive effect on reading achievement. Those non-essential characteristics were: size of class, achievement grouping, quality of teaching, ethnic background of the principal and teachers, preschool education, and physical facilities.

The purpose here is not to present a in-depth analysis of Weber's findings. However, a word of caution is necessary. Although Weber uses (by inference) the Woodland School in St. Louis as a model of success, it should be noted that children in Woodland were assigned to Special Education Classes based on one Stanford-Binet score of 79 I.Q. or lower for a period of three years. The children cannot be retested before that three years

has expired. Approximately ninety-nine percent of Woodland School children are Black, almost all of them are very poor.

In this investigator's opinion, we must search for multi-dimensional models of evaluation, both affective and cognitive, in order to avoid the irony of the Woodland School's uni-dimensional model of "success" on the one hand (reading achievement) and its apparent "failure" on the other (Special Educational placement).

In his Appendix to the (MARC) proposal to Washington, D. C. Board of Education, Clark (1970b) discussed the characteristics of effective systems that have improved academic achievement in urban schools. Among those characteristics were:

1. Clarity and coherence of perceived needs and stated goals and concrete objectives focussing on student achievement;
2. Implementation of coherent, concrete programs with clear definition of role and responsibility appropriate to the stated objectives;
3. Strong, purposive, consistent and flexible leadership;
4. High administrative expectations of teacher performance related to student achievement and high teacher expectations of student capacity to perform;
5. Intensive program focussing on logical, sequential development of cognitive skills;
6. Rigorous standards with regular and concrete evaluation of teacher performance in

relation to clearly defined objectives of student performance through diagnostic tests and other procedures, and with a program to correct and upgrade perceived weaknesses;

7. A system of administrative supports for student and teacher, including ongoing training for all school personnel;

8. Stimulation of teacher and student motivation and, frequently, parent motivation;

9. An ability to handle conflict and challenge creatively;

10. Assumption of responsibility by the school for educational achievement of the child;

11. Evidence of student academic achievement. (p. 2)

Whereas, the major portion of the studies conducted during the early sixties reported on personality variables, the Clark analysis seemed to focus its attention to the ecological milieu of the school and how teachers, administrators, and children might interact with one another. Mackler (1970) poses the position of the "interactionists" in seeking answers to the question of how the milieu of the school effects different children even within the same racial-ethnic group. What needs to be scrutinized is the behavior of individuals in various and sundry contexts.

According to Mackler (1970) we tend to be myopic when it comes to research. The tendency is to research

the obvious and avoid the more difficult, the more obtuse. Research in achievement during the early sixties... "was and still is, polemical, unsystematic, and inconclusive." (p. 215)

Furthermore, Mackler believes that what we need to do is conduct research on a longitudinal basis; doing process, interactional oriented research on how people behave the way they do, and why they behave that way.

C H A P T E R I I I
D I S T R I C T O F C O L U M B I A P U B L I C S C H O O L S

The schools in the capital of one of the most affluent nations in the history of mankind are in many ways not unlike other large city school systems. They suffer from economic disadvantage, racial and ethnic isolation, and achievement levels that are not only below national norms, but in many instances below other large city norms. Perhaps their greatest disadvantage is being governed by an apathetic and indifferent group of legislators who appropriate billions of dollars for the development of lethal weapons, while paying lip-service to supporting the greatest weapon of all--the development of the human mind.

Also, like other large city school systems, Washington, D. C. has had its share of surveys, studies, and visiting consultants. The primary purpose of this chapter is to review some of those major studies in light of their findings, recommendations, and implementations. The second purpose of this chapter is to discuss the standardized achievement testing program utilized in the

Washington, D. C. Public Schools.

Most of the proposals made about Washington, D. C. Schools have stressed the low academic achievement levels of the children and the urgency to reverse this trend. However, this was not always the case. For example, in 1934, Senator Royal S. Copeland, Chairman of the Subcommittee on Racketeering and Crime, urged the schools in the District of Columbia to affect a shift in their emphasis from "purely intellectual achievement to a realizing sense of social obligation and good citizenship." (Monroe, 1937, p. 11)

The then Superintendent of Schools, Frank W. Ballow, recommended to the Board of Education of the District's Public Schools that an experiment in character education be implemented. From July 1, 1934, to June 30, 1936, the experiment was carried out. The goal of this experiment was to develop methods for meeting the personal and social needs of the children "to the end that they may live happily and effectively in their group relationships." (Monroe, 1937, p. 11)

A major strategy employed to meet the social and personal needs of the children was an intensive remedial reading program.

According to Bertie Backus, then Assistant Superintendent in charge of Character Education, "The seeds have been planted...more than one hundred and fifty teachers have faced the problem of making reading a personal achievement for every child." (Monroe, 1937, p. 11)

The obvious irony of this so-called experiment lies in the fact that almost forty years ago the District of Columbia School System pledged to make achievement in reading a major goal and responsibility of all teachers. Some of the children who were part of that experiment now have grandchildren in those same buildings. In 1934, Dr. Marion Monroe, chief psychologist of the Child Guidance Center of Pittsburgh, Pennsylvania, was hired as a consultant; almost forty years later Dr. Kenneth Clark, President of the American Psychological Association, presented his proposal to upgrade the personal achievement of the students in Washington, D. C. Public Schools.

The similarities of the two consultants and their programs are amazing:

1934

Marion Monroe

Prominent psychologist-
educator of her time

1970

Kenneth Clark

Prominent psychologist-
educator of today

Marion Monroe

Kenneth Clark

Recognized the importance of reading proficiency for future success in school related activities

Recognized the importance of reading proficiency for future success in school related activities

Believed that reading failures were unnecessary and could be prevented if adequate diagnosis and appropriate remedial work were initiated

Believed that reading failures were unnecessary and could be prevented if adequate diagnosis and appropriate remedial work were initiated

Recognized the necessity of all teachers assuming responsibility for their children's achievement

Recognized the necessity of all teachers assuming responsibility for their children's achievement

This investigator included this comparison to dramatically demonstrate how little has really changed in the way of consultant's recommendations and beliefs regarding the most effective strategy for upgrading children's achievement levels. It was not presented to admonish or belittle any of the consultants who have studied the District of Columbia's School System since Marion Monroe. On the contrary, the fact that there exists much agreement on what is important for children's achievement demonstrates their breath of knowledge regarding schools, teachers, and children.

The Strayer Report

On July 1, 1948, the Chairman of the respective Senate and House of Representatives Subcommittee entered

into a contract with Professor George D. Strayer of Teachers College, Columbia University to direct a comprehensive survey of the District of Columbia Public Schools. (Strayer, 1949) Included in the report was a survey of the adequacy of the present plant and personnel, as well as educational methods and practices being used in the public schools.

For the purposes of this investigation the writer has chosen to report on that aspect of the survey that directly relates to the achievement levels of the children in the District's Schools. The survey staff chose two ways to evaluate the quality of these schools. The first was a result of visitations to all the elementary schools. After these visitations the staff members rated the schools superior, good, fair, or poor.

A school was considered to be superior if "the program was designed to fit the needs of the children, the purposes of teachers and pupils were clear, there was a well organized program of child development activities, an effective instructional program dealing with fundamental knowledges, understandings, and skills, and a community program which served the interests and

cooperation of parents in the education of their children." (Strayer, 1949, p. 458)

Essentially the results of the survey approximate the statistical curve that might be expected in such an evaluation. The percent of schools rated "superior" was 19.0; the percent rated "good" was 35.7; "fair" 27.0; and "poor" 18.2.

The second method chosen to evaluate the District's elementary schools was the more traditional assessment of achievement levels. The data reported in the Strayer Report were taken from the 1946-1947 annual report of the Research Department.

The comparison of the test results⁴ for 1944 and 1946 show that in the word meaning section of the reading test, both groups of children in the third grade were reading approximately 1.0 below national norms. According to the survey, "... all divisions (1-9)... were retarded in paragraph meaning and word meaning in both 3B and 3A grades in 1944 and again in the same month of 1946." (Strayer, 1949, p. 461)

In division schools 10-13 children at the sixth grade were "retarded in various reading and arithmetic skills from 0.6 to 1.5 years..." (Strayer, 1949, p. 466)

⁴School test results were reported by division. Divisions 1-9 were basically white schools; divisions 10-13 were basically Negro schools. There also existed reports of the research department on "the Intelligence and Achievement of Colored Pupils." (Strayer, 1949, p. 463)

In the junior high schools in 1949, students attending the division schools 10-13 (referred to above) were reading on the average 3.0 years below grade level.

In other words, the longer the children stayed in school, the further they fell behind the national norms. This "cumulative deficit" syndrome occurred long before Deutsch coined the phrase.

The Passow Report

It was almost twenty years later when another comprehensive study of the District of Columbia's School System was undertaken by a leading educator from Teachers College, Columbia University. (Passow, 1967)

The study was conducted by thirty-three task forces, with Dr. A. Harry Passow of Teachers College, Columbia University, serving as director. The study was to look at all aspects of public education in the District as they were related to the quality of the educational program. "Among the factors which stimulated the initiation of the present study were recurrent criticism of the so-called 'track system' and dissatisfaction with the academic performance of the District's children." (Passow, 1967, p. 1)

As was the case with the Strayer Survey, the writer has chosen to report on the major findings related specifically to achievement levels of the District's children.

Passow and his associates made a number of findings related to the educational milieu. For the purpose of this discussion only a few of them have been summarized. They include:

A low level of scholastic achievement as measured by performance on standardized tests.

Grouping procedures which have been honored in the breach as often as observed in practice.

Inadequate evaluation and assessment procedures together with limited use of test data for diagnosis and counseling.

Inservice teacher education programs which fall far short of providing adequately for the continuing education essential for professional growth.

Poor communication between the schools and the communities they serve. (Passow, 1967, p. 3)

With specific reference to achievement test scores, the Passow Report stated that although test scores tended to follow the usual socioeconomic pattern, there existed enough data to conclude, "there are...schools that do better and other (sic) not as well, so that the usual relationship between achievement, socioeconomic status, and race are not always found." (Passow, 1967, p. 98)

It seems obvious to this writer that interpretations of median level test scores need, therefore, to be viewed with caution.

This variance between schools was also present with the so-called students of "low" ability. The following table illustrates the point clearly.

TABLE X
SIXTH GRADE CLASSES IN SAMPLE SCHOOLS
WITH MEAN IQ'S UNDER 90^a

School	Class Position	Mean IQ	Paragraph Meaning	Arith Compt	Arith Appls
Draper	IV	86	4.6	5.3	4.6
Hayes	I	89	5.9	6.4	5.4
Janney	II	89	7.2	6.4	7.2
Maurey	II	89	5.3	6.0	5.4
Maurey	III	76	5.0	5.5	4.8
Nalley	III	86	4.6	4.3	4.4
Noyes	III	85	3.8	4.7	4.4
Noyes	IV	81	4.2	4.5	4.3
Syphax	III	87	4.5	5.1	4.8
Max Diff		13	3.4	2.1	1.9

^a(Source: Passow Report, 1967, p. 203)

At least three schools reported achievement scores on or above grade level in arithmetic computation; the Janney school (median IQ 89) had children scoring consistently above grade level in all three areas of the test. On the other hand, Noyes elementary school (median IQ 85) had children consistently scoring 2.1 - 1.3 years below grade level. The above data clearly demonstrate two important "facts." First, the children grouped according to IQ scores of 90 and below can and do achieve grade level scores. This fact

alone questions the whole concept of ability grouping as practiced in the mid-sixties by the D. C. school officials.⁵ Second, the variations in achievement scores strongly suggest that school variables (well-planned instruction, high expectations and student personality traits) accounted more for observed differences in achievement scores than the effectiveness of the grouping procedures. One must also question the speciousness of the IQ measuring instruments.

As might be expected, the Passow Report was not without its biases and limitations. As a major university involved in teacher training, it is understandable that the Passow Report strongly recommended the upgrading of teacher-training in the D. C. schools. This is indeed a worthy educational goal; however, the recent research reported by Coleman (1966) suggested that overall, teacher variables do not account for much variance in achievement. Perhaps the recommendations regarding improved teacher training represent statements of "hope." For example, it is certainly about time that teachers do make a large difference in affecting achievement levels of children in our schools.

⁵It should be noted that in the Hobson vs. Hansen Supreme Court case, Judge Shelley Wright ruled against the concept of "ability grouping" in Washington, D. C. Schools.

The Passow Report has also been sighted for its shortcomings in prescribing the classical compensatory instructional program for treating children with certain "deficiencies," while excluded from its discussion, ways of changing the ecology of the children's environment especially when it is devastating. (Cohen, D., 1972)

Passow himself was somewhat disillusioned by the lack of initiative in implementing "his" report. After three or more years he reported although some minor changes have been made in Washington, "the complete and radical reconstruction of the educational system within the socio-political-economic realities of the District setting has not yet begun nor are there indications that there is a commitment to begin." (Passow, 1970, p. 3)

Passow presented some probing questions about the valid use of field studies for both the institution conducting the survey and the system being studied. He concluded:

A study should only be undertaken when it holds promise for producing new knowledge and better theory about field problems and when it provides training in research and development for graduate students and college staff.

A study should build in features for cooperative endeavor at all stages, from design to data gathering to analysis to proposal to implementation and evaluation. (Passow, 1970, p. 3)

The following questions seem critical when ascertaining the validity of school surveys. First, does the

report contain too many redundancies? For example, after reading the report if someone were to say "so what else is new?" the report would be judged to be redundant. Second, does the process of conducting the survey and reporting its results improve the skills of both the clients and the evaluators? One very important skill might be the awareness of what not to do. This awareness of "what not to do" would also have implications for the reduction of redundancy, and provide insights on procedural aspects for obtaining new information and knowledge.

The third question which needs to be asked is, "Are individuals at all levels held accountable for their performances as it relates to the total survey?" For example, the evaluator should not discontinue his services after the final written report is submitted to the client. Conversely, the client must assume a major portion of the responsibility for duties that have been traditionally left to the "experts." Both of these conditions would prevent the client and the evaluator from rationalizing their way out of "non-results."

The Clark Plan

Within a short span of two years the Metropolitan Applied Research Corporation (MARC) made two proposals

which when implemented would upgrade the achievement levels of children in large-city school systems.

(Clark, 1968; Clark, 1970a)

The first of these "plans" was aimed at the "Deprived Area Schools of New York City," while the second plan had as its target the schools of Washington, D. C. Both programs shared a number of similarities including the concept of reading mobilization teams, the notion of all normal children achieving at or above grade level, the concept of accountability on the part of the school, and the community, and the emphasis on the teacher as a critical person in the promotion of children's achievement levels.

In Chapter I this investigator reported on the plan for the Washington, D. C. Public Schools. Rather than belabor the point, the writer will report on a summary of that document called "A Possible Reality."

The Clark Plan which was presented to the Select Committee on Equal Educational Opportunity of the United States Senate, contained thirty-six requisites dealing with the areas of curriculum, teachers, aides, tutors, students, parents, administrators, evaluation, and organization. This writer has chosen only those factors that relate specifically to the major purposes of this study. They are presented below:

Curriculum:

1. raise reading level of all normal children to grade level or above
2. insure that these children continue to function at or above grade level in reading and math
3. establish minimal floors of achievement appropriate to age and grade in reading and math
4. reading team will also teach English language

Teacher:

1. provide necessary support and training to increase teacher's competence
2. rank and reward teachers on their ability to raise achievement scores of their children
3. stimulate and raise teacher expectations of their children's performance

Evaluation:

1. evaluation of all stages and at all levels-- always with academic achievement of the children as the index
2. standardized tests and other methods to be used at least three times per year
3. standardized tests are to be used to diagnose progress and achievement, not to reject lower-status children

4. standardized tests are to be used in grades 1-9, those now in use should be continued for at least three years in order to measure program effectiveness.⁶

Like the Passow Report the Clark proposal was not without its critics. A number of key issues that challenged some traditional beliefs about schooling were at the heart of these attacks. First, on the list was the concept of accountability. According to Dr. Kenneth Clark's proposal, the more successful teachers (measured by pupil gains in achievement levels) would be promoted to higher ranks with concomitant increases in salary. This proposal challenged the very foundations upon which the teaching profession has been developed.

After a decade of controversy and conflict over such issues as community control of schools, decentralization, and emerging parent and student power, which has resulted in a stronger teachers' union as a reaction to some of these demands, the reintroduction of teacher accountability for pupil's achievement could only be viewed as another threat to teachers' job security and autonomy.

Strong opposition to the accountability issue was voiced by the Washington Teachers Union. The Union "strongly objected to enforcing the performance standards

⁶For a complete summary of all the thirty-six requisites see, "The Clark Plan--A Summary" D. C. Citizens for Better Public Education (Washington, D. C.)

arguing that they are 'unrealistic' because of the low average achievement levels in the city schools." (Feinberg, 1970b, p. 1)

The issue of teacher and school accountability which permeates the Clark Plan also drew criticism from the Superintendent of the D. C. Schools, Scott. Addressing a D. C. Congress of Parents and Teachers and the D. C. Association of Classroom Teachers, Scott indicated that it was neither fair nor logical to blame the poor state of the schools' achievement scores on poor teaching. Responding to the concept of reading mobilization teams which would be accountable for their children's learning, Scott replied:

You must not just attack the educational process and demand response from that one unit--you must demand accountability from government, teachers, community, students--whoever is involved in the process of achieving the goal. (Feinberg, 1970c)

Scott then introduced the concept of "disadvantage" into the topic by suggesting that although the children of D. C. are "normal in the sense they have native intelligence," they "...are gravely disadvantaged by social problems and a generally depressing environment not experienced by children in other cities and in higher income families." (Feinberg, 1970c)

The only comment that this writer offers is that the perpetuation of this labelling process will not

(and has not) changed what the schools do with children. If anything, so-called disadvantaged children leave school more disadvantaged than when they entered. (For an extensive discussion of this topic, see Chapter II.)

The Clark Plan also drew sharp criticism from some community leaders. At the core of this hotly contested debate were two issues: (1) the concept of standard English versus "ghetto dialect," and (2) the use of standardized tests for evaluation purposes.

During the sixties the Center for Applied Linguistics emerged as a leading institution for influencing research attitudes regarding "non-standard English." A group of linguists headed by William Stewart, Roger Shuy, and Joan Baratz studied and reported on the speech patterns of urban youth. In the area of teaching, these studies dealt with reading problems and dialect influences. Two major questions which are still the focus for much debate are: (1) Do children who speak a dialect that is very different from the school fail in learning to read because of it? (2) If dialect differences exist, to what extent should schools and teachers make the adjustment rather than the children?

Dr. Kenneth Clark believes that children should learn to use and respect the standard English language while his critics have denounced him for "his commitment

to teaching standard English to children who speak a ghetto dialect." (Feinberg, 1970a, p. C1)

The issue that really generated a fiery response was the proposal calling for standardized testing. Reverend Douglas Moore, Chairman of the Black United Front, called the tests "measures of whiteness." (Feinberg, 1970a, p. C2) "He also said that Clark 'as President of the American Psychological Association had a vested interest in tests because that's how they (psychologists) make their money.'" (Feinberg, 1970a, p. C2)

With disagreement in the community, pressure from the teacher's union over such issues as the establishment of minimal achievement floors and accountability, and a superintendent who was reluctant to accept a plan that was introduced prior to his assuming office, the Clark Plan became "official."

Implementation of the Design

No proposal no matter how comprehensive and profound can in and of itself create massive change in a school system. On the contrary, the history of surveys and studies tend to create reactions that further polarize the "experts" from the "laymen." If the Clark Plan was not to fall into this category, specific procedures and

strategies had to be developed for the successful implementation of its major suggestions and recommendations.

In July, 1970, the Board of Education in the Washington, D. C. Schools adopted as policy, "The Clark Plan"; in February, 1971, Dr. Hugh J. Scott, Superintendent of Schools published a report on the implementation phases of the Design for Academic Achievement.

In this report Dr. Scott discussed the accomplishments of the D. C. Schools in reaching full implementation status. Among some of those accomplishments were:

the establishment of a central coordinating committee to facilitate communication and provide constant follow-up;

the establishment of three major committees to give support and provide help to those involved in the Design;

the establishment of common instructional goals and agreed upon specific pupil performances in reading and math;

the reorientation of building principals toward improving instruction within their schools;

the procedure (including date, selection, and use) of standardized tests to measure pupil progress;

the assessment of "ancillary instructional supports," to help implement the Design. Such supports included community involvement, tutorial programs with surrounding colleges, and the establishment of university liasons; (Scott, 1971, pp. 5-25)

Washington, D. C. Testing Program

The tests utilized in the District of Columbia's Public Schools fell into two categories, readiness tests and achievement tests. The readiness test employed was the Metropolitan Readiness Test (MRT). According to the test manual, "Metropolitan Readiness Tests were devised to measure the extent to which the several skills and abilities that contribute to readiness for first-grade instruction." (Manual of Directions, 1965, p. 2) The MRT was also designed to help classroom teachers organize the instructional program more efficiently by providing an easy, quick, and dependable basis for classification of students.

There are six sub-tests in the MRT. Those tests are: word meaning, listening, matching, alphabet knowledge, knowledge of numbers, and copying (a combination visual and motor test). There is also an optional test called Draw-a-Man. Theoretically, the Draw-a-Man test provides an index of general intellectual maturity. However, the Draw-a-Man test was not used in this study.

In the word meaning test the student is to select from a series of three pictures the one that illustrates the word the examiner names. For example, in item

number two, the student is shown a picture of a globe, a pair of gloves, and a kitchen stove. The examiner instructs the students to "mark the globe." There are sixteen similar "word meaning" items.

In the listening sub-test, the student is to identify from a series of three pictures the one that best portrays the event described by the examiner. In item number one the student is shown a picture of a letter, a mail truck, and a mailbox. The examiner states, "Mark the picture that I tell you about. You would put a letter in this to mail it."

Generally speaking, the same type of strategy is used for the remainder of the sub-tests. As the reader is apt to infer, the MRT places heavy emphasis on the auditory aspects of learning. The student must be able to discriminate and intake auditory information, store it in short-term memory, and finally retrieve this message in order to act out the correct response. This "acting out" or encoding process always involves a motor activity (marking the correct answer with an X).

The MRT was standardized on approximately 12,000 students in the following states: Vermont, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, North Carolina, Michigan, Wisconsin, Kansas, and California.

There is also ample data on the "type of environment" the sample was chosen from. For example, the median population of the community in which the students lived was 35,000. The median number of years of adult's education in the student's community was 11.6. There was also an analysis of the number of students in the normative classes. (Median equals 28) Finally, the standardized data included a report of the amount of school attendance (Kindergarten, Pre-Kindergarten, Nursery) prior to first-grade testing.

The data reveal that approximately 74 percent of the sample (6,964 students) attended the equivalent of one year of half-day sessions in a formal pre-school program. This suggests that prior to the current emphasis on early childhood education, almost three-fourths of this group had early experiences that may have effected their "readiness" scores.

A second category of tests that were used in Washington, D. C. was the "achievement" type test. These tests were administered to grades two through nine. There were two types of achievement batteries administered. The first of these was the California Achievement Tests (CAT), administered to second grade students, and the

second test battery was the Comprehensive Test of Basic Skills (CTBS), administered to grades three through nine. The CTBS will be discussed first.

This battery includes a series of tests that measure skills in reading, language, arithmetic, and study skills from grade 2.5 through 12. The CTBS was not devised to measure achievement in specific courses, but its aim was to measure "those skills common to all curriculum and needed for success in using language and number skills in any school in which the students of our mobile population find themselves." (CTBS, Examiner's Manual, 1968, p. 5)

Each of the general test categories are further broken down into the following areas: reading (vocabulary and comprehension); language (mechanics, expression, spelling); arithmetic (computation, concepts, applications); study skills (using reference materials, using graphic materials). For the purposes of this study only the two areas of reading and arithmetic are pertinent.

In the reading vocabulary test the student is to select the word that has the "best" meaning from a choice of four. (The key word in the stimulus stem is underlined.) For example, item number nine reads, "important incident," the student is to choose from the following which has

the "best" meaning:

- a. trip
- b. evidence
- c. event
- d. accident

In the reading comprehension section the student is required to select main ideas, draw conclusions, and make inferences. The computational section of the arithmetic test requires the student to be familiar with the "four fundamental operations" of addition, subtraction, multiplication, and division. In both the concepts section and the applications section, the student is asked to make conceptual generalizations, transformations, and apply problem-solving techniques.

For example, in test number seven, level three (concepts) item number six, the following problem is posed: "One half of the class is girls. Which one of the following statements about the class must be true?"

- a. There are more girls than boys in the class.
- b. There is an even number of students in the class.
- c. There is a one-to-two ratio of girls to boys.
- d. There is a two-to-one ratio of girls to boys.

All test items in the total battery are of a multiple-choice type.

Unlike the normative data presented in the MAT manual, the CTBS manual simply states "the national sample for the first experimental tryout included about 8,000 students and for the second tryout about 10,000 students from all parts of the country." (CTBS, Examiner's Manual, 1968, p. 6)

However, the final norm group represented approximately 210,000 students in grades two through ten. The publisher made no special effort to develop norms for "disadvantaged" students or students representing minority groups. Rather, it was felt that such "groups would be proportionately represented in the basic normative sample." (Brown, 1972, p. 9)

The other achievement battery used in the Washington, D. C. Schools that was pertinent to this study is the California Achievement Test (CAT). This test was administered to second graders. Like the CTBS, the CAT tests students' abilities in reading, arithmetic and language. The concern in this study was the tests in reading and arithmetic. These general areas are sub-divided into the following skill categories: reading (vocabulary and comprehension); mathematics, (computation and concepts and problems).

The 1970 edition of the achievement battery was designed "for the measurement, evaluation, and analysis

of school achievement." According to its authors, "The CAT is designed to measure the skill with which the student performs in curricular tasks which are basic to learning progress." (Tiegs & Clark, 1970, p. 14)

The designers of the test took into account the following considerations in order to attain a representative sample:

- Geographic Region - 366 schools from seven major geographic regions were sampled.
- Average enrollment per grade - 194 schools had less than 335 students per grade; 101 had between 335 and 1,922; and 69 schools had 1,923 or more students per grade.
- Community type - communities were divided into four categories by their size and number of students per grade per square mile.

Again, as with the CTBS, no special provisions were made to account for the inclusion of children from minority groups. "It can safely be assumed that the minority races, insofar as they are attending public schools, are represented in the national norms." (Tiegs & Clark, 1970, p. 30)

This writer has attempted to present a concise and clear description of the instruments used to measure certain basic skills in the Washington, D. C. study groups. In the next chapter a discussion of the Staff

Development Laboratory program in urban education is presented; for it was this group of teachers and children that was the major focus of this study.

C H A P T E R I V

STAFF DEVELOPMENT LABORATORY PROGRAM

Funded by Model Cities in 1970, the Staff Development Laboratory offered a graduate program through Federal City College in Washington, D. C. This program in training teachers in urban education was the result of the joint efforts of four major educational agencies: Federal City College, Washington, D. C.; D. C. Public Schools (Innovation Team); D. C. Teachers College; and the University of Massachusetts, School of Education. "The primary purpose of the program is to improve the quality of overall instruction, curriculum, community participation, and involvement within the Model Cities Area." (Staff Development Laboratory, December, 1970, p. 1)

The program offered by the Staff Development Laboratory reflected a belief that the total milieu that people are confronted with must in some way be made supportive if individuals are to "make it."

For example, one of the program's "inputs" in the area of community involvement focused on tutorial services to both children and parents. Some of those "inputs" included services:

to adults and children in the area of mathematics and reading;

to parents in ways to foster the teaching/learning process of their children at home;

to increase parent knowledge of methods of teaching reading and math;

to involve parents in learning and teaching of reading methods used in the classroom;

to involve parents in the learning-teaching process as it relates to the pre-kindergarten program;

to provide parents of kindergarten through second grade children with knowledge of methods, materials, and information related to fostering the teaching/learning process at home. (Staff Development Laboratory, June, 1971, pp. 9-10)

The emphasis as reflected in some of the tutorial services reveal an assumption that has much support in research. That assumption is that the early experiences of the child before he gets to school are as important, if not more so, than the experiences he receives while attending school.

By providing the parent with reading and math "survival skills," i.e., what is expected of their children by the schools, the Staff Development Laboratory program added a new dimension to the concept of Head Start.

Selection of Candidates

As previously stated, the Staff Development Laboratory offered a graduate (Master's degree) program in

urban education through an educational consortium made up of Federal City College, D. C. Teachers, D. C. Public Schools (Innovation Team), and the University of Massachusetts. By providing a quality program in teacher training, it was assumed that the result would be a measurable improvement in children's achievement scores. Therefore, it became necessary to establish certain prerequisites and qualifications for the degree program.

In December, 1970, brochures describing the program were distributed to the Model Cities Schools, principals, parents, and teachers. In an effort to further introduce the program, while at the same time obtain the support and involvement of key personnel, meetings were arranged with Staff Development Laboratory and school principals. Administrators were essential to the success of the program since they were to: (a) participate in participant selection process, (b) provide release time for teacher-participants when necessary, and (c) facilitate the on-site-training/observation sessions.

For an applicant to qualify for the Staff Development Laboratory Graduate Degree Program he/she must have met the following criteria:

1. Must be a classroom teacher in Model Cities Schools.
2. Must be interested in further professional growth and development in the areas of reading and mathematics.

3. Must be aware of problems in the Model Cities Area and sensitive to the needs and learning style of its children.
4. Must be highly responsive to human interaction
 - teacher-child
 - teacher-staff
 - teacher-parent
5. Must show willingness
 - to promote meaningful home-school and school-community relations
 - to evaluate and be evaluated in an on-going feedback system
 - to remain in the program until its completion
6. Must show an awareness of the changing role for teachers geared toward education for the 70's.
7. Must participate fully in all phases of the academic program.
8. Must remain in a Model Cities School a minimum of one year after the completion of the program. (Staff Development Laboratory Brochure, n.d.)

Selection of the applicants was conducted in two phases. At the school level, a panel consisting of principals, teachers, parents, and students were involved in the selection process. Following these selections of possible participants at the building level, the Project Director (Annie Neal) in conjunction with a representative from the consortium (Federal City College, D. C. Teachers College, D. C. School's Department of Instruction, Innovation Team, University of

Massachusetts, and the Washington Teacher's Union) made the final selections. Those final decisions were made on participants' ratings in three categories: (a) personal interview; (b) written response to specific inquiries; and (c) classroom observation.

Classroom observations were accomplished by six teams of two people each (a total of twelve). The schools were arranged in clusters of six with one team assigned to each cluster. The systems used for classroom observation were Puckett's Symbols (Appendix A) and Flanders Interaction Analysis System (Appendix B). Developed in 1928, Puckett's scheme was an elaboration on an earlier attempt (Horn, 1914) to measure pupil participation in the classroom. Puckett's scheme has been called "ingenious" since each mark made refers to a single behavior or aspect of behavior. When the student responds, the mark indicating the category of response is added. (⊙ pupil raised hand, was called on by teacher, and made a single-word response.) If one or more hands are raised, one or more dots are recorded.

The other observation system, Flanders Categories for Interaction Analysis (Flanders, 1960) is by far the most popular and the most sophisticated of the two

systems. Using the system of ten categories (Appendix B), the observer records in three second intervals the category that best represents the "transmitting behavior"; he then writes down the number of that category while simultaneously observing the next three second interval.

Implied in the Flanders Categories is the concept of "scaling." For example, categories one through four (accepts feelings, praises or encourages, accepts or uses ideas of students, asks questions) reflect indirect influence by the teacher, with category one (accepts feelings) allowing the student the "most amount of freedom."

On the other hand, categories five through seven represent greater amounts of "direct influence," with category seven (criticizing or justifying authority) intended to change student behavior from "nonacceptable" to "acceptable." This would obviously result in a "lesser degree of freedom" in the classroom.

One other important dimension of the Flanders Categories needs to be mentioned. The categories in the system are basically descriptive, therefore, a problem of definition arises. To help clarify some of these ambiguities, Flanders (1970) has made further delineations on his descriptions. For example, in category three, "use of student ideas," Flanders has

created the following sub-division of behaviors:

1. Acknowledging the student's idea by repeating the nouns and logical connections he has expressed;
2. Modifying the idea by rephrasing it or conceptualizing it in the teacher's own words;
3. Applying the idea by using it to reach an inference or take the next step in a logical analysis of a problem;
4. Comparing the idea by drawing a relationship between it and ideas expressed earlier by the students or the teacher;
5. Summarizing what was said by an individual student or group of students. (p. 42)

In their chapters on Research on Teacher Performance Criteria, Rosenshine and Furst (1971) made similar observations of other categories within the Flanders System. They concluded the results of research on this one variable alone strongly suggest that more intensive study is warranted.

Regardless of the observational instrument used, the Staff Development Laboratory program recognized the importance of this technique in measuring the effectiveness of teacher-training programs.

While it was the case that the final evaluation may focus in on student achievement levels, and perhaps the effectiveness of any staff development program will in the final analysis be judged by how much the students learn from the teachers, this intermediate step is vital

for program evaluation. A teacher-training component should get teachers behaving in a certain manner while they interact with students. This behavioral change in teachers should have positive effects on the affective and cognitive behavior of students in those classrooms.

In order to provide continuous evaluation of a staff development program in teacher education, it is necessary to carry out systematic observations of the participants not only before their training, and during their program, but especially after graduation. The behavior of the graduate, one, two, or five years after the program provides vital feedback for constant evaluation and re-evaluation of staff development models. In other words, how long after graduation do the desired behavioral changes last?

The second basis used for selection purposes was the candidates' written responses to two specific questions. At the interview, the candidate was to present in writing his feelings to the following two questions:

1. What would you like to see changed within the school system, your school, or your classroom? What strategies would you use to make these changes?
2. If you had X amount of dollars (any amount you wished) to design, initiate, implement

and sustain a viable educational program in your school and feeder schools, i.e., elementary, junior high and senior high schools, what type of program would you develop and how?

The problems of designing an evaluation model for the written responses to the above questions were finally overcome after much discussion and frustration. The final evaluation sheet attempted to answer such questions as: (a) was the question answered, or did the person digress; (b) were the strategies to be used given; (c) were real changes given or only modifications of existing ones; (d) were the changes directed toward providing better educational benefits for children; and (e) was the program innovative. (Appendix C)

The final phase of the selection process was the interviewing phase. The schools were divided into three clusters with four consortium representatives in each cluster. The questions asked by the interviewing teams were concerned with teacher expectations of the program. The team of interviewers used a self-anchoring rating scale to assess participants' feelings about "traditional" and "open" classrooms. (Appendix D)

For example, questions attempted to get the interviewer to describe an ideal classroom and conversely

"the worst classroom." One interviewer interacted with the applicant (asking probing questions) while the other interviewer recorded the responses of the applicant verbatim.

The applicant was then handed a pictorial, non-verbal scale and told that the "ideal" and "worst" classroom he just described were at the end points of the scale. The best at the top and the worst at the bottom. He was then instructed to rate himself using this scale as a frame of reference. Each interview provided for a fifteen minute "interaction" time based upon a schedule previously arranged by the interview teams.

After all the data (interviews, written responses, classroom observations) had been recorded, final selections were made. The following rating scale was used to score the candidates.

<u>Score</u>	<u>Summative Statement</u>
5	Program can help this person and person can offer help to program.
4	Program can help person and probably person can give something to program.
3	Program can help this person.
2	Program probably can help this person.
1	Program cannot help this person.

As can be readily ascertained by looking at the scale, the rating system reflects a concept of reciprocity. That is, a candidate who would receive the highest rating possible (5) would not only receive help from the program, but would also contribute to the program.

Each candidate was rated in each of the three categories. The rating scores were then totaled and averaged. Candidates receiving a score of 3 or more were selected for the Staff Development Graduate Program.

A total of approximately ninety applicants were selected for possible participation in the program. After the final evaluation processes had been completed, there remained fifty-five teachers who had successfully completed the screening procedures.

Design of Operational Objectives

Most of the operational objectives of the Staff Development Program were stated in terms of teacher trainee behavior. "The assumption underlying these statements is that teachers who possess the knowledge and skills will increase the level of academic achievement of Model Neighborhood students particularly in areas of Reading and Mathematics." (Staff Development Laboratory, January-March, 1971, p. 3)

The operational objectives of the program were defined in terms of helping the teacher trainees:

1. To increase the interpersonal awareness needed for dealing effectively with children and adults in our urban area...
2. To create a classroom environment which facilitates individual student learning--cognitive, affective, and psychomotor.
 - a. To organize classrooms for individual learning.
 - b. To understand and apply theories of child growth development and theories of learning as they apply to classroom instruction.
3. To improve Reading and Mathematics skills of their students.
 - a. To diagnose reading and math difficulties of pupils and provide remediation.
 - b. To develop, use, and disseminate a variety of materials, approaches, and techniques needed to teach Reading and Mathematics skills.
 - c. To develop a philosophy towards Reading in order to incorporate Reading into the total curriculum.
4. To help Black children develop a positive self-concept, sense of identity, connectedness, and power.

5. To develop competency in research skills and methodology.
6. To become a resource teacher to assist other teachers in the classroom with their instructional program.
7. To increase Model Neighborhood residents' knowledge of techniques for teaching Reading and Mathematics, environmental control, child growth and development, drug abuse, and strategies for the involvement of themselves in making decisions relevant to their neighborhood schools.
8. To understand community and environmental conditions and their effect on learning.

These operational objectives reflect a thorough understanding and careful analysis of the needs of society, the needs of the learner, and an understanding of the responsibilities of the instructors for developing and evaluating course content and direction.

In the Director's Progress Report dated April-June, 1971, a detailed description of an interim evaluation was reported. The form that the evaluation took was a questionnaire survey which was to provide the faculty with some insight into how the participants viewed them, while at the same time, provide the participants

with some insight as to how they were viewed by the faculty.

The survey instrument was further created to (a) ascertain whether discrepancies exist between some aspects of the program's operation and the set of objectives governing that aspect of the program, and (b) provide the administrative staff with information about the program strengths and weaknesses.

The faculty questionnaire (Appendix E) consisted of twenty statements regarding the total program and its curricula. Individuals were instructed to respond in terms of five response categories: Almost Always, Generally, Frequently, Sometimes and Rarely.

The student questionnaire was also aimed at measuring the same areas as that of the faculty questionnaire. The questionnaire was made up of twenty-eight items and employed the five response categories described above for the faculty. Each participant was instructed to respond to each item as it applied to them and the frequency of their behavior.

For the purposes of this discussion the writer has chosen to report the specific findings of the questionnaire/survey approach as they relate to the major purposes of this paper. If the reader wishes to analyze

the total survey results vis-a-vis program objectives, he should consult the Director's Progress Report for April-June, 1971.

The data below reflect both the faculty and participants perception as they relate to objective Number 3; "...to improve reading and math skills of their students."

TABLE XI

Percentages of Responses to Statements
Related to Objective III

	Faculty	Students
Almost Always	46%	31%
Generally	26%	28%
Frequently	--	14%
Sometimes	5%	13%
Rarely	23%	14%
Total	100%	100%

The results indicated that although 70 percent of the faculty agreed that the objective had been met, a relatively large percent of faculty (28%) and students (27%) perceived the program as not meeting Objective III. This bi-modal distribution of perceptions on the part of the faculty should be investigated further.

Does this discrepancy exist because of the inherent complexity of the reading process for example, or does

it reflect the attitudes of the participants toward teaching reading and math in a diagnostic fashion as outlined. Do the students who responded "Sometimes" or "Rarely" feel overwhelmed by the difficulty of developing a variety of materials and approaches, or does it reflect an attitude that seeks simple answers and panaceas, but finds just the opposite.

These and other important questions need to be raised if a further evaluation of this type of evaluation is to have merit.

Overall, this stage of the evaluation provided evidence which suggested that a majority of the students (participants) and faculty agreed that the Staff Development Laboratory Program was quite successfully achieving its objectives.

Implications are that certain curricula approaches developed and implemented in this program have been successful in providing teachers with increased interpersonal awareness needed for dealing more effectively with children and adults in our urban area....
(Staff Development Laboratory, January-March, 1971, p. 25)

The Director's Report becomes more specific when addressing itself to the issue of what curricula approaches were "successful."

...The curricula approaches found to have the greatest validity in this area focus upon a multifaceted exposure aimed at enhancing human relations skills through

the use of visual aids, microteaching situations, consultants, etc. It is therefore recommended that this approach be continued. (Staff Development Laboratory, January-March, 1971, p. 25)

Aside from this important process of "interim-program evaluation," the Staff Development Laboratory Program is being evaluated by an Ad Hoc Evaluation Consultant Team from the University of Massachusetts.⁷ All facets of the program are being investigated, evaluated, and assessed vis-a-vis program objectives.

⁷The University of Massachusetts' Evaluation Team includes Arthur Eve, Leon Jones, Donald Greene, Jacqueline Robertson, James Sansouci, and Joseph Brunner. In addition, Norm Dickens, University of Massachusetts doctoral student, has developed a dissertation describing reform attempts in the Washington, D. C. Public Schools.

C H A P T E R V
TEST RESULTS AND DISCUSSION

The primary purpose of this chapter is to present the results of the testing program with Staff Development Laboratory children.

The test data is reported in both quantitative and qualitative terms. As this study attempted to answer some critical questions about achievement levels of groups of children, no individual test profiles were reported. However, it should be noted that this investigator found test scores in this population that approximated other children's scores in different social, economic, and geographic settings. For example, children were found to be as much as 1.5 years above the norms for their group, while others were found to be 1.2 years below the norms within the same group.

There was a total of 498 children ranging from first grade through seventh grade in the test population. The classes were grouped heterogeneously as ability grouping had been ruled unconstitutional in the Hobson vs. Hansen Supreme Court Decision.

(Hobson vs. Hansen: Summary, 1972)

Metropolitan Readiness Test Results (MRT)

There was a total of forty-five children tested in the Fall term of the first grade with the MRT. In Table XII mean and standard deviation scores for the readiness sub-tests are given.

TABLE XII

Metropolitan Readiness Sub-TestsMean Raw Scores andStandard Deviation1st Grade - N = 45

	Word						
Grade	Meaning	Lstng	Mtchnng	Alphabet	Nos	Cpyng	Total
1st M	6.28	8.47	7.80	11.86	9.88	5.66	49.71
Sd	1.97	2.74	3.28	4.02	4.12	3.50	14.08

The readiness test scores represent raw scores (the number correct) in a category. They are not reported in terms of grade levels.

The six readiness categories scores when totaled are ranked according to the following ratings:

Superior - Apparently very well prepared (above 76) for first-grade work. Should be given opportunity for enriched work in line with abilities indicated.

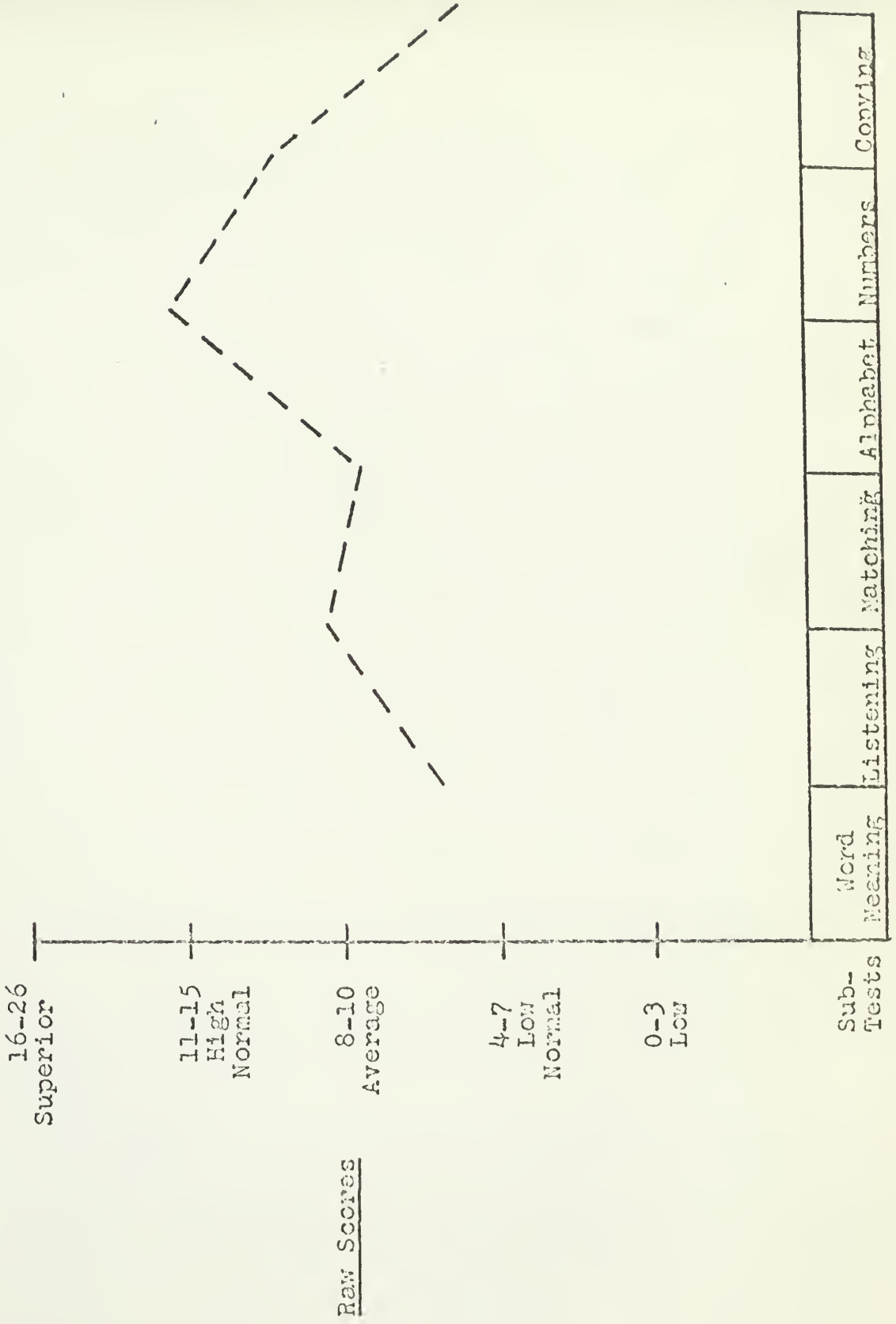
- High Normal - Good prospects for success in first-grade provided other indications, such as health, emotional factors, etc., are consistent.
(64-76)
- Average - Likely to succeed in first-grade work. Careful study should be made of the specific strengths and weaknesses of pupils in this group and their instruction planned accordingly.
(45-63)
- Low Normal - Likely to have difficulty in first-grade work. Should be assigned to slow section and given more individualized help.
(24-44)
- Low - Chances of difficulty high under ordinary instructional conditions. Further readiness work, assignment to slow sections, or individualized work is essential. (Manual of Directions, 1965, p. 11)
(below 24)

In order to present a further breakdown of the specific sub-tests within the total battery, the following Figure 7 was devised.

FIGURE 7

Metropolitan Readiness Sub-Test Profile

1st Grade



The data in Table XII indicate that as a group, the Staff Development Laboratory children had a mean score of 49.71, which yields a rating of "average" according to the test manual. Furthermore, according to the test manual, these scores indicate that as a group this population is "likely to succeed in first grade work," but, "careful study should be made of specific strengths and weaknesses...and then instruction planned...." (Manual of Directions, 1965, p. 11)

One of the shortcomings of mean score presentations is that by their nature differences within groups are hidden. Therefore, as a result, little help is offered to both teacher and child.

The data represented in Figure 7 attempt to uncover some of those aspects of reading readiness that are important for "success" in the first grade. The children in the test population scored "superior" in their knowledge of the alphabet, while scoring "low-normal" in the sub-categories of "word-meaning," "matching," and "copying." In the sub-tests called "listening" and "numbers," the first grade children scored near the average for the normative group.

Discussion of Reading Readiness Results

The concept of reading readiness has received much attention in the literature. The one outstanding feature of this plethora of research in the area of

readiness is the amount of redundancy reported in various studies. In this discussion of the readiness test results, the writer has attempted to cut through this redundancy wherever and whenever possible.

As previously stated, reporting average scores is at best misleading. In many ways it tends to categorize children into groupings that have little or no relevancy to instruction within a particular classroom. For example, in this population, how useful is it to know that the children scored 49.71 on the average on the Metropolitan Readiness Test? What useful bits of information can be gleaned from this type of reporting? Probably very little. This is not to deny the importance of this type of reporting for certain evaluative purposes. For example, Staff Development Laboratory personnel may wish to compare this mean score with the scores of the other public school children in the first grade. If various discrepancies exist between staff participants' children and non-staff participants' children, then further analysis is needed.

The data that do provide some usefulness for the daily instructional program of these children are found in Figure 7. The rankings of their sub-categories if looked at more closely are both informative and useful.

For example, based on the information contained in Figure 7, the children in this sample should experience success in beginning reading. The rationale for this conclusion is based on research that indicates that the best predictor of success in beginning reading is knowledge of the alphabet. (Gates, 1941; MacGinite, 1969; Cohen, S., 1969b) However, this is not to suggest that the teaching of mere letter name knowledge will result in success in beginning reading. Also, studies that have looked at the relationship between letter knowledge and success in beginning reading have been correlational in nature and too often causation has mistakenly been imputed into these studies. (Samuels, 1970) Although there is disagreement in the literature regarding the relationship between letter knowledge and success in beginning reading, it should be noted that there is agreement regarding the skills involved in identification of the letters of the alphabet. Children must be able to visually and auditorally discriminate one letter from another in order to properly identify it when it is named in a series. The Metropolitan Readiness Test requires the child to perform this task.

Also, while according to Samuels (1970) knowledge of the alphabet bore little relationship to success in

beginning reading, it must be stated that letter awareness probably reflects a child's background with beginning reading skills (stories being read to him, parents pointing out letters to him) and as such serves as a good indicator of a child's experiences prior to school.

The children taught by Staff Development teachers had a mean score of 11.86 in this category. (High normal)

The data in Figure 7 also suggest that the children in the test sample scored "average" or higher (mean 8.47) in the "listening" section of the test. As most learning in schools is dependent on well-developed auditory skills (listening to stories, following directions, discerning differences in and between sounds), this category is also important for classroom teachers to understand.

The categories that the test population did rather poorly in (word meaning, matching, copying) are important for success in school, but except for word meaning, they are relatively unimportant in terms of success in reading. The major reason for this is the fact that on a readiness test, the item or items that closely resemble the performance criterion (reading) tend to have the best predictive ability. Hence, the criterion item, knowledge of the alphabet, predicts highly for the performance item, reading. This also accounts for the

amount of "redundancy of information" in reading readiness tests. If this is so, probably two or three subtests (alphabet knowledge and listening, for example) will provide as much useful information for predictive purposes as the total battery. (Dysktra, 1967)

A number of other important questions need to be considered when discussing readiness testing. The first of these rests in the concept of readiness itself. As MacGinite (1968) reported, the question of readiness for reading ignores some very important facts. First, reading is a process, and therefore is continual. A child cannot be ready for reading today who was not ready yesterday. The major issue then is, the child is in school to learn, what and how can teachers best accommodate him? On the other hand, what is to be gained by answering the question, "Is Johnny Ready to Read?"

Readiness scores such as those reported here also ignore the methods and materials being used in a particular school, or by a particular teacher. For example, using the sub-test score of alphabet knowledge and predicting success for these Staff Development children might be correct if teachers in the program stress a reading approach utilizing alphabet components as its major input. On the other hand, utilizing a "non-word meaning" approach (e.g., linguistic) would prove more successful

for this group because of their relatively low scores (mean=6.28) in the word meaning section of the MRT.

Also, the "word meaning" section is one of the most biased sections of the test. It seems likely that children would score higher if this section reflected experiences (both visual and linguistic) that had meaning to the children. For example, one item on the "word meaning" section of the readiness battery asks the child to, "mark the spectacles." The child is to choose the picture that represents "spectacles." It is highly unlikely that children in today's society have had much experience with the word "spectacles." What's wrong with the word "glasses" as an alternative? On another "word meaning" item the children were to mark "the collie." (A picture of three dogs was presented.) Most, if not all of these "word meaning" items are (a) presumptuous about the nature of experiences children have; (b) ignorant of regional differences in language (mark the spectacles); (c) irrelevant to urban children (mark the collie), not to imply that urban children aren't familiar with certain animals, but why a collie; (d) not "word meaning" items, but items that require children to identify pictorial representations for words (visual discrimination), identify words that are similar in

sound (child is to choose from a picture of a stove, glove, and globe, the "globe") and process a series of directions that require auditory acuity, short-term memory and information retrieval skills. All of these skills are simply labelled "word meaning."

The preceding discussion presented the findings of the readiness tests given to first grade children in the Staff Development Laboratory Program. Other important questions concerning the nature of reading readiness and readiness testing were also explored.

Achievement Test Results, Grades 2-7

In an attempt to show the results of the achievement tests, it was decided that two strategies would be employed. The first of these strategies involved reporting the results in a quantitative manner (grade level rankings, comparisons between test sample and normative groups, and sub-skill scores). The second strategy was designed to demonstrate qualitative representations for the test results. This qualitative data reflect a "growth rate index" between various tests and sub-tests. Growth rate indices were computed for the total population, yielding growth rates for skill areas between grade levels as well as growth rates for skill areas within the same grade.

The total sample included 498 children in grades two through seven with some small variation in N due to incomplete test sections or absenteeism the day of a certain sub-test. These variations in the total were not significant enough to affect the descriptive purposes of this study. The achievement batteries used were the California Achievement Test, Grade 2, and the Comprehensive Test of Basic Skills, Grades 3-7.

The first set of data presented in Table XIII represent the mean scores and standard deviations for the entire sample population in grades 2-7.

TABLE XIII

Mean and Standard Deviations for

Grades 2-7 on Achievement Batteries (N = 498)

Sub-Test	Vocab	Comp	Total Read	Comput	Concept	Appl	Total Arith
2 M	1.42	1.33	1.29	1.22	1.79	not given	1.45
Sd	.665	.627	.644	.623	.762	not given	.608
3 M	1.90	2.12	2.07	2.87	2.25	2.25	2.62
Sd	1.661	.861	.797	.600	1.051	.777	.685
4 M	3.23	3.35	3.23	3.24	2.70	3.08	2.78
Sd	1.180	1.208	1.084	.884	1.403	1.320	1.162
5 M	4.37	4.40	4.38	4.31	4.35	4.14	4.24
Sd	1.157	1.348	1.126	.982	1.550	1.467	1.168
6 M	5.07	5.34	5.20	5.60	5.37	5.21	5.47
Sd	1.615	1.682	1.448	1.274	1.473	1.507	1.189
7 M	5.94	6.21	6.15	6.02	6.24	5.91	6.02
Sd	1.250	1.710	1.027	1.067	1.028	1.209	.851

Grade	N
2	76
3	49
4	106
5	181
6	56
7	30

G R A D E

In the areas of reading and arithmetic the data reveal similar trends. Both the total reading scores and the total arithmetic scores indicate that the children in this study have similar entrance skills (reading 1.29, arithmetic 1.45) and remarkably similar exit skills (reading 6.15, arithmetic 6.02) as measured by these standardized tests. Furthermore, and this is very important, these children are not suffering from the so-called "cumulative deficit" theory that is widely accepted and expected in inner-city schools. Basically proponents who hold to this theory argue that children who are "disadvantaged" don't profit from schooling in the long run. In all achievement areas, they argue, the longer a disadvantaged child remains in school, the further he falls behind on achievement test results. Whether the holders of this belief interpret the cause for this "cumulative deficit" as constitutional (nature) or environmental (nurture) is not important as far as this writer is concerned. Those educators with "genetic leanings" believe that children can't learn, those educators with "environmental leanings" believe that children don't want to learn. The end result is the same: teachers don't teach; children are exploited and blamed for their failure; and racism is perpetuated.

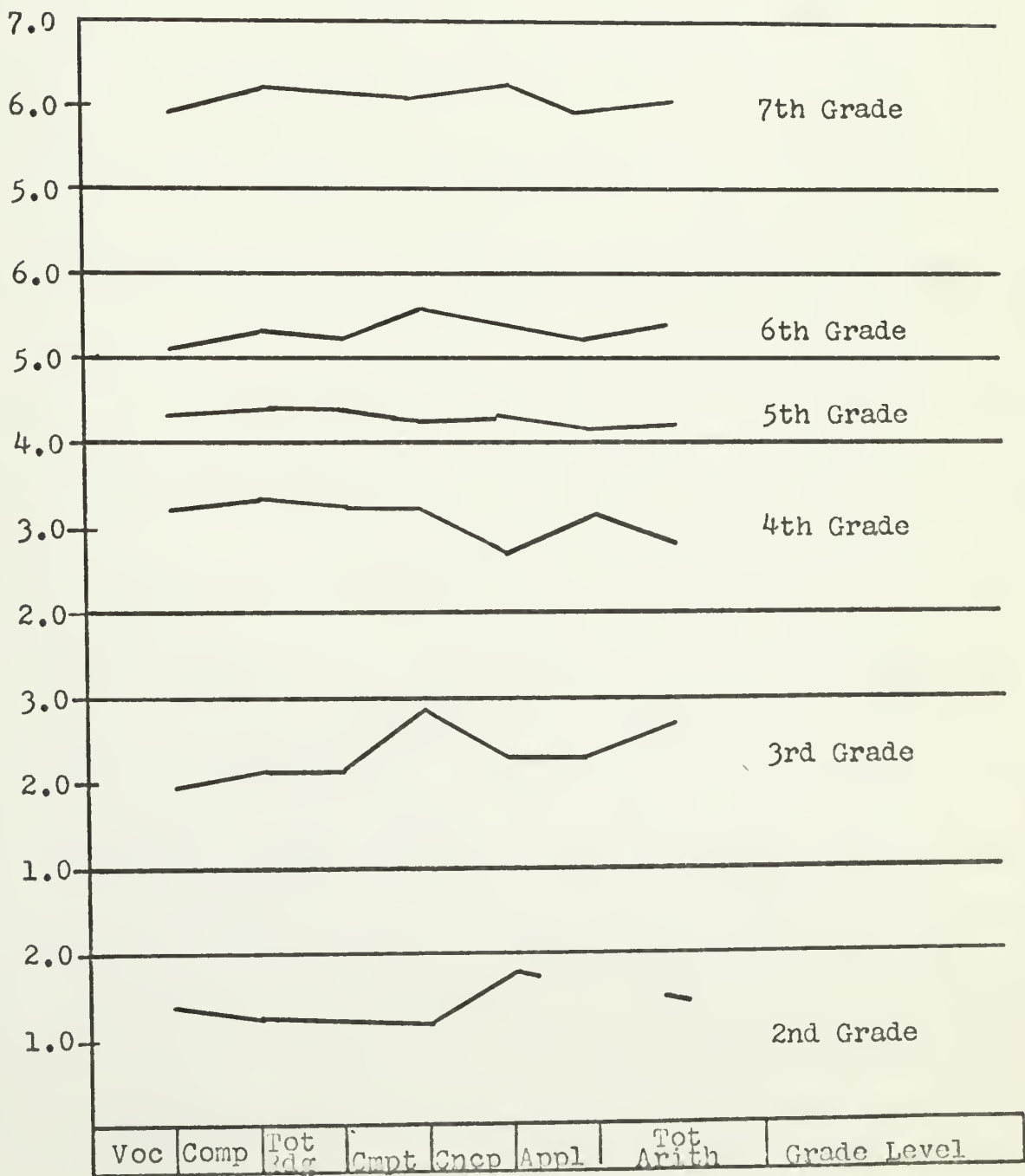
Once again, this "cumulative deficit" was not found to be the case in this study. In reading, for example, the population had a mean score of 6.15 in the Fall of seventh grade, in arithmetic, 6.02. These scores represent only a slight deviation from the norm. According to the popular notion of the "cumulative deficit" theory, these children should be two or more years behind grade level. In no respect was this so.

In order to make comparisons between this population and a normative group, the following Figure (8) was used.

FIGURE 8

Mean Achievement Scores for Grade Norms

Grades 2-7 N = 498



The various sub-tests in each achievement battery are reported along with total reading and total arithmetic scores. The scores reported in Figure 8 support the initial conclusion made by this investigator based on the summary data in Table XIII. Although there exist certain skill deficiencies within this group of children, their total scores are near the expected norms. In grade two, the scores on the concept test of the arithmetic battery are only .21 below what would be considered average.⁸ In grade two using the same criterion, the reading vocabulary scores are only .58 below expectation. As the children progressed in school, their skill areas also progressed. In the sixth grade for example, the Staff Development children scored 5.60 on the computation sub-test of the arithmetic battery, and 5.34 on the reading comprehension test. With one or two minor exceptions, similar trends are reported in the data as summarized in both Table XIII and Figure 8.

The general conclusions reported by this investigator as they relate to the major purposes of this study are:

- (a) According to the test data on this population of children, the goals of the Staff Development

⁸Average here denotes a ratio of expectation between years of instruction (grade two) and achievement level. Hence $2.00 - 1.79 = -.21$.

Laboratory Training Program have been achieved. Not only are the children performing at or near norm levels, but they are increasing their skill mastery with increasing time spent in school. These results are contrary to the research findings of Coleman (1966), Deutsch (1960), Clark (1965) and others who reported the negative effects of schooling on children. In other words, Staff Development teachers have made a difference in their children's lives. Furthermore, this difference has a positive cumulative effect as measured by standardized test results.

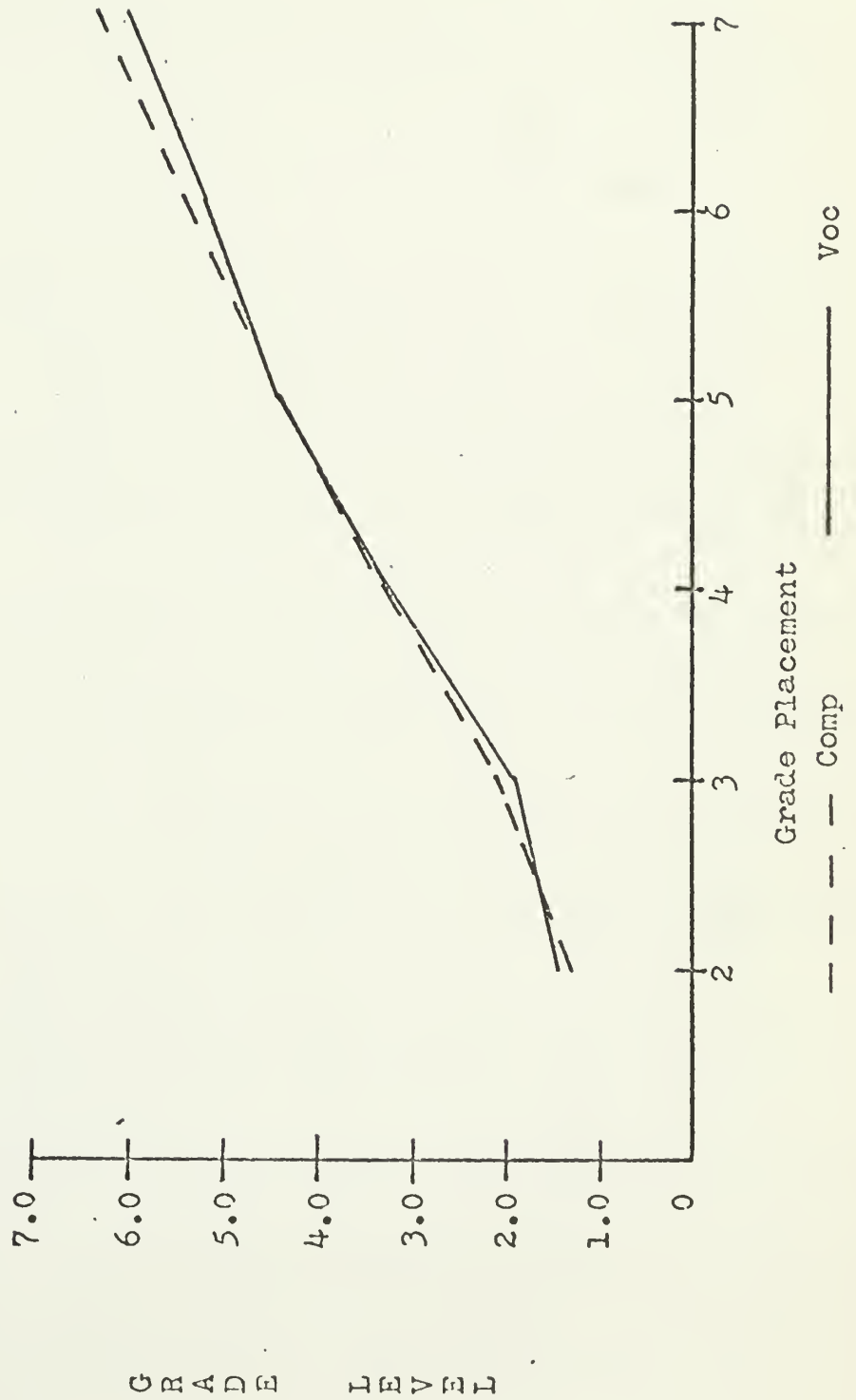
- (b) The test data suggest that at least one of the major goals of the Clark Plan has been achieved. That goal was to institute a teacher training program which would end the downward spiral of achievement levels in large urban schools. The results reported in this study indicate that the trend has not only been ended, but reversed to a significant degree.
- (c) The test findings reported by this investigator do not support the test findings reported in the District's Summary Test Report

presented in Chapter I. This discrepancy should be investigated further.

For purposes of further analysis of the test data, trends in specific sub-test categories needed to be reported. The amount of growth between Grades 2-7 in reading vocabulary and reading comprehension is demonstrated in Figure 9.

FIGURE 9

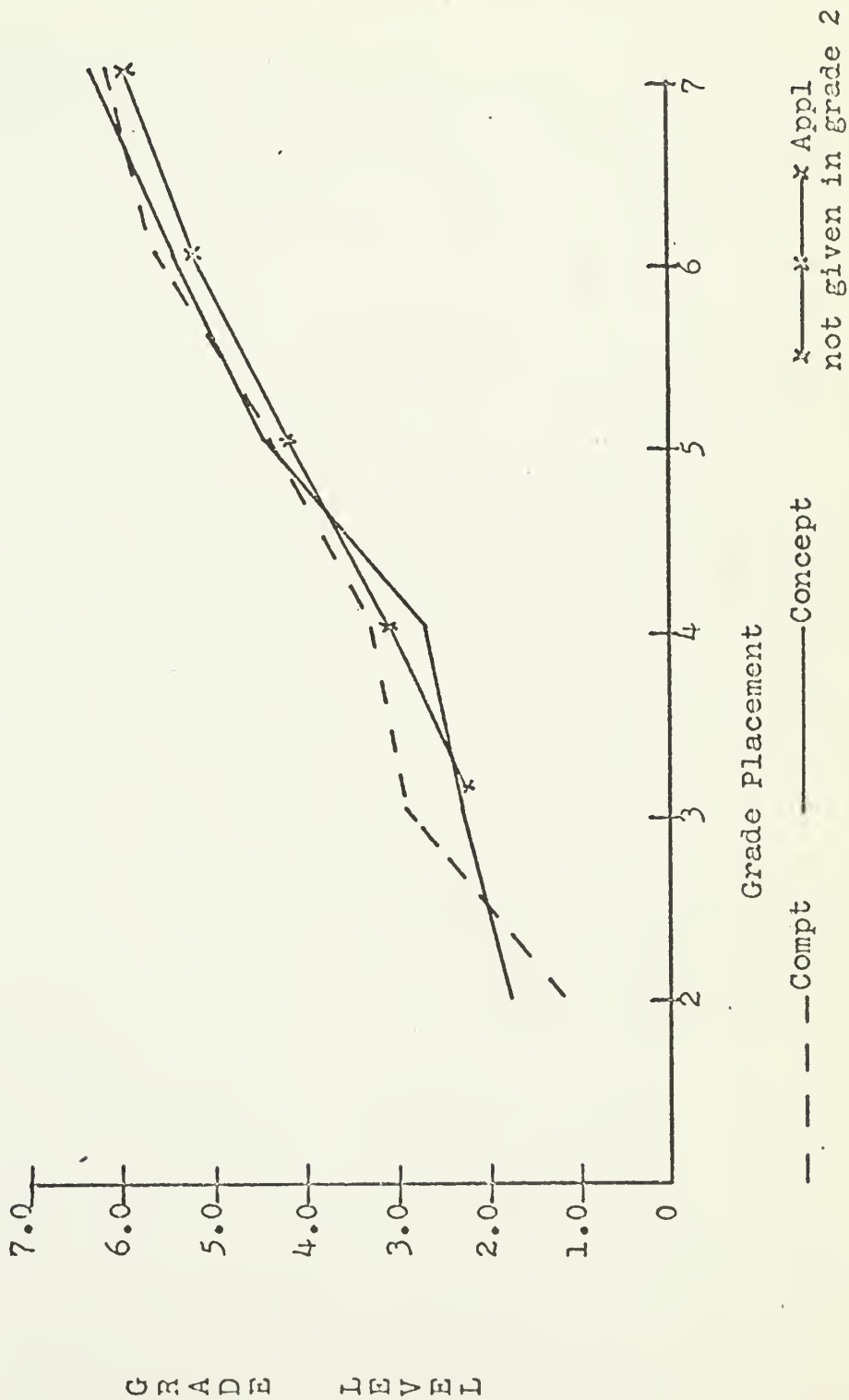
Mean Vocab and Comp Scores N=498



The growth curve in vocabulary and comprehension demonstrate the increasingly positive effects of schooling on this population. In both vocabulary and comprehension the data reveal that there were large increases in skill performances between Grades 3 and 6 in vocabulary and between Grades 3 and 7 in comprehension.

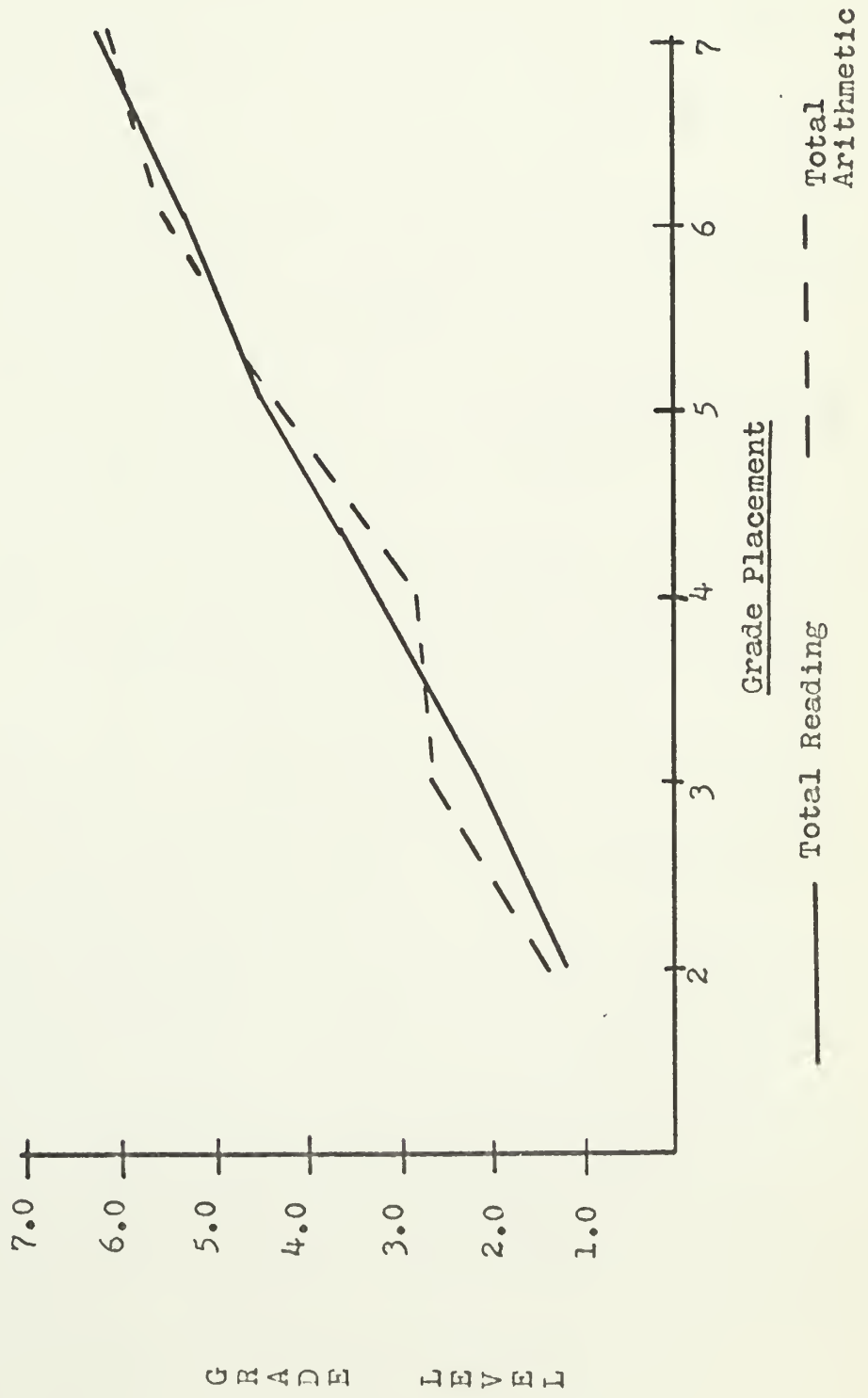
Similar trends have been reported in the arithmetic sub-test categories. In Figure 10 all areas of arithmetic development are affected positively by the amount of time spent in school. On the sub-test of arithmetic concepts the students showed large spurts in their scores between the fourth and sixth grades. In the arithmetic computation section this population of children had relatively low entrance skills, but the effects of teaching basic computation skills is evident in the rapid skill development shown between Grades 2 and 5.

FIGURE 10
Mean Arith Sub-Test Scores N=498



When both total arithmetic scores and total reading scores were analyzed in the same fashion as the specific sub-test categories (Figure 11) the initial conclusions by this investigator were again reinforced. The data in Figure 11 depict the achievement pattern of Staff Development children in relationship to grade level expectations.

FIGURE 11
Mean Scores Total Arith and Total Read N = 498



Once again, the data point out the steady and continuous growth in arithmetic and reading through Grades 2-7. The greatest growth period also appears to occur somewhere between the third and sixth grades. This trend was also supported in the various analyses made by this investigator.

In an attempt to show in both a graphic and quantifiable way this important growth period between Grades 3 and 6, Figure 12 was employed.

The growth line for second graders suggested minimal growth in both reading and arithmetic as measured by the test instruments. Similar trends existed in both the second and third grades with the exception of arithmetic computation skills. These computation skills are perhaps the "easiest" for both teacher and student to perceive. The more difficult and abstract concepts (comprehension abilities, arithmetic concepts) are probably more difficult for the teacher to articulate and for the student to learn. It is important to note that while the students were not increasing their cognitive skills greatly (as measured by these standardized tests), the data do show that they are not falling behind either. This is an important point to remember. This investigator believes that this "status quo" in skill development may be the incubation period that is necessary for the "spurt" in cognitive mastery that is evident in Figure 12.

The various sub-skills tend to fall in grade clusters, with the greatest amount of growth occurring in the middle years of the elementary grades (3 and 5). These trends in both total achievement scores and sub-test achievement scores became important enough to warrant further analysis and representation. A Growth Rate Index (GRI) was created and used for the purposes

of accounting for those trends in qualitative terms. The GRI was arrived at by subtracting the raw score differences in each skill within a grade level and between grade levels. For example, the mean score for second grade on the vocabulary test was 1.42; for third grade, 1.90; the Growth Rate Index was therefore .48 or the amount of growth which occurred in the vocabulary skill area between second and third grade. The index was an economical way of representing rates of growth between the critical age and grade levels.

In the area of reading proficiency Table XIV was used for the purposes of showing this growth phenomenon.

TABLE XIV

Growth Rate Index (Reading Sub-Tests)

<u>Grade</u>	<u>Vocabulary</u>	<u>Comprehension</u>	<u>Total Reading</u>	<u>Grade Index (Growth)</u>
2-3	.48	.79	.78	.68
3-4	1.33	1.23	1.16	1.24
4-5	1.14	1.05	1.15	1.11
5-6	.70	.94	.82	.82
6-7	.87	.87	.95	.82
Skill Index	.90	.97	.97	

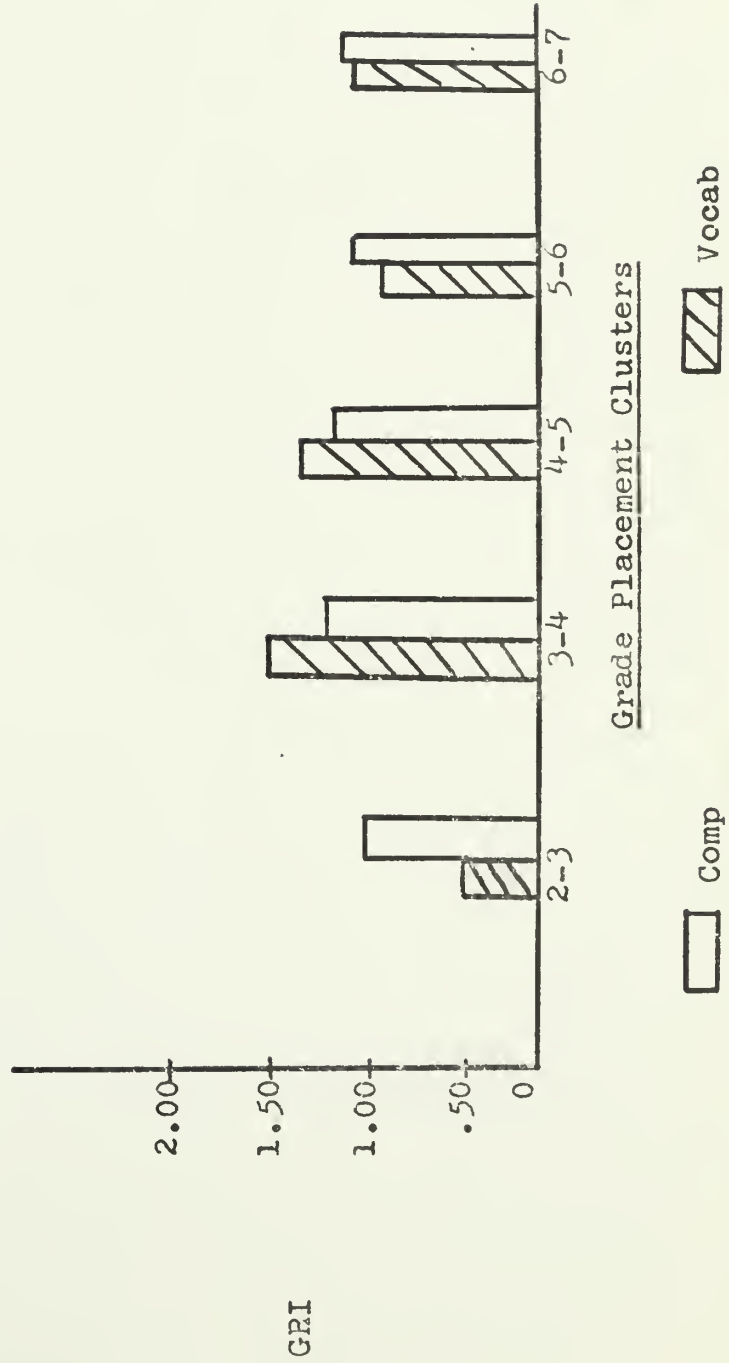
The greatest period of growth as measured by the growth rate index occurred between third and fifth grades. Regardless of the skill area, this phenomenon held true.

In terms of actual grade level scores this meant that in total reading for example, the children in this study progressed from 2.07 in the third grade to 3.23 in the fourth grade; from 3.23 in the fourth grade to 4.38 in the fifth grade. In vocabulary scores, the increases were even greater. The mean score for this population in the third grade was 1.90; in the fourth grade, 3.23; in the fifth grade, 4.37.

The importance of those middle elementary grades in relation to the development of certain cognitive skills cannot be overemphasized. In Figure 13, depicting the growth rates in vocabulary and reading comprehension, the vocabulary skills are especially influenced by the school milieu. Children who had low entrance skills in vocabulary showed greater gains in this area than children who had higher entrance skills in reading comprehension.

FIGURE 13

Vocab and Comp Growth Rate Index Profile



The GRI for the arithmetic tests in the following table showed similar results as those depicted in the area of reading.

TABLE XV

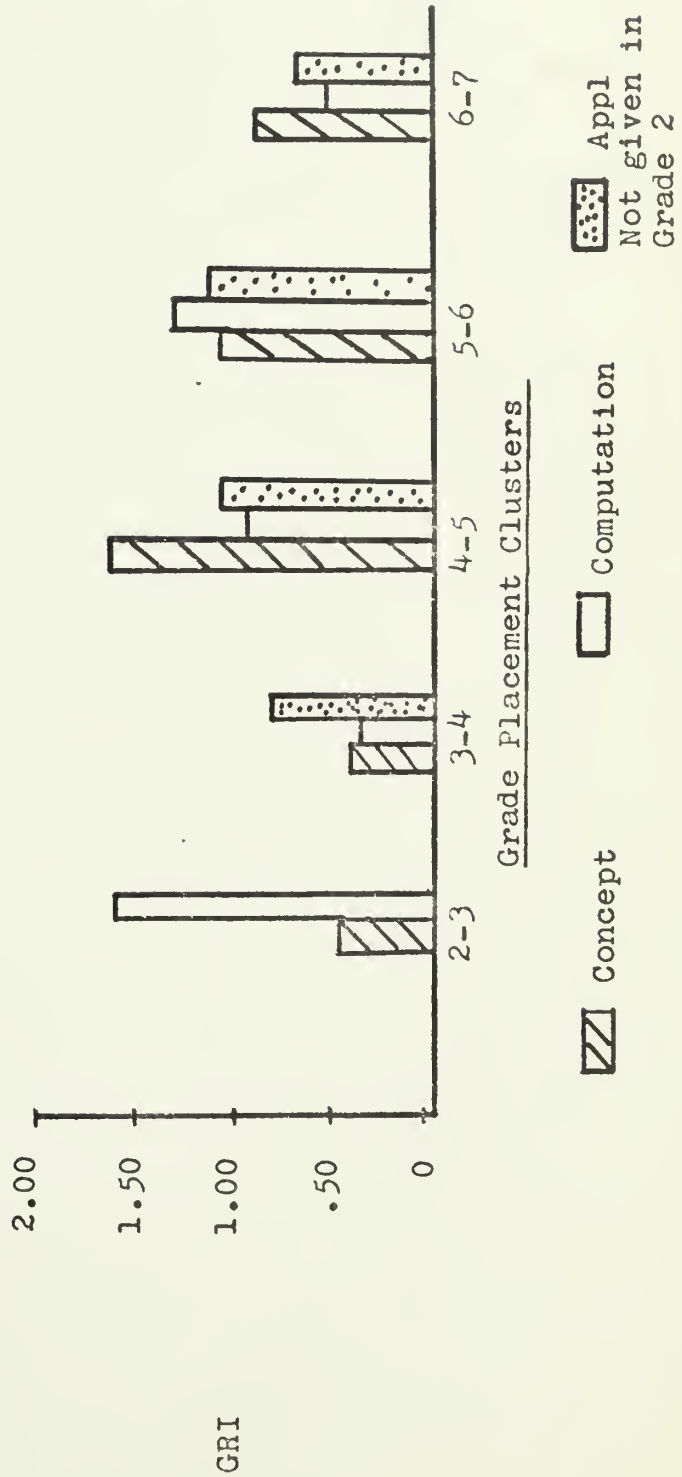
Growth Rate Index (Arithmetic Sub-Tests)

<u>Grade</u>	<u>Comp</u>	<u>Concept</u>	<u>Appl</u>	<u>Total Arith</u>	<u>Grade Index (Growth)</u>
2 - 3	1.65	.46	No test	1.17	1.09
3 - 4	.37	.45	.83	.16	.45
4 - 5	.97	1.65	1.06	1.46	1.29
5 - 6	1.29	1.02	1.07	1.23	1.15
6 - 7	.42	.87	.70	.55	.64
Skill Index	.94	.89	.92	.91	

In terms of actual grade level scores, the second grade children in this study progressed from a mean score of 1.22 in arithmetic computation to a mean score of 2.87 in the third grade. The differences between these scores represent a GRI of 1.65 between second and third grade. Although the entrance mean scores were higher in arithmetic concepts (1.79), the rate of growth between the same grades was less (.46). The greatest growth rate in arithmetic concepts occurred between grades 4 - 6 (1.65 between 4 - 5 grade and 1.02 between 5 - 6 grade). Grade level scores for these growth indices were equivalent to an increase from a

mean of 3.24 in the fourth grade, to a mean of 4.31 in the fifth, to a mean to 5.60 in the sixth grade. These grade level scores represented more than one year's growth for one year in school. Figure 14 has been used for showing this growth index.

FIGURE 14
Arith Sub-Test Growth Rate Index Profile



The data in Figure 14 show in a profound way the various growth trends in the arithmetic sub-skills of the achievement battery. The initial growth in the area of arithmetic computation is followed by a decline, but only in terms of a ratio. The rate of new learning in this skill as measured by standardized test performance declined, but there was still measurable grade score increases.

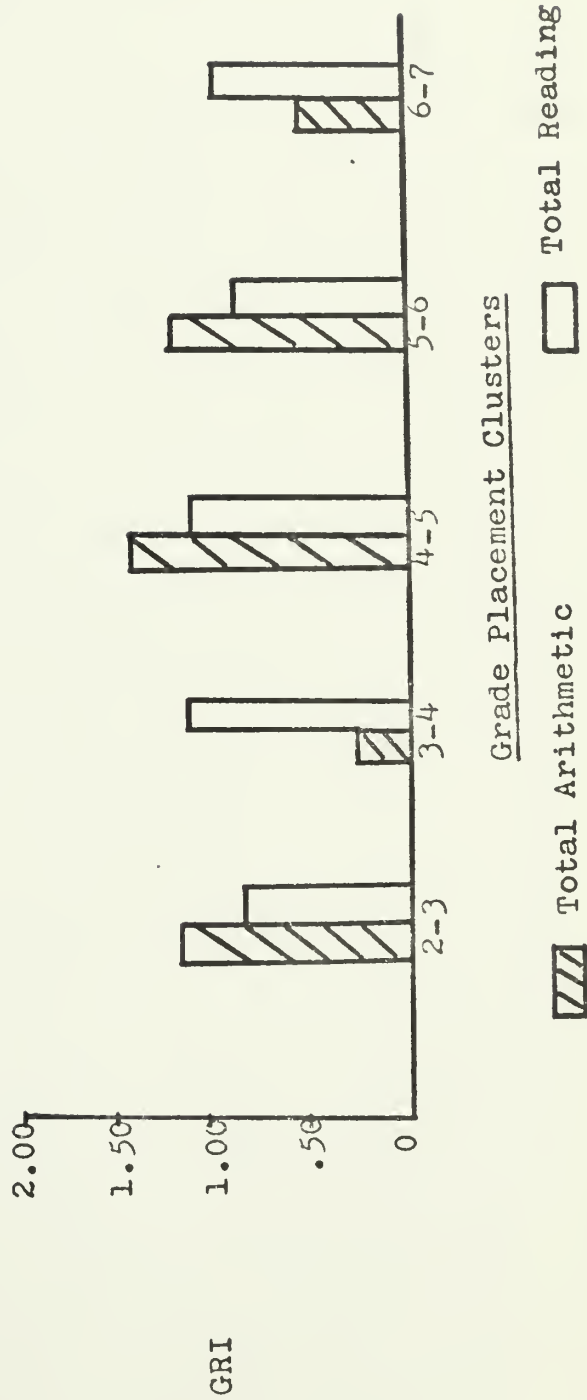
Conversely, children in this population had relatively poor knowledge of arithmetic concepts in the primary grades, but demonstrated great increases in this skill between the third and fifth grades. Again, the decline in arithmetic concept scores is relative and represents the same ratio decline reported in the discussion on arithmetic computation skills.

Unfortunately the arithmetic application sub-test was not given in the second grade and therefore, no data on the entrance skills of this population were available.

Finally, it was decided that a comparison between total reading growth rates and total arithmetic growth rates was desirable in order to see if there existed any relationship between the achievement areas. For the purposes of this comparison between the growth rates

in total arithmetic with the growth rates in total reading, Figure 15 was used.

FIGURE 15
Total Reading and Arith Growth Rate Profile



The data presented in Figure 15 suggest two important facts. The first of these is that the population reported in this study manifested similar spurts in achievement scores beginning at the end of third grade and culminating at the end of fifth grade. Secondly, although there existed differences between reading and arithmetic skills at the primary grade levels, those differences tended to disappear by the end of sixth grade. For example, in terms of grade level scores, the mean score in total arithmetic at the sixth grade was 5.47; in total reading the mean score at the same grade level was 5.20.

In the seventh grade the differences were even smaller. In total arithmetic the mean score was 6.02; while in total reading the mean score was 6.15.

Discussion of Major Findings

When all the data were reviewed for emerging trends and indications, it became clear that a number of important questions needed to be asked. Many American educators believe that training children in the cognitive areas should begin at a very early age. Hence, the great push in the past decade for early childhood learning centers, the outcries that Head Start was too late for disadvantaged children, and the advent

of various "pressure" type learning milieus advocated by Bereiter and Englemann (1966).

At the same time parents were being told that they not only could, but should teach their babies to read. The medium of television also began to play a larger role than ever before. Programs like Sesame Street and The Electric Company were aimed at the goal of getting children to learn more at an earlier date. The noted Harvard psychologist, Jerome S. Bruner's beliefs that a child could be taught anything at any age if it were carried out in an intellectually honest way, were becoming curricular truths.

Perhaps Bruner was correct about teaching anything to a child, but the question posed by this investigator based on the analysis of the data is, "Does Bruner mean anything to a child, or everything to all children?" There is a very important distinction between the two statements. Classroom teachers in the elementary grades are working with groups of children in a variety of content areas. Each content area may require different kinds of cognitive strategies for mastery of the content. For example, in vocabulary development a different type of learning method is required than for development of comprehension abilities. The same would be true

for arithmetic computation vis-a-vis arithmetic concepts or arithmetic application.

The question of honesty in presentation of material as discussed by Bruner (1962), has also been raised. (Brandwein, 1966) Brandwein admonishes Bruner for clarification between the dual concepts of materials of instruction and methods of instruction as they relate to the issue of honesty. Furthermore, if children have been "pre-educated" by television, especially in the area of vocabulary, how does a teacher present the child with an honest image of "electron" (if he already knows the word)? "Or does one defer the child's question on atomicity until it can be presented 'honestly' in later grades?" (Brandwein, 1966, p. 8) It is not the purpose of this discussion on the results of the test data to present a line by line critique of Bruner's writings. The main reason the issue was discussed was because of Bruner's works being used as a rationale for requiring children to perform certain cognitive tasks at much earlier ages than ever before. This investigator is questioning the soundness of these decisions based on the results of this study.

The investigator found in the data on achievement testing with this population a very great growth period

between Grades 3 - 4, 4 - 5, and 5 - 6. Between grades 1 and 2 and 3 there was no equivalent growth period. This so-called "growth spurt" has some theoretical constructs that serve to explain this phenomenon.

In his work with children the noted Swiss psychologist Jean Piaget has theorized about specific states which all normal children must pass through in order to fully develop their cognitive abilities. A brief summary of those stages as they pertain to the findings of this study follows.

The initial stage of intellectual development in children, according to Piaget is the non-language stage. The child learns to differentiate objects and events through a sensorimotor activity. The child is both limited in his intellectual development and dominated by his sense perception until between the ages of four through seven. As the child enters second grade (7-8) he is, according to Piaget, able to handle relationships, but his thoughts are still bound to tangible, visible objects and materials. He is still unable to imagine potential relations among these objects. It is only near the end of this stage (11 years) that formal propositional thinking commences.

The child can now formulate hypotheses, test them out, and draw conclusions. The following test item

serves as an example of this kind of thinking. "If $n \times 8 = 10 \times 4$, then n is equal to: A (1); B (5); C (6); D (7). This test item was used at the 3 and 4 grade in the Washington, D. C. Public Schools.

The figures used to demonstrate the rate of growth in this population indicated that in arithmetic concepts and application, most growth occurred between the fourth and fifth grades. The ages of the children in these grades correspond to the ages outlined by Piaget in this final stage of intellectual development. (It should be noted that Piaget's ages are not chronological ages, but mental ages.)

The assumption here is that the children in this study were maturing at a normal mental rate, hence, fourth and fifth graders would have mental ages corresponding to Piaget's latter stage of intellectual development.

Both the implications of Piaget's theories for the teaching of reading and for elementary curriculum development have been discussed at length. (Raven and Salzer, 1971; Furth, 1970) These writers concluded that if one adheres to Piaget's basic tenents, reading instruction would be delayed in early childhood years, not hastened. In Furth's discussion on the implications

of Piaget's work for classroom teachers, he stated that only "...between the ages of 11 and 13 reading and thinking can join together and expand the intellect of the reader." (Furth, 1970, p. 149)

At least one large study of an international nature in achievement in mathematics is pertinent to the findings of this investigator. The study reported by Husen (1967) dealt with a sampling of students enrolled in twelve different nations (including the United States). For each sample a mathematics test score and an attitude inventory was correlated with age of school entry. The results indicated a negative correlation between age of school entry and achievement in mathematics. "The extra year of schooling enjoyed by those entering at five would appear to be of no consequence as far as progress in mathematics by the age of thirteen is concerned." (Husen, 1967, p. 68) In other words, the group of students who studied a subject longer had more negative attitudes towards that subject, while at the same time not scoring significantly higher on the mathematics achievement test than the group who spent less time in school and presumably studying mathematics.

In an attempt to answer the key questions of what, how, and when are children most apt to learn certain

tasks, Rohwer (1971) reported on some of the research that utilized paired associate learning tasks with children from grades one through twelve. The children were given four different treatment conditions for ascertaining which strategy was most effective for learning 36 orally-presented noun pairs. The results of this experiment suggested that "...direct training toward the objective of promoting the autonomous use of effective learning skills will achieve substantially more success with children in the early adolescent age range than in the early childhood range." (Rohwer, 1971, p. 335)

In summary, the overwhelming evidence reported in these findings suggests that in the early elementary grades schooling had little measurable effect on the achievement levels of this population. There was strong evidence to suggest that between the end of third grade and the end of sixth grade this population experienced great spurts in achievement scores. This was especially true in the areas of arithmetic concepts, arithmetic application, and reading vocabulary.

The positive effects of schooling at this later age which was found by this investigator have considerable support in the literature.

Summary of Findings

With minor exceptions the major findings of this study on the achievement levels of the Staff Development Program's children indicate:

- (1) that the Staff Development Laboratory's goal of upgrading and maintaining achievement levels of its children was achieved with this population.
- (2) that one of the major goals of the Clark Plan had been achieved. That goal was the prevention of further failure in the Washington, D. C. Public Schools.
- (3) that teachers do make a difference in their children's cognitive development as measured by standardized tests.
- (4) that theoretically speaking, the selection criteria used by Staff Development Laboratory for teachers may have influenced the achievement level of the children. Until further data are available, this remains theoretical.
- (5) that this group of Staff Development children were positively affected by school and this positive effect became cumulative the longer the children remained in school.

- (6) that this group of children were achieving near or at grade level in both total arithmetic and total reading at the fourth, fifth, and sixth grades.
- (7) that this population scored relatively high on the alphabet section of the readiness test; this test has high predictive validity for success in beginning reading.
- (8) that this group of children experienced great "spurts" in achievement scores beginning near the end of the third grade and continuing until the end of the sixth grade.
- (9) that arithmetic computation skills (adding, subtracting, dividing) were learned early in elementary grades compared to other arithmetic skills (concept and application). This suggests that certain types of concrete learning can be both taught and learned at an early age.
- (10) that there existed similar spurts in reading vocabulary and reading comprehension between third and fourth grades as was found in arithmetic concepts and arithmetic application in the fourth and fifth grades.

- (11) that the schools had little significant effect on the vocabulary skills of both first graders and second graders as measured with these standardized tests.

C H A P T E R V I

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary and Conclusions

A major purpose of this investigation was to evaluate an urban staff development program in Washington, D. C. The principle criterion used in this evaluation was the achievement levels of the children as measured by standardized tests. A second major purpose of this study was to evaluate the effectiveness of the Clark Plan in achieving some of its major objectives. Once again, the principle criterion used was the achievement scores of the children on certain standardized tests.

Achievement test results in arithmetic and reading were available for 498 children in Grades 1-7. All of these children were taught by teachers who were selected for an urban teacher training program by Staff Development Training Laboratory in Washington, D. C. The selection process involved a series of ratings based on classroom observation, self-rating scale, written response to specific questions, and personal interviews. Candidates were rated using a

scale of 1-5. Those applicants scoring a 3 or higher were selected for the training program. These classroom teachers' children were the target population in this study.

After all test results were analyzed, it became obvious that a number of ways for presenting the data needed to be devised. The first method used was more quantitative than the second method. Test data were reported in terms of mean scores on the total reading and arithmetic batteries as well as mean sub-test scores that comprised the total battery. Standard deviation was also reported for the mean total scores and sub-test scores.

The second method used by the investigator was more qualitative in nature. A growth rate index was developed in an attempt to answer some questions about the critical timing and extent of growth in various cognitive areas.

Each of these strategies helped report and analyze particular facts and trends in the data. For example, it was reported through quantitative means that this population of children was achieving on or near grade level in at least the 4, 5, 6, and 7 grades. Furthermore, and this is vitally important, the achievement

level of these children increased as they progressed in school. This finding is contrary to the popular notion of "cumulative deficit" found in much of the literature during the sixties.

In the area of reading readiness the data suggested that this was the children's area of greatest weakness. Generally speaking, scores on the Metropolitan Readiness Test fell into the "low normal" category. However, as pointed out in the discussion of the readiness results, these scores should be looked at with caution. The main determinant of readiness for reading is probably the method and material used in the classroom, and not some score on a readiness battery. Also in the one category that appears to be highly predictive of success in beginning reading (knowledge of the alphabet), this group of children scored "high average." However, in the final analysis, testing and reporting of readiness scores should be done with the utmost care. Low scores in one section of the test may have little relevancy to the nature of the reading process, the nature of classroom instruction, or the nature of the didactic materials used in the classroom.

The qualitative method used in this study demonstrated some important trends in the achievement levels

of this population. It was reported that especially in the areas of arithmetic concepts and application, this group of children had unparalleled "spurts" in achievement between the fourth and sixth grades. It is this investigator's contention that these spurts in achievement can partially be accounted for in terms of the specific intellectual development of children as outlined by Piaget. In the discussion of the data this was reported in depth. In the more "rote" type of learning (as reflected in arithmetic computation tests) this group showed "spurts" in growth at least two years earlier than they did on both the concept and application sub-tests of the arithmetic battery. This suggests that certain skills (adding, subtracting) can be taught successfully at an early age, while other skills (concepts and application) may need time to mature and develop.

Similar growth rate spurts in achievement were reported in reading. Children entered school with relatively low scores in vocabulary and comprehension, but experienced great spurts beginning at the third grade. In the area of reading vocabulary the data suggest that early teaching of vocabulary had little positive influence on the achievement levels of these

children. But when the same children were retested one year later, the growth rates were very great. After this "incubation period" the children learned various reading skills rapidly as reflected by their performance on the standardized tests.

The general overall conclusions to be gleaned from all the available data are: (a) the school had a positive effect on this population of children as measured by test results; (b) this positive effect became greater the longer the children remained in school; and (c) the teachers in this particular staff development program had a positive influence on these children.

It was further concluded that the teacher selection procedure which was utilized by Staff Development Laboratory was a successful tool for choosing candidates in this program.

As more information is accumulated and more data analyzed, it should be possible to assess which one or combination of the criterion was a successful predictor for choosing teachers for the Staff Development Program. It may be demonstrated that a quality such as teacher's self-perception is more predictive than any of the classroom observation techniques. At this time the

best one can do is speculate, which is not within the province of this investigator.

It was also concluded that both the major achievement goals of the Staff Development Laboratory and the Clark Plan were reached. Nowhere in this sample did the children fall significantly below grade levels, nor was there any time that the group suffered cumulative deficits. On the contrary, the longer the children remained with Staff Development teachers, the more they progressed. As no comparable data were available on non-participants in the Staff Development Program, no comparisons were made nor conclusions drawn.

However, it was concluded that Staff Development Program's teacher-training model, including the teacher selection procedures, be seriously considered as a viable alternative to teacher education in the Washington, D. C. school system.

Finally, based on the available data, specifically as reflected in the growth rate indices, it was concluded that the early primary grades were an adjustment period for this group of children. Once the children become aware of the school's expectations, they fulfilled them quickly.

Perhaps it was this affective environment in the early primary years that this group was reacting to.

For example, it is conceivable that the children spent time probing the environment and seeking matches for their perceptions of the classroom milieu. When there existed little or no discrepancy between learner's perceptions and environmental perceptions, and when the affective environment was positive, the children then proceeded to master certain cognitive skills. This conclusion seems feasible in light of the data on when the maximum growth occurred.

Recommendations

The recommendations set forth here are an outgrowth of the major findings of this study. It is recognized that when writing recommendations at least two reactions may occur. First, the recommendations could be totally ignored or dismissed because of general disagreement over the findings of this study. One could argue in a technical way over what the test data did or did not show, over the validity of using these particular tests, or over some of the conclusions gleaned from the raw data. Secondly, one could agree totally with this investigator's findings and conclusions, but reject the recommendations as being unrealistic because of the curricular changes that are implicit if the recommendations are accepted.

Because this investigator reported and analyzed only one set of achievement results with this sample, only initial scores were plotted. Although the children reported on in this study had been exposed to the Staff Development teachers for slightly more than one year, it was impossible to measure long-term growth patterns. Therefore, it is recommended that the achievement levels and styles of this population of children be scrutinized when the student population is retested. This would do two things. First, it would provide data on the achievement levels of these children after another full year with Staff Development teachers. Second, if this testing were done as part of the school's total testing program, no additional expenditures would be incurred by the city. It is further recommended that the same type of evaluation be undertaken so that valid comparisons can be achieved. This is not to suggest that the model used by this investigator be the only one used, but it should be one of a variety chosen.

In order to ascertain the quality and quantity of differences that Staff Development personnel make with these children, the following is recommended. The rating scale developed for the screening of applicants to the Staff Development Laboratory Program needs to

be evaluated for its predictive ability. For example, which criterion or combination of criteria is more predictive than the other. Are applicants who score high on the Flanders system more apt to raise the achievement levels of their children than those who score lower? Are two or three criteria producing the same results as four or five? There is certainly a good chance that the different criteria overlap to a considerable extent. If this redundancy of information exists and can be reduced, the savings in both personal and economic resources would be considerable.

One way to evaluate this selection process would be to compare the ratings assigned to the applicants in each category with the achievement profiles of the children. It might be discovered that teachers who scored high on Flanders, for example, were not very effective in developing vocabulary or arithmetic computation skills in their children. One reason for this might be that direct intervention by the teacher seems to result in higher scores in these areas than a teacher who is more non-directive. It is conceivable that a teacher who on the Flanders matrix showed a high degree of influence and direct control might be rated lower than a more "open" teacher. In this instance, a "negative" rating on the scale would be positively correlated with an increase in achievement scores.

It must be understood that the assigned value of the correlation in this particular instance would be "negative," or low, but judgmentally speaking the results would be desirable. In essence, the recommendations related to the screening and rating scales used by Staff Development Laboratory reflect a belief that particular teachers affect students in a variety of ways. Some teachers may be very astute in the area of affective education, while others are more competent in the development of children's cognitive abilities. Ideally, the best teachers are equally competent in both areas, but realistically this is not so. The value of a staff development program is in identifying those applicants who will make a difference in the lives of children (affectively or cognitively, if not both), and then providing services and support which will lead to a positive change in the participant's behavior.

Because the test data demonstrated again and again that the Staff Development teachers did have a positive cumulative effect on the children, it is further recommended that a paradigmatic structure of the program be graphically articulated to the board of education in the local schools. The test data in this

study can be used for demonstration purposes and should be an effective strategy for gaining support for the Staff Development Laboratory teacher training program. Included in this paradigm would be the community inputs as well as the more school-oriented inputs.

An emerging paradigm to consider might be one that recognizes the "inputs" around which schools are organized. Some of those inputs are:

- (a) schools are organized around human skills;
- (b) schools are organized around materials and resources;
- (c) schools are organized around clientele;
- (d) schools are organized around symbolic structures;
- (e) schools are organized around organizations' scheme.

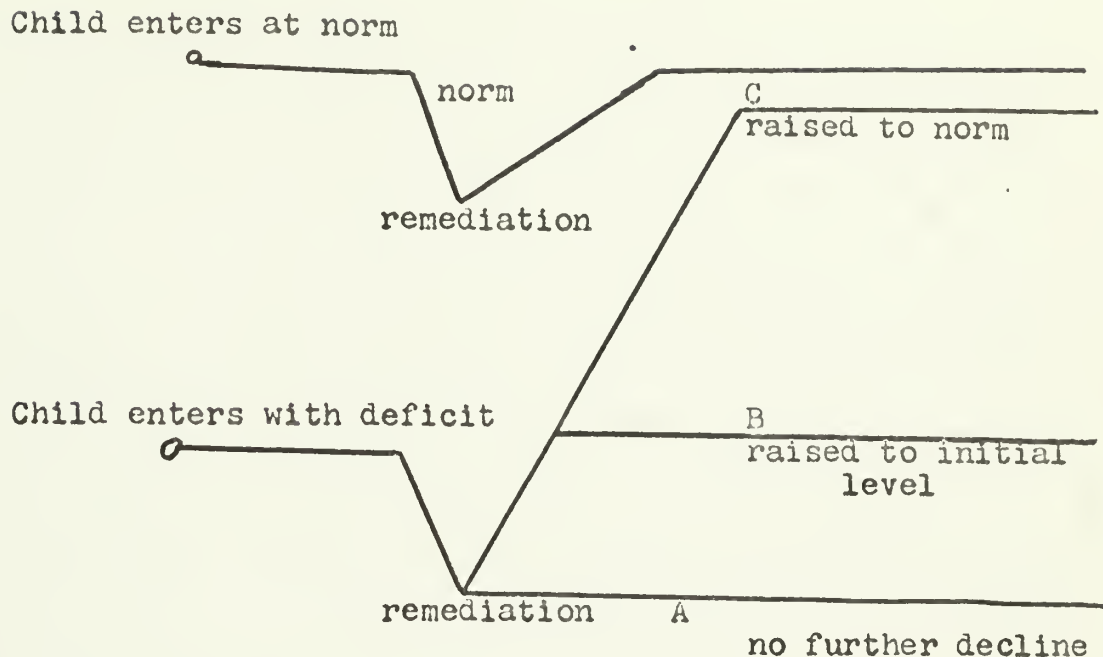
It seems obvious that whoever controls these "inputs" controls the curriculum and whoever controls the curriculum controls what happens to the children. The analyses of data reported in this study strongly suggest that Staff Development Laboratory teachers controlled a sufficient number of those inputs to have a positive effect on their children's learning.

This investigator found similar positive trends in achievement among a group of children representing

six different grade levels and ten different schools. In research cited in this study on effective schools (Weber, 1971; Clark, 1970b) the evidence suggested that strong leadership was an important ingredient when analyzing children's achievement levels. Therefore, it is recommended that the leadership in the schools involved in this study be evaluated and assessed in terms of the desirability of establishing a viable partnership between Staff Development Laboratory and school leaders.

In the general area of achievement testing, provisions must be made for children who enter school with certain skills and regress as a result of their school experiences as well as provisions made for those children who tend to spurt in achievement. A model for analyzing these differences has been proposed by Fox (1967). This model is reproduced below in the form of a recommendation.

Different Definitions of Progress



The implication of this conceptualization is that schools must look at the concept of grade norms and the nature of "progress" when reporting achievement scores.

The growth rate illustrations presented in this investigation suggested that there were more critical times for learning certain skills than others. This has been argued by Piaget (1967) and Elkind (1969) to mention but a few. It is recommended that any attempts to push the curriculum downward into the pre-school or kindergarten years be done only after careful questioning as to why.

The evidence reported suggests that only after a certain "incubation" period did the children in this sample "spurt" in their achievement scores. What the teachers did in those critical grades is also very important. Therefore, it is recommended that teachers who were assigned to those grades in which children manifested spurts in achievement be carefully selected and appraised of the results of this investigation. This appraisal technique should make those teachers more aware of the critical importance they play in the development of certain cognitive skills with children of this age. Also, teachers who work with children of this age group should be encouraged to initiate and follow through "field research" in their classrooms for the purpose of observing and recording children's behavior and learning styles. In the area of vocabulary development, for example, this would especially be valuable. Children should even be encouraged to conduct their own "field research" in the area of vocabulary. In this way not only will teachers discover things about the nature of language development in children, but children will come to discover the sociological, psychological and anthropological significance of language in general.

In relation to the results of the readiness testing, it is recommended that the current method of reporting on the readiness of children be re-evaluated. One of the prime reasons for this recommendation is the fact that the amount of new information provided by the inclusion of additional sub-tests is minimal. This recommendation is not based on a thorough evaluation of the Washington, D. C. readiness program, but on the investigator's experience and knowledge about the nature of readiness for reading.

A modification of this recommendation would be to run a correlational study between the sub-tests of the Metropolitan Readiness Test and later success in beginning reading. The resultant data could be used to rate the various readiness categories in terms of how well they predict in the D. C. School System. Recent research (Matuszek & Oakland, 1972) for example, suggested that readiness test factors differ markedly across both racial-ethnic and economic groups.

As indicated earlier, a valid assessment of readiness can only be made in relation to the instructional mode and instructional material being used.

In summary, the major recommendations proposed by this investigator are to:

- (a) Evaluate learning growth and styles in this sample population using the data from city-wide testing in the fall of 1972.
- (b) Continue the same model of evaluation (even if others are devised, also), so that reliable estimates and comparisons can be made.
- (c) Conduct an evaluation and assessment of the teacher selection process on a number of levels to ascertain its predictability.
- (d) Evaluate and assess the role of leadership in producing positive results in the achievement scores of these children.
- (e) Devise a model which will account for a variety of growths and levels of children if achievement tests are to be continued.
- (f) Seriously consider the full implications of extending formal learning to the pre-school period before making a decision.
- (g) Apprise teachers of the implications of their findings to the critical grade levels for growth as reported in this study.
- (h) Consider a re-evaluation of the readiness testing in light of known evidence about the nature of readiness tests.

The final recommendation is more of an observation than anything else. Based on the results of this study, it is recommended that early childhood programs not be used as a scapegoat for the teaching of certain skills. The evidence presented here reinforces the notion that the middle elementary grades are the prime time for certain conceptual learnings.

APPENDIX A

Pucketts Symbols and Classroom Observation

Suggestions for Classroom Observation

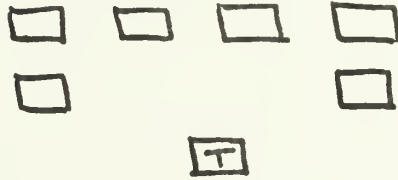
*The actual observation period must be $\frac{1}{2}$ hour in duration (no more - no less).

1. The observer must take about five minutes to draw a classroom seating arrangement (to be used for Puckett's System of Symbols). (Seating chart changes as class organization changes).
2. Seat yourself in the least obvious place possible.
3. One observer uses Flander's Interaction Analysis, the other uses Puckett's Symbol plus the class chart.
4. Puckett's system of symbols plus seating chart. Use symbols where applicable.
5. Observers immediately after observation, away from room draw conclusions with both charts.
 1. What was being learned?
 2. How what was being learned was taught?
(Place responses on back of seating chart and staple).

SAMPLE OF SEATING CHARTS

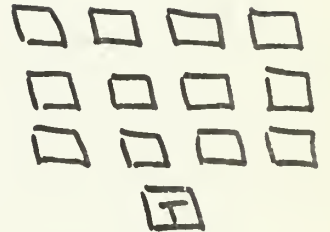
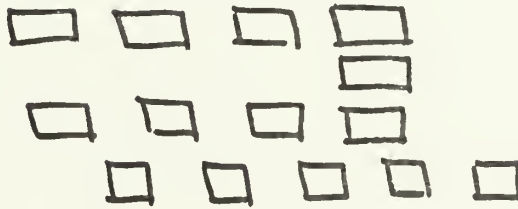
1.

SMALL GROUP



2.

WHOLE CLASS

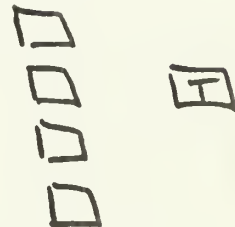


3.

WHOLE CLASS



SMALL GROUP



4. etc.

PUCKETT'S SYMBOLS

- Child raised hand
- ⊙ Child raised hand was called on
- ⊙ Child raised hand was called on gave single word response
- ⊙ Child raised hand was called on gave fair response
- ⊙ Child raised hand was called on gave good response
- ⊙ Child raised hand was called on gave very good response
- ◻ Child called on did not raise hand
- ◻ Child called on did not raise hand gave single word response
- ◻ Child called on did not raise hand gave good response
- ◻ Child called on did not raise hand gave fair response
- ◻ Child called on without raising hand
Gave a very good response
- ◻ Child called on did not raise hand. Did not respond
- > Pupil ask teacher question
- | Student speaks without being addressed.

*Remember to place symbol in appropriate place.

APPENDIX B

Summary of Categories for
Interaction Analysis (Flander's System)

TEACHER TALK	INDIRECT INFLUENCE	1. * <u>ACCEPTS FEELING</u> : accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feeling is included.
		2. * <u>PRAISES OR ENCOURAGES</u> : praises or encourages student action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying "um hm?" or "go on" are included.
		3. * <u>ACCEPTS OR USES IDEAS OF STUDENTS</u> : clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to Category 5.
		4. * <u>ASKS QUESTIONS</u> : asking a question about content or procedure with the intent that a student answer.
DIRECT INFLUENCE	DIRECT INFLUENCE	5. * <u>LECTURING</u> : giving facts or opinions about content or procedures; expressing his own ideas, asking rhetorical questions.
		6. * <u>GIVING DIRECTIONS</u> : directions, commands, or orders with which a student is expected to comply.
		7. * <u>CRITICIZING OR JUSTIFYING AUTHORITY</u> : statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.

APPENDIX B
(Continued)

STUDENT TALK	8. * <u>STUDENT TALK - RESPONSE</u> : talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
	9. * <u>STUDENT TALK - INITIATION</u> : talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
10. * <u>SILENCE OR CONFUSION</u> : pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.	

* There is NO scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate--not to judge a position on a scale.

APPENDIX C

Write your feelings and ideas about one or both of the following and bring them with you to the interview.

1. What would you like to see changed within the school system, your school, or your classroom? What strategies would you use to make these changes?
2. If you had X amount of dollars (any amount you wished) to design, initiate, implement and sustain a viable educational program in your school and feeder schools i.e. elementary, junior high and senior high schools, what type of program would you develop? and how?

APPENDIX C (continued)

Checklist for Written Responses

Question 1: What would you like to see changed within school system, school, or classroom? What strategies would you use to make those changes?

1. Was the question answered or did the person digress?
2. Were the Strategies to be used given?
3. Were real changes given or only modifications of existing ones?
4. Were the changes directed toward providing better educational benefits for children?

Question 2: If you had X amount of dollars...a viable educational program for your and the feeder schools, what type program would you develop? How?

1. Was a type of program outlined or specified in any way?
2. How many aspects of a viable program were mentioned (plant, personnel, equipment, etc.)?
3. Was the program innovative (different, feasible)?
4. Did the program as given include feeder schools?

APPENDIX D

Self Anchoring Rating Scale

(At the beginning of the interview the panel will introduce themselves to the applicants.)

A Self Anchoring Rating Scale

First, ask the respondent to describe what, for him is an ideal classroom. Record the responses as nearly verbatim as possible, and probe until the respondent indicates that he has nothing else to add to the description.

Following this, he is asked to describe the worst classroom. Verbatim recording and probing are carried out in a similar fashion.

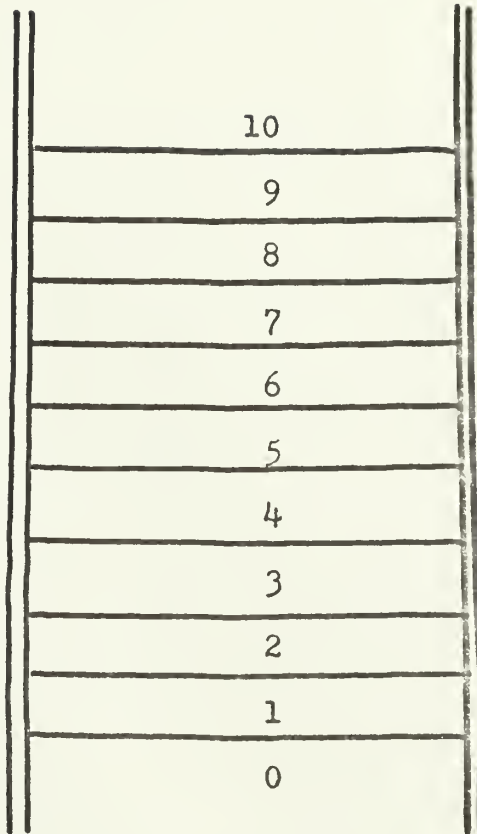
Then, the respondent is handed a pictorial, non-verbal scale, such as the ten point ladder scale. He is told that the best and worst classroom he has just described are the end points of the scale. The best at the top and the worst at the bottom.

Usually we begin the use of the scale by asking: "Where on this ladder would you say you are now?" (The interviewer records the step number to which the person points.) This "location of the self in the now" provides an additional reference point useful in further scaling and open-ended questioning.

OTHER QUESTIONS TO ASK

1. Where on this scale were you two years ago?
2. Five years ago?
3. Ten years ago?

Expectations concerning the future, again in terms of the person's own goal system, may be obtained by asking him where on the scale he expects to be at some time in the future, e.g., five years from now.



What is your classroom like now?

What would you like to change?

What are you doing to bring about some of these changes?

Rating Scale

- 5 - Program can help this person and person can offer help to program.
- 4 - Program can help person and probably person can give something to program.
- 3 - Program can help this person.
- 2 - Program probably can help this person.
- 1 - Program can't help this person.

APPENDIX E

Internal Faculty-Participant Evaluation Form
Estimate for Assessing
The Level of Achievement of Program Objectives
 (Adopted by Dr. Leon Jones)

Please fill in the blanks below as appropriate. (You may leave the space for your name blank if you wish.)

NAME: _____

DATE: _____

FACULTY:

TEACHER TRAINEE

DIRECTIONS:

The following is a list of statements about the focus of both the Staff Development Laboratory Graduate Degree Program and its participants - faculty and teachers. This focus reflects the intent of the objectives of the Staff Development Laboratory.

Each statement should be responded to in terms of the focus of specific curriculum content as well as the focus and intent of the overall program operation. Place

a check mark (✓) after each statement with reference to the responses indicated in the listing at the right.

These responses will be interpreted in the following manner:

Rarely	implies	0% to 15%	of the time
Sometimes	"	16% to 35%	" " "
Frequently	"	36% to 65%	" " "
Generally	"	66% to 85%	" " "
Almost Always	"	86% to 100%	" " "

This estimate will be used solely to provide information for evaluation and effective improvement and modification. Your responses will in no way jeopardize you as a participant or faculty member.

Almost
Always
Generally
Frequently
Sometimes
Rarely

1. Possess increased interpersonal awareness needed for dealing with children in the urban area.
2. Possess increased interpersonal awareness needed for dealing with adults in the urban area.
3. Possess improved human relations skills needed to focus on my role and actions as a teacher and how I affect children as learners.
4. Demonstrate the skill to organize classrooms for individual learning.
5. Apply theories of learning as they apply to classroom instruction.
6. Apply theories of child development as they apply to classroom instruction.
7. Understand theories of child growth and development as they apply to classroom learning.
8. Understand theories of learning as they apply to classroom instruction.
9. Demonstrate the ability to diagnose reading difficulties of pupils.
10. Demonstrate the ability to provide remediation in reading.
11. Use a variety of material to teach reading skills.
12. Develop a variety of materials to teach reading skills.

Almost
Always
Generally
Frequently
Sometimes
Rarely

13. Develop a philosophy towards reading in order to more effectively incorporate reading into the total curriculum.
14. Appraise standardized reading tests in terms of their relevancy to classroom instruction.
15. Demonstrate the ability to diagnose math difficulties of pupils.
16. Demonstrate the ability to provide remediation in math.
17. Use a variety of procedures to teach math skills.
18. Use a variety of materials to teach math skills.
19. Develop a variety of materials to teach math skills.
20. Offer a multifaceted exposure aimed at promoting a positive self concept.
21. Offer a multifaceted exposure aimed at promoting a sense of identity.
22. Demonstrate a knowledge of research methodology.
23. Serve as a resource teacher to assist other teachers in the classroom with their instructional program.

Almost
Always
Generally
Frequently
Sometimes
Rarely

24. Use Community Involvement projects to increase MN residents' knowledge of: technique for teaching reading and math; school operations; community problems, i.e., drug abuse; strategies for involving parents in the operation and decision making of the schools; and strategies for involving themselves in the operation and decision making of the community and local service agencies. (Indicate combined frequency of involvement in any one or more of the areas set forth.)
25. Determine how community conditions effect learning.
26. Possess awareness of the changing role of the teacher as it affects the teaching/learning environment.
27. Determine how environmental conditions effect learning.
28. Possess awareness of changing values as relative to self.

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