A COMPARISON OF TWO METHODS OF TEACHING IN
THE ELEMENTARY SCHOOL AS RELATED TO
ACHIEVEMENT IN READING, MATHEMATICS, AND
SELF-CONCEPT OF CHILDREN

Thesis for the Degree of Ph. D.
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EQUILLA FORREST BRADFORD
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4. Will the attitudes of teachers of children in the experimental school be positive toward the Individually Guided Education Program?

5. Will the attitudes of parents of children in the experimental school be positive toward the Individually Guided Education Program?

6. Will the attitudes of students in the experimental school be positive toward the Individually Guided Education Program?

Procedure

In order to make a comparison of the teaching methods used in the experimental and control schools among the three variables of this study, six instruments were used. The Metropolitan Achievement Test Battery was used to assess the academic achievement of the experimental and control groups in reading and mathematics. The assessment of the student's perception of himself or self-esteem was accomplished through the use of the Piers-Harris Children's Self-Concept Scale (The Way I Feel About Myself). The Teacher Perception Individually Guided Education Questionnaire was used to ascertain the teachers' perceptions of the Individually Guided Education Program in the experimental school. The Parent Perception Individually Guided Education Questionnaire was used to assess the parents' views of the Individually Guided Education Program in the experimental school. The Parent Evaluation Form of the Individually Guided Education Program was

developed by the writer for this study, and was used to
assess the impact of the program on the parents. The Student
Perception Individually Guided Education Questionnaire was
used to get the students' perceptions of the Individually
Guided Education Program.

Major Findings

1. The students' gains in reading were close to signif-
   icance in the experimental group as compared to the
   gains in reading in the control group.

2. The students' gains in mathematics were significantly
   greater in the experimental group as compared to the
   gains in mathematics in the control group.

3. The students' gains were significantly greater in
   self-concept in the experimental group when compared
   to the gains in self-concept in the control group.

4. The attitudes of teachers of children in the experi-
   mental school were positive in some aspects of the
   Individually Guided Education Program.

5. The attitudes of parents of children in the experi-
   mental school were positive in some aspects of the
   Individually Guided Education Program.

6. The parents' evaluation of the Individually Guided
   Education Program was very favorable.

7. The attitudes of students in the experimental school
   were positive in some aspects of the Individually
   Guided Education Program.

Questions for Further Study

1. Will children in an Individually Guided Education Program show significant gains in all academic areas?

2. What significant changes occur in the classroom teacher as a result of involvement in the training and implementation of an Individually Guided Education Program?

3. What changes occur in the administrator as a result of an Individually Guided Education Program, and what effect does this behavioral change have on staff and children?

4. Would the changes in children in an Individually Guided Education Program continue positively over a longer period of time?

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By

Equilla Forrest Bradford

A THESIS

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DEDICATION

To my husband, Lewis, whose unfailing love, indomitable confidence, and unwavering support have been my source of strength and purpose, and to my son, Luey, who is my source of joy.

To my father and mother, Mr. and Mrs. Sam Forrest, whose early sacrifices and love paved the way that I might realize this moment.

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I am greatly indebted to Dr. Dale Alam, my major advisor, who provided me with encouragement and inspiration throughout the entire stages of my doctoral pursuit. His professional guidance and personal approach have been a model to emulate.

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To name all persons who have assisted in this study would be impractical, if not impossible. However, thanks is extended to:

Dr. Paul R. Hunt, Superintendent of Schools of the district in which the study was done. Dr. Hunt's encouragement and assistance are of notable worth. Members of the board of education are also given recognition for their enthusiasm and support in having the study conducted.

A special thank you is in order to members of the staff in both the experimental and control schools. I am sincerely grateful to staff members for the many ways in

which they were supportive. I shall ever be grateful for their encouragement and support through all phases of my graduate program.

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CHAPTER I

THE PROBLEM

Introduction

Our elementary schools are in trouble. In a report

by Silberman he stated:

> The preoccupation with order and control, the slavish
> adherence to the timetable and lesson plan, the obsession
> with routine qua routine, the absence of noise and move-
> ment, the joylessness and repression, the universality
> of the formal lecture or teacher-dominated "discussion"
> in which the teacher instructs an entire class as a unit,
> the emphasis of the verbal and de-emphasis of the con-
> crete, the inability of students to work on their own,
> the dichotomy between work and play--none of these are
> necessary; all can be eliminated.[1]

He further stated: "Mindlessness affects the high school

curriculum every bit as much as the elementary curriculum."

Zacharias in 1966 stated, "It's easier to put man on the moon

than to reform the public schools."[2]

These and other critics pointed out that our present

teaching-learning strategies, especially the employment of

the traditional self-contained classroom, do not provide an

exciting and viable learning situation for the boys and girls

in our country.

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[1]Charles E. Silberman, Crisis in the Classroom (New
York: Random House, 1970).

[2]Ibid.

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Attempts in the past by educators to remedy the situation have included programs which attempt to develop a more meaningful program. During the 1930's, programs called "progressive" or "activity" were designed to meet this goal. Primarily, the progressive education program included the instigation of classroom procedures wherein the teacher and other adult "authorities" exhibited a less authoritarian pattern, thereby allowing students greater choice of content and procedures as well as greater physical freedom. Such studies have attempted to compare the teaching-learning outcomes of progressive school pupils and the traditional school.

The most extensive study of this nature was the so-called "Eight Year Study" conducted under the direction of the Progressive Education Association during the period from 1933 to 1939. Although this study was related to the high school and college, the study examined the progressive and the traditional methods of teaching. It was quite obvious from the findings that the Thirty Schools graduates, as a group, did a somewhat better job than the comparison group (traditional schools).[1]

The concern for improving the elementary program brought on a rush of studies during this early period (Board of Education, Roslyn, New York, 1938; Oberholtzer, 1937; Proctor, 1933; Davis and Morgan, 1940; Helbing, 1940;

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[1]American Educational Research Association, Handbook of Research and Teaching (Chicago: Rand McNally and Company, 1964), pp. 471-472.

Pistor, 1937; Washburne and Raths, 1927). The findings of these studies are much the same.[1] The findings could be summarized as follows: In the early grades, students in the progressive curriculum tend to perform somewhat below expectation in reading, in mathematics, but overcome their inferiority by about sixth grade. Further findings show that these children tend to be average or somewhat superior throughout their school years in achievement areas involving language usage; they tend to be better informed on current affairs, and they tend to be rated higher by high school teachers. In summary, the findings indicate no important differences in terms of subject-matter mastery and a superiority of the progressive students in terms of the characteristics which the "progressive school" seeks to develop.

Besides examining various general school patterns such as progressive versus traditional, educators have examined the use of specific teaching methods such as the laboratory method, project method, recitation method, and others, but the findings are not clear cut.

Other attempts have been made throughout the country over the decades to improve the school organizational structure. It seems evident that from the period around 1900 to the present, considerable discussion and action related to inadequacies of the graded pattern resulted in little agreement regarding an improved structural framework for teaching

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[1]Ibid.

and learning. Because the variety of attempts which had been made were for the most part efforts to cope with the situation from the vantage point of a graded approach, they were, from the beginning, off to a wrong start. The evils of organization cannot be taken away if any form of the graded structure is preserved.[1]

The graded school, it seems, is not in harmony with the basic purpose of American education--that every child should have the opportunity to develop his talents to the fullest extent possible.

According to Beggs:

> If one recognizes that all children vary tremendously in past achievement, potential, interest and socioeconomic background, and if one believes that many decades of painstaking study have taught us regarding learning theory and child development, then it becomes obvious that graded textbooks, graded expectations and graded instructors are all out of step with the goal of individualized teaching. With programs geared to the mythical average student, graded-school organization has, for the most part, simply ignored the variety in human capabilities by the very nature of its lock step pattern and rigidity of structure.[2]

Nongraded schools are being established in many areas in an attempt to break the lockstep progress of children in traditionally graded schools. Although school people have long recognized that children are not all ready to read at the same time, it is only recently that this problem has

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[1]John I. Goodlad, "Ungrading the Elementary Grades," _National Education Association Journal_, XXXVII (April, 1948), 222-223.

[2]David W. Beggs and Edward D. Buffie, _Nongraded Schools in Action: A Bold New Venture_ (Bloomington, Indiana: Indiana University Press, 1967), p. 16.

been attacked on any large scale. The nongraded school pro-
vides for a flexible grouping of children so that each child
moves through sequential levels at his own speed. Children
are grouped according to maturity and mastery of skills on
a given level; a child then moves from group to group within
a room or from class to class at any time in the school year
then he is ready for it, without the pressures or trauma
which often accompany annual promotions and failure to be
promoted. The slow "bloomer" is more likely to progress
and even catch up with his age mates when the pressures which
hinder learning are removed.

The underlying philosophy of the ungraded school is
that learning should be continuous; that children grow and
learn at different rates and each child should have the
opportunity to achieve at his own rate; that school programs
should be flexible so as to meet varying developmental needs
and growth patterns of individual children; and that greater
achievement results when children experience success rather
than failure.[1]

Richard Miller asserted the same philosophy, in an
equally convincing way:

> Individuals differ in their rates of growth--physical,
> intellectual, emotional, and social. We realize that
> these aspects of growth are continuous but not neces-
> sarily concomitant. We realize that rates of growth are
> irregular and often unpredictable. We also recognize
> that different interests differ, a variety of background

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[1] John Goodlad, <u>Promising Practices in Nongraded
Schools</u>, Midland Schools, Vol. 75 (May, 1961), pp. 15-16.

experiences prevail among children, and learning is enhanced when success is at least attainable.[1]

The nongraded program provides for pupil success in many ways. A documented listing of these advantages follows.

The goal of every nongraded organizational scheme is the sequential progression of each pupil toward outcomes uniquely appropriate for him. A curriculum that takes cognizance of this goal thus has to be elastic enough to provide a high floor and a high ceiling for the gifted and a commensurately lower floor and lower ceiling for the slow. Each pupil in such a scheme, theoretically at least, starts and ends at a different point.[2]

Many children vary in achievement by at least a year from one subject area to another.[3] Particularly in skills areas, we need to start looking at the curriculum vertically instead of horizontally. There should be no second grade work or third grade work, but rather a diagonal continuum ranging forward and upward from easy to difficult, with any part of it available to any child when he is ready for it, regardless of age or number of years in school.[4]

[1]Richard Miller, The Nongraded School Analysis and Study (New York: Harper and Row, Publishers, 1967), p. 16.

[2]Goodlad, op. cit., p. 35.

[3]Anne Morgenstern, ed., Grouping in the Elementary School (New York: Pitman Publishing Corporation, 1966), pp. 107-112.

[4]Don H. Parker, Schooling for Individual Excellence (New York: Thomas Nelson & Sons, 1963), p. 139.

Multi-age grouping allows for better placement of children. Given six teachers, for example, two each teaching third, fourth, and fifth grades, there are only two choices of placement for each child. Even if only three of these teachers were to have multi-age groups of eight, nine, and ten year olds, it would double the alternatives for placing each child, and each teacher could be more nearly matched in personality, learning, teaching styles, etc.

Westly-Gibson, in her book Grouping Students for Improved Instruction, suggested taking into account several considerations in grouping:

> Grouping practices must take into account the variety of learning styles . . . .
> . . . .
> Grouping practices must take into account the nature of the groups they make possible. Grouping procedures should provide opportunities to work together for children who can contribute to one another's learning.
> . . . .
> Grouping practices should make available teachers of both sexes and of differing personalities and increase the possibilities of placing each child with some teachers, especially supportive of him.[1]

Morgenstern stated it another way:

> . . . An organizational plan that does not leave a child's placement to chance, but rather forces educational decision making takes three important considerations into account: the teaching style that most successfully motivates the peer group, that most successfully stimulates, and the educational opportunities that most successfully advance the learning of the child.[2]

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[1]Dorothy Wesley-Gibson, Grouping Students for Improved Instruction (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1966), pp. 14-18.

[2]Morgenstern, op. cit., p. 36.

Herbert Thelen suggested what he called "teaching grouping," where teachers decide for themselves which students they are most successful with, try to generalize from this, and confer with all teachers involved to decide on placement of students.[1]

Other writers have stated that a child and a teacher who remain together for several years have a chance to really get to know each other. The child feels secure because he knows what to expect. There is less time required in September for the "getting to know you" process because the teacher already knows the majority of the class and has discovered what kinds of things are appropriate for individual children.

Often teachers are frustrated and children are short changed because in many cases the teacher is just beginning to understand the child and to develop effective ways of helping him with his problems when the year comes to an end and a new, strange teacher takes over.[2] It is not unusual to hear a teacher remark in May or June, "I wish I could keep him for another year," or "I feel that I'm just now really making a breakthrough with him."

Goodlad also noted that parents and teachers usually barely get acquainted in one year's time, and better

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[1]Herbert Thelen, Classroom Grouping for Teachability (New York: John Wiley & Sons, Inc., 1967), pp. 197-199.

[2]Ibid., p. 67.

communications might be fostered if the parents were to deal with the same professional person over a longer period of time.[1]

Naturally, the statements do not speak to the problems of teachers who may have problems of pupil adjustments.

The pragmatic teacher has few discipline problems because children who are working on their levels of attainment are busy, with no time for thinking of mischief.[2] Some of the pupils will remain in the classrooms and library during intermission and after school to feed their curiosities. When discipline problems do arise, the wise teacher knows that children misbehave often because they are being taught off-level. Attendance improves and truancy becomes an exception when happy children are taught on proper levels.

Vincent DiPasquale, in an article entitled "Schools Without Grades," reported:

> . . . A marked decline in truancy occurred when grade levels were eliminated in six elementary schools surveyed. The children were reported to be better adjusted to school both socially and emotionally. Children had greater pride in their school than had ever been true before when the graded plan was in operation.[3]

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[1] John Goodlad and Robert Anderson, The Nongraded Elementary School (Rev. ed.; New York: Harcourt, Brace and World, Inc., 1963).

[2] Vincent C. DiPasquale, "The Relation Between Drop-outs and the Graded School," Phi Delta Kappan, XLVI (November, 1964), 101-102.

[3] Ibid.

An evaluation of the Caboal Nongraded School
included:

> . . . Truancy and classroom discipline is reduced.
> This is true because the teacher is adjusted to the
> abilities of the children and they are not taught at a
> frustration level.[1]

Maurie Hillson further stated:

> Nongrading is compatible with what has been demon-
> strated in programmed learning sequences, that sound
> learning is cumulative and that pupils learn better
> when they do not repeat or skip over what is misunder-
> stood, but have the time to work at a level of any par-
> ticular subject until they have mastered it.[2]

DiPasquale reported:

> . . . In 1963-64 at least one million children were
> required to repeat a grade at an average cost of $455.00
> per child. This money might better be spent for addi-
> tional teachers, improved pupil health services, nursery
> programs or free lunch programs.[3]

Goodlad and Anderson stated: "Children are happier
and more interested in school because the fear of annual or
semi-annual non-promotion is eliminated.[4]

But the nongraded approach is not without its opponents.
Some of the cautions are stated below:

> The idea of nongrading seems to be taking hold in
> the minds of many educators who are anxious to be in
> step with new trends. Since nongrading is a major
> departure from traditional organization in the elementary

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[1]Ibid.

[2]Maurie Hillson, Change and Innovation in Elementary
School Organization (New York: Holt, Rinehart and Winston,
1955), p. 32.

[3]DiPasquale, op. cit., p. 139.

[4]Goodlad and Anderson, op. cit., p. 134.

school, we should examine the implications of this[1]
approach with the care before we make commitments.

According to McLaughlin:

The nongraded school is defensible only because the
graded school is indefensible. Its justification flows
from its efforts to correct the instructional errors of
the graded school. It is reasonably unlikely that any
amount of manipulation of the physical arrangements of
the school will produce discernible differences in the
academic or psycho-social development of children.[2]

Miller was supportive of this view, too, in stating:

School organization by itself does little or nothing
to improve instructional practice. To move into a non-
graded plan without simultaneously or subsequently giving
attention to fundamental questions of school function,
curriculum design, teaching and evaluation is to cause
chaos, or at best, to create a school that is nongraded
in name only.[3]

Research studies attempting to find a teaching method-

ology which would bring about greater learnings for boys and

girls have not resulted in significant findings. Because of

the situation found in our elementary schools, there has been

a host of writers, such as Holt, Goodman, and others who

have stated that the elementary school is not doing the job

it was intended to do. Therefore they, too, are suggesting

ways in which our elementary program can be greatly improved.

This concern brought about a flood of federal funds

for the purpose of concentrating on specific problems with

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[1]David Lewin, "Go Slow on Non-Grading," *Elementary
School Journal* (December, 1966), p. 131.

[2]William McLaughlin, "What's in a Name? The Phantom
of Non-Graded School," *Phi Delta Kappan* (January, 1968),
pp. 240-241.

[3]Miller, op. cit., p. 48.

the development, demonstration, and dissemination of educational alternatives, materials, and practices for the schools. Eight university-based Educational Research and Development Centers were funded under the Cooperative Research Act of which The Wisconsin Research and Development Center for Cognitive Learning was formed. The R & D Centers are part of a larger set of institutions which contribute in specialized ways to the improvement of educational practice. These include the National Program on Early Childhood Education, which consists of seven university-based subcenters; two Educational Policy Research Centers; two Vocational Education Research Centers; and 15 Regional Laboratories.

The innovative program with which this study is concerned was developed by The Wisconsin Research and Development Center for Cognitive Learning. This R & D Center has been directing its efforts toward improving educational practices through programmatic research and development. Most of the research, development, and dissemination efforts are directed toward building a self-renewing system of Individually Guided Education in the multiunit elementary school. Specifically, the Center has developed a system of instructional programming for the individual student designed to provide for differences among students in their rates and styles of learning, level of motivation, and other characteristics.

Although many studies have been made concerning various facets of an IGE program, no study has been conducted

which attempts to determine the superiority of IGE or the
traditional self-contained classroom. Based on results of
I & R units in the early years, the Wisconsin R & D Center
hypothesized that children in their sixth year of attending
an IGE school, including kindergarten as one of the years,
would achieve as high as children in the seventh year in
the same school did prior to adoption of the IGE system.[1]

Purpose of the Study

The purpose of this study is to compare two methods
of teaching in the elementary schools as related to achieve-
ment in reading, arithmetic, and self-concept of children.

Need for the Study

Student problems, incidents of vandalism, psycho-
logical dropouts, and charges of alienation and irrelevance
are manifestations of a conflict between the elementary
school and its students. To date, school personnel have
addressed themselves to the crises these manifestations
create. They have designed elaborate anti-vandalism programs;
they have created more rules and regulations; they have
created extensive remedial education programs; and they have
created programs for better discipline. The result has been
chaos. It is time to investigate the possible sources of
these problems and to develop the means to solve them.

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[1]"Instructional Programming for the Individual Student
in the Multiunit Elementary School, unpublished report,
February, 1971, pp. 9-10.

A review of the literature indicates that the factors most often cited by critics and educators as the sources of dissatisfaction are related to the organized and established procedure which is used to direct and carry on the business affairs of a school. This writer refers to this as the over-all teaching-learning strategies which the school uses.

Therefore, it is important to investigate the impact of the school's system of teaching-learning on the acquisition of basic skills and on the self-concept of children. The importance of this study is realized further when a search for studies similar to it indicated that there are divided findings. Furthermore, the proliferation of books such as Death at an Early Age, by Kozol, indicate a great concern about the teaching-learning strategies used in our present elementary schools.

Definition of Terms

Individually Guided Education (IGE)--A learning program designed to meet the learning needs of the individual on the basis of an assessment of his achievement, aptitudes, and overall learning personality as these relate to his learning objectives.

Elementary School--A school in a school district in Michigan which receives the majority of its financial support from the people of the community it serves, having grades K-5.

Self-Concept--Self-concept is "those perceptions, beliefs, feelings, attitudes and values which the individual views as describing himself," according to Perkins. For this study, it is defined operationally as how the student sees himself as related to the questions in the instrument "How I Feel About Myself."

Reading--Refers to those skills taught in the instructional area of reading in the first six years of the elementary school program.

Self-Contained Classroom--Refers to the classroom organization in which a single teacher is responsible for the education of a group of children, usually between 25 and 30. This single teacher is responsible for teaching all of the subject matter for a particular grade-level. Often referred to as the "traditional" classroom organization.

School District--A school district is a legal entity created by the Michigan State Legislature for the purpose of operating and maintaining public education within the boundaries established by law.

Delimitations of the Study

1. The validity of the study is affected by the degree of frankness and sincerity of responses to the instruments administered.

2. No attempt is made to equate the teachers in the self-contained classrooms and in the IGE school, except for what the findings show.

3. Teachers in the IGE school have been carefully trained in the processes of an IGE school, which may have a Hawthorne effect on the findings.

4. This study was made with a limited sample, i.e., two elementary schools within one school district.

5. Certain theoretical limitations are imposed upon the study. In dealing with a construct or concept as difficult to define and describe as that of the self, we become aware of the many drawbacks in the treatment of the abstract.

Hypotheses

Hypothesis 1:   There is a significant difference in reading skills of students enrolled in the IGE school, as measured by standardized tests, as compared with the children enrolled in a traditionally organized elementary school.

Hypothesis 2:   There is a significant difference in mathematical skills, as measured by standardized tests, of children in the experimental group (IGE) as compared with children in the control group (self-contained classroom).

Hypothesis 3:   There is a significant difference in the self-concept of children in the experimental group (IGE) as compared with the control group (self-contained classroom).

Hypothesis 4:   The attitudes of teachers of children in the experimental group will be positive toward the IGE concept.

Hypothesis 5:   The attitudes of parents of children in the experimental group (IGE) will be positive toward the IGE concept.

Hypothesis 6:   The attitudes of students in the experimental group will be positive toward the IGE concept.

Overview

It was the intent of Chapter I to describe the purpose of the study and to explain why there is a need for a comprehensive comparison of two methods of teaching in the elementary school relative to achievement in reading, mathematics, and self-concept of children.

Chapter II contains a review of pertinent literature relating to school organization and individualized instruction, with implications for the disadvantaged student. The material on the education of the disadvantaged children is pertinent to this study because (a) many of the pupils in the experimental and control groups were disadvantaged children, (b) most of the programs of instruction recommended for disadvantaged children included provisions for adapting curriculum to the needs of individual learners, and (c) reading and mathematics, the subjects given the highest priority in the recommended curriculum for disadvantaged children, were the same subjects in which the pupils in the experimental school were examined.

In Chapter III is given a detailed account of the procedures followed in the experimental program. Included is a description of preliminary plans for the study, with consideration of the nature of the community and the school, information regarding the instructional program, the subject matter and the instructional techniques in the experimental school, a discussion of methods of administration of the

instruments including treatment of the data, and a discussion

of the IGE concept and in-service programs related to IGE.

Chapter IV contains the analysis of the data. Find-

ings are presented in the same order as stated in the hypoth-

eses in Chapter I.

Presented in Chapter V is the outcome of the study,

including a summary of the investigation, the findings, con-

clusions, and recommendations. This chapter also includes

a recapitulation of the study and a critical self-analysis

of the purposes and procedures of the researcher. Finally,

listed are some of the unanswered questions which may be of

sufficient import to warrant further research.

Having presented the purpose of the study, its need,

and the hypotheses for the study, it is now essential that a

review of the literature be presented.

CHAPTER II

REVIEW OF THE LITERATURE

Historical Development of Elementary School Organization

In view of the lack of a conceptual model of the graded school with its distinctive organizational features and practices, it was decided to seek out the components of the form of vertical school organization by an examination of its history. It is not contended that the components so identified can be found uniformly in every school called "graded" today. While history does not repeat itself, events of the past are often of concern for the light they shed on the present. Theoretical assumptions of the past led to establishment of organizational components which, when currently practiced, have results on children in schools today.

A system of individually guided education (IGE) is the subject of this research. The IGE system has seven components, one of which is new organizational/administrative arrangements, together called the "Multiunit Elementary School."

Development of Graded Organization

European Roots

Authorities seem to disagree on crediting the initiation of grading of elementary school pupils. Wilds credited the Christian Brothers as being the first to grade elementary school pupils according to ability and to adopt the simultaneous method of teaching. An important development here was that the pupil recited, not to the teacher individually, but to the entire class.[1] Harris pointed out that Martin Luther recognized the advantages of grouping children according to their advancement, and insisted on grading the schools. He also observed that the Jesuits formed a school system in 1650 which gave great attention to grading and pupil classification.[2]

Cubberley described at length the contributions of Frederick the Great in organizing a system in Prussia. Maria Theresa of Austria closely copied the work and directions set up by Frederick the Great. Under the general topic of National School Organization in Prussia, Cubberley quoted the "General Law for the Schools of Austria, 1774." Two sections are of particular interest:

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[1] Elmer H. Wilds, The Foundations of Modern Education (New York: Farrar and Rinehart Company, 1963).

[2] Payson Smith, A. E. Winship, and William T. Harris, Horace Mann and Our Schools (New York: American Book Company, 1937).

7. <u>On school books</u> Charts and school books to be uniform.
8. <u>On the manner of teaching</u> Instruction must be given simultaneously to all pupils of the same class. The teacher should take special care that all pupils read together. He will punctually conform to directions given in books on method. . . .[1]

In the dame schools of the early eighteenth century in America, the classes were quite small and teaching was individual. There were no classes in the sense that children were grouped for instruction, and each child received an average of 20 minutes of instruction per day. The age range of pupils was from three to ten.

Beginning of Mass Education

An innovation in education which had much to do with the advancement of mass education took place in England under Bell and Lancaster. This was the institution of the monitorial system. In schools operated under the monitorial system, the schoolmaster would teach a lesson to a group of older boys, who would then teach the lesson to a smaller group. In addition, monitors were used to perform many other functions within the school. These included checking attendance, ruling paper, guarding books and slates, watching the wardrobes, and examining and promoting pupils.

The monitorial system, as reported by Goodlad and Anderson, pointed up the waste of tutoring methods and called attention to the merits and problems of group

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[1]Elwood P. Cubberley, <u>Readings in the History of Education</u> (Boston: Houghton-Mifflin Company, 1920), p. 477.

instruction.[1] Following the success of the monitorial
schools in England, such schools were widely advertised,
instituted, and acclaimed in the United States.

Recognition of the advantages of grouping for instruc-
tion is shown in Cubberley's quotation from the course of
study in Providence, Rhode Island, in 1800: "The Scholars
shall be put into separate classes, according to their sev-
eral improvements, each sex by themselves."[2]

Cubberley pointed out that although the above arrange-
ment was ungraded in character, the beginning of a grading
of schools nevertheless was evident.

Beginning of Grading in America

Drake viewed the beginning of a graded elementary
school as dating from 1818. At that time, children were
being admitted into the English Grammar School in Boston from
the primary school. These schools were being taught by one
teacher in a one-room school building. The primary school
itself was organized into six classes. These began with the
learning of A B C's and provided elementary instruction in
reading and writing.[3]

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[1]John I. Goodlad and Robert H. Anderson, The Nongraded
Elementary School (Rev. ed.; New York: Harcourt, Brace and
World, Inc., 1963).

[2]Elwood P. Cubberley, Public Education in the United
States (Rev. ed.; Boston: Houghton Mifflin Company, 1934),
p. 301.

[3]William Drake, The American School in Transition
Englewood Cliffs, New Jersey: Prentice-Hall, 1955).

By 1823, the English Grammar School was divided vertically into reading and writing schools. Cubberley saw the division of the reading school into four classes at this time as the real beginning of pupil classification and grading. He listed the four classes as:

    Lowest: Reading, spelling accentuation
    Second: Same, and grammar memorized
    Third: Same, and grammar learned
    Highest: Same, and geography.[1]

This general pattern of organization prevailed until about 1848. There was an increasing tendency toward grading as new schools were constructed.[2]

Cubberley viewed the next step in the evolution of the graded school as the division of each school--the primary, the intermediate, and the grammar--into classes. He said that this process began at least by 1810. This beginning is attributed to the employment of assistant teachers, known as "ushers," to help the "master," and a usual provision of small recitation rooms, off the main large room. These were for the use of the ushers in hearing recitations.

The third and final step, as seen by Cubberley, in the evolution of the graded system was the construction of larger schools with smaller classrooms, or the subdivision of larger rooms. Separate, independent, and duplicate schools on each floor were changed into part of one school building.

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[1]Cubberley, op. cit., p. 306.

[2]Frank P. Graves, A Student's History of Education (Rev. ed.; New York: Macmillan Company, 1936.

When the pupils were sorted and graded and their instruction outlined by years, the class or grade system was at hand.[1]

Horace Mann and Prussian School Organization

Horace Mann, as Secretary of the Board of Education of Massachusetts, had tremendous impact on the shaping of the course of American education. In the opinion of most authorities consulted, the greatest impetus to the movement for grading schools came as a result of his Seventh Annual Report for the year 1843. Mann was greatly impressed by his observations of Prussian schools. He advocated the adoption of many of their features by schools under his jurisdiction. The parts of this Report bearing on his recommendation follow:

> The first element of authority in a Prussian school, and one whose influence extends throughout the whole subsequent course of instruction, consists in the proper classification of the scholars. In all places where the numbers are sufficiently large to allow it, the children are divided according to ages and attainments; and a single teacher has the charge only of a single class, or of as small a number of classes as is practicable. I have before averted to the construction of the school houses, by which, as far as possible, a room is assigned to each class, and to have talent and resources sufficient properly to engage and occupy its attention, and we suppose a perfect school.
> . . . All these difficulties [distraction, idleness, disorder] are at once avoided by a suitable classification as enables the teacher to address his instructions at the same time to all the children who are before him, and accompany them to the playground, at recess or intermission, without leaving any behind who might be disposed to take advantage of his absence. . . . There

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[1]California State Department of Education, Bureau of Educational Research, Age and Grade Placement of Pupils in California Public Schools, April, 1960 (Sacramento: State of California Printing Office, 1964.

is no obstacle whatever. . . to the introduction at once, of this mode of dividing and classifying scholars in all our large towns.[1]

In the case I am now to describe, I entered a classroom of sixty children about six years of age. . . .[2]

Compare the above method with that of calling up a class of abecedarians, or what is more common, a single child. . . .[3]

The Quincy Grammar School

Most often cited as the model for city schools for the next half century was the opening of the new Quincy Grammar School in Boston in 1848, under the principalship of John Philbrick. This school was organized after the German model described by Horace Mann. A separate room was given to each teacher. There were enough pupils in the building in enough rooms to provide for a good classification, and there was an assembly hall large enough to seat all pupils enrolled in the building. Cubberley felt that this school, more than any other single influence, stimulated the graded classroom form of school organization.[4]

The next step in Boston came in 1854, when the separate control of the infant, or primary schools, was abolished, and the principal of the new type of grammar schools was also

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[1]Horace Mann, Annual Reports of the Secretary of the Board of Education of Massachusetts for the Years 1838-1844. Report for 1843 (Boston: Lee and Shepard Company, 1891), pp. 302-303.

[2]Ibid., p. 304.

[3]Ibid., p. 308.

[4]Cubberley, op. cit.

made supervising principal for the primary schools of his
district. Graves remarked that at this point, the present-
day, eight-year elementary system, with a teacher for each
grade, became complete.[1]

Spread of Graded School Organization

The period of 15 to 20 years following the Boston
developments was one of rapid spread of the ideas underlying
the graded elementary school. With the increase in mass
education, a form of organization was needed which would
replace a basically tutorial system. Educational historians
consulted are in general agreement that grading of the
schools was a definite step toward better organization.
Harris, in tracing the development of the graded school,
stated that a skillful teacher can make a recitation to an
entire class of 20 or 30 pupils of even grade advancement far
more instructive than a tutor can to one pupil. He also
pointed out that each teacher in a well-graded school can
teach twice as many pupils as can a teacher in an ungraded
school.[2]

Cook and Clymer pointed out that this graded school
and its extension to the upper age levels were "conceived
and established in the faith that all men were created
equal. The early designers of the graded school had little

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[1]Graves, op. cit.

[2]Smith, Winship, and Harris, op. cit.

knowledge of the nature and extent of individual and trait differences."[1]

Cubberley also emphasized that the early graded school "dealt with all children as though they were approximately alike in ability to partake of what the school had to give."[2]

It is of interest to note, as Monroe observed, that none of the students of the German system of the period reported or advocated any fixed system. He named Stowe, Mann, Gricom, Bach, and Ryerson.[3] The issue of advocacy comes into dispute from a number of other sources which credit and, in many cases, commend Horace Mann for his advocacy of graded organization.

In contrast to the Boston arrangement previously described, there was no uniformity in any one region, state, or type of school even after the Civil War. Monroe reported that in 1867 the actual number of grades in Ohio varied from two to nine. In most Ohio communities, four or five grades were favored. In New York, in 1853, the primary department was divided into six classes. The first worked with alphabet cards, and the sixth studied "Webb's Reader No. 3,

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[1]Walter W. Cook and Theodore Clymer, "Acceleration and Retardation," in Individualizing Instruction. Sixty-First Yearbook of the National Society for the Study of Education, Part I. (Chicago: University of Chicago Press, 1962), pp. 179-208.

[2]Cubberley, op. cit., p. 519.

[3]Paul Monroe, An Encyclopedia of Education. Vol. III. (New York: Macmillan Company, 1912).

Pearson's <u>Speller and Tables</u>, Monteith's <u>Geography</u>, and
ciphering through division."[1]

Both Harris and Monroe credited the institution of
the "union" school as a factor in expansion of the graded
system. This allowed two or more local government units
to form a legal unit for school control, and tended to bring
larger groups of children together for schooling. Harris
felt that this led to another important development:

> When the villages began to catch the urban spirit
> and establish graded schools with a full annual session,
> there came a demand for a higher order of teacher--the
> professional teacher, in short.[2]

The Normal School

The longer school year and the changing conception
of the teacher were factors which encouraged the growth of
the normal school. By 1870, large numbers of normal schools
were established, and, in the opinion of Cook and Clymer,
contributed greatly to the growth of the graded school move-
ment. Graduates of eighth grade who wanted to become teachers
were admitted and were taught techniques of mass instruction.
Cook and Clymer reported:

> . . . They were instructed regarding procedures,
> techniques, and materials which were to be learned by
> pupils at certain specified grade levels. What the
> normal school graduate lacked in educational theory and
> understanding of child development and individual dif-
> ferences, he made up in the surety with which he knew

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[1]<u>Ibid</u>.

[2]Smith, Winship, and Harris, <u>op. cit</u>., p. 73.

<u>what was to be done</u> and <u>what was to be taught</u> at each level in the graded school.[1]

Normal school training, which places such emphasis on the correct place for a graded class and the individual member of such a class to be at any given time, was closely related to textbooks, and to the virtue of precise courses of study.

Graded Courses of Study

Reisner traced the development of courses of study under the graded system as one of increasing prescription. In the beginning, the courses of study merely named the books to be studied and indicated the number of pages to be covered in a month or a term. From textbook paging, there was a gradual shift to topical organization. As detail increased, the course of study came to constitute a substantial volume, as it still does today. In its later form, the course of study was described by Reisner in this way:

> The stint to be accomplished by each class each month or term was clearly designated and it was the teacher's business to see that the pupils covered the ground, learned the expected facts, and were prepared to pass an examination at the close of each academic period for promotion to the next highest class.[2]

Textbooks

Graves emphasized that with the emergence of the graded school as a dominant organizational form after the

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[1]Cook and Clymer, <u>op. cit.</u>, p. 180.

[2]Edward H. Reisner, <u>The Evolution of the Common Schools</u> (New York: Macmillan Company, 1930), p. 426.

middle of the nineteenth century, there was a great increase

in number of textbooks. The textbooks that were produced

were graded and improved during this period.[1] The publishers

of the post-Civil War period met demands of the schools by

turning out series of readers, spellers, arithmetics, and

other textbooks which corresponded to the more exact classi-

fication of pupils.

The inadequacy of the teaching personnel, the increas-

ingly prescriptive courses of study, and the growing influence

of the textbook publishers all tended to make school experi-

ence mechanical. In summarizing the educational scene of

the era, Reisner said:

> From the lowest grade to the highest, the pupils
> followed an endless secession of book learnings which
> they had learned out of hand to reproduce on call. The
> chief end of pupils was to master skills and learn facts
> as directed by a teacher who was in turn under the auto-
> matic control of a printed course of study, a set of
> textbooks, and the necessity of preparing her class to
> pass certain examinations on the contents of a specific
> number of printed pages.[2]

Historical Components of
Graded Organization

In reviewing the initiation, development, and wide

acceptance of graded elementary school organization in the

United States, certain components underlying it may be said

to be evident:

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[1]Graves, op. cit.

[2]Reisner, op. cit., p. 427.

1. Children are divided and classified according to age and attainments with a teacher having a single grade or as few grades as possible within a class.

2. Graded organization is seen as making efficient use of teacher time, in that the class is taught as a whole; the teacher teaches the same thing to all the children in the class at the same time.

3. The course of study is carefully planned to detail for each grade. Graded series of textbooks are used. The text for a given grade is used in that grade.

4. Children are seen as making a set rate of progress throughout the course of study. The rate of progress in each grade is determined by experience as one which is suitable to the majority of normal children in each grade.

5. Children are

6. Grade levels signify definite levels of achievement.

7. Achievement range is controlled by promotional policy.

8. Individual differences are to be reduced as much as possible within each classroom.

Criticism of Graded School Organization

The graded elementary school was a part of its time. The questioning of this form of school organization began long before the present day. Goodlad and Anderson quoted Shearer as observing in 1899 that by 1870 "the pendulum had swung from no system to nothing but system."[1]

Monroe, in describing the graded school in 1912, was concerned by the practice that set the rate of learning of subject matter as that which experience showed to be

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[1]Goodlad and Anderson, op. cit., p. 49.

suitable for the majority of normal children. In his opinion, consideration of the individual pupil tends to produce criticism of the graded system.[1]

Probably the most eloquent and widely quoted critic of the graded school in the latter part of the nineteenth century was Charles W. Eliot, President of Harvard University. In a speech to the National Education Association Convention in 1892, he made the following observations:

> Let us consider in some detail the undesirable uniformity in schools. The graded school of large towns and cities will supply our first illustration. In any room of a perfectly graded grammar school we find, in the fall, a single class of from forty to sixty children who are supposed to have had the same preparation for the coming year's work; who have had the same lessons, in the same books, at the same times, under the same teacher, throughout the year; who are to make as nearly as possible the same progress every day in each subject, and to submit to the same test at the same intervals. . . .
> The bright ones never work to their utmost and are frequently marking time; the slow ones are urged forward at a rate which drives some of them to despair; and the ideal of the class is that of equal preparation, equal capacity, equal progress, and equal attainments. If, at the beginning of the year, the children are obtrusively unequal in capacity or attainments, it is an inconvenience to be regretted. . . .
> In my opinion, the right aims in any room of a primary or grammar school, are to recognize at the beginning of the year, as promptly as possible, the different capacities and powers of the children; to carry them forward, throughout the year, each at his own gait and speed; and to turn out at the end very much more different in capacity and attainments than they were at the beginning.[2]

There were a number of spoken and written criticisms of graded school practices along the lines cited. Cubberley

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[1]Paul Monroe, _Founding of the American Public School System_ (New York: Macmillan Company, 1940).

[2]Cubberley, _op. cit._, p. 134.

noted that the results of uniform and average courses of study on both slower and more capable children were found to be "uniformly bad."[1]

Modifications of Graded Organization

Perhaps the most convincing criticisms were those actions which were taken by those who had no intent to attack the system. These were the series of attempts to adjust children to the system. The earliest of these attempts to remedy conditions by special adjustments was that of employing an assistant teacher to coach the backward child. This was formally known as the Batavia Plan, initiated in New York. North Denver reversed the approach by employing assistants to work with bright children.

The Pueblo Plan

This plan, initiated by Search in Pueblo, Colorado, in 1888, was a basic departure from the tenets of the graded school, in that each pupil followed a differentiated track of a multiple track system. Frederic Burk, at the San Francisco Normal School, extended the Pueblo Plan. He retained grades, but had no grade failures, and divided the work into units. Children completed units within a subject at irregular rates, were tested on them, and then moved to the next unit. The grade in which a child worked denoted little more than his year in school, and again, was a

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[1]Ibid., p. 521.

major modification from the meaning of grades as generally
understood.

Cambridge Plan

A plan which placed major emphasis on pushing the
bright child ahead was the Cambridge Plan. In this arrange-
ment there were two parallel courses. In one course, a
child completed the elementary curriculum in six years; in
the other, eight years. Both courses covered the same cur-
riculum, but at different rates. In Santa Barbara, Cali-
fornia, and Baltimore, Maryland, the Cambridge Plan was
itself varied by the introduction of three parallel courses.
In this variation, children went through elementary school
at the same rate, a grade per year, but slow, average, and
gifted children covered varying amounts of curricular
ground. Components of graded organization were thus applied
within each classification of children, rather than to the
set of all children of a given age or grade classification.
Transfer from one group or classification to another was
relatively easy.

Special Classes

A persistent view of children who did not achieve
at as fast a rate as the accepted average was that with a
longer exposure, or with special help, or with smaller
classes, such children could achieve at the normal rate.
As Brubacher remarked:

Perhaps the most widely adopted scheme since the turn of the century has been one that left any conventional graded system relatively untouched. Treating flexibility of promotion more as ad hoc problem it plucked out the victims of the system here and organized them into special classes. These classes have gone by a variety of names; "ungraded classes," "opportunity classes," and the like.[1]

The Dalton Plan

In 1919, under the leadership of Helen Parkhurst, the Dalton Plan was introduced. This was an even greater departure from previous practice, in that class organization was sacrificed. The major feature of this plan was its emphasis on individual instruction. Pupils managed their own time. They accepted responsibility to master fixed units of subject matter.

Winnetka Plan

Related to the Pueblo Plan was the Winnetka Plan, initiated by Carleton Washbourne in 1919. The curriculum was divided into common essentials and group activities. Contrary to grade organizational theory, it was anticipated that students would move at their own rate without grade lines. Here again the emphasis was on individual instruction and progress. There was no skipping or failing. Grades represented years in school. Units of achievement replaced units of time.

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[1] J. S. Brubacher, A History of the Problems of Education (New York: McGraw-Hill Book Company, 1947), p. 400.

Platoon School

A popular innovation during the 1920's was the institution of the platoon school. The departmental unit was of great importance. Pupils moved to various teachers for instruction in different subjects. Except for the change in teachers during the pupil's day, this did not represent any significant departure from graded structure. In fact, its emphasis on subject-matter content by specialists on a strict time basis was quite consistent with traditional components.

Promotion Policies

W. T. Harris, a strong advocate of graded school organization, recognized that students did tend to progress at rates faster or slower than average. In 1880, he introduced semiannual and quarterly promotion in the schools of St. Louis. This allowed both retention and accelerated promotion in smaller segments, which would produce more homogeneous classes. It also encouraged the basic graded approach to meeting individual differences to be applied in smaller steps and with greater precision.

A modification which violated some basic graded components was that of automatic or "social" promotion. In this practice it was realized that not all children could meet grade standards. A large body of research cast doubt on the value of repeating a grade for another year. In fact, the bulk of the evidence indicated that promoted students of

the same achievement learned more in the next grade than those who had been retained. There is also evidence that retention does not reduce the range of achievement within a grade. Research on social, psychological, and school attitudinal results of retention has also cast doubt on the practice. In a speech at the California Association for Supervision and Curriculum Development Convention in San Francisco in November, 1962, Goodlad reported that the greatest determinant of promotion or retention of a student of a given ability and achievement was the accident of school location. A report of the California State Department of Education on age in grade in 1960 supported this view. In the third grade that year, 15 per cent of California children were more than a year overage, but in Fresno County, 33 per cent of third grade boys and 22.2 per cent of girls were overage. That retention is still widely practiced is evident from the report that age of third graders in May, 1960, ranged from six years, six months to fifteen years, six months.[1]

In 1960, Shane reported on a survey of 183 school districts in regard to changed practices during the preceding decade. He found that two-thirds of the superintendents rejected completion of academic requirements as the sole criterion for advancement to a higher grade. They also tended to believe that progress rates through the grades

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[1]California State Department of Education, Bureau of Educational Research, op. cit., p. 5.

should be based on individual ability and effort rather than conformance with group standards. Their view of grade repetition was consistent, in that it was regarded as desirable for few elementary children to repeat a grade. Contrary to the beliefs expressed, however, was the finding that 10 to 20 per cent of the children in what Shane called the "general leadership" schools were already repeating one of the six elementary grades during the 1950-1960 period.[1]

Dual Progress Plan

A Ford Foundation project under the auspices of New York University and several New York school systems is the Dual Progress Plan. In this arrangement, the pupil's day is divided into graded and nongraded segments of roughly equal time. The graded segment consists of language arts and social studies, and is under the supervision of the homeroom teacher. Grades one and two are graded all day, and the dual progress involves grades three through nine. A child is assigned to classes in the nongraded segment on a basis of interest, aptitude, and achievement. His rate of progress does affect his grade status, such as a "fifth grader."

Stoddard described the grade in the Dual Progress Plan in these words:

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[1]Harold G. Shane, "Elementary Schools Changed Only a Little During Fabulous Fifties," The Nation's Schools, LXV (April, 1960), 71-73, 146-148.

Generally, a pupil's grade standing, which is an all-around maturity concept, would be determined by his home teacher, but he would be free to pursue avidly a specialty according to his aptitude.[1]

Heathers and Pincus, in discussing the Dual Progress Plan in mathematics, believed the emphases were on depart-mentalization, ability grouping, and a nongraded mathematics curriculum emphasizing continuous progress without the grade barriers.[2]

Nongraded Schools

Clymer, in a discussion of school organizational plans, saw many forms of appraisal of new and old plans. He pointed out that many of the new plans are revivals of old plans. In his view, organizational plans seem to have little to do with pupils' achievement when examined in relationship to the quality of the instructional program. In discussing graded school organization, Clymer stated: "Our concepts of grade level, always unwieldy and overgeneralized, are being questioned in the 'ungraded' or 'nongraded' schools."[3]

Complete removal of grades as a basis for school organization, standards of achievement, pupil classification,

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[1]George D. Stoddard, "The Dual Progress Plan," School and Society, LXXXVI, pp. 351-352.

[2]Glen Heathers and Morris Pincus, "The Dual Progress Plan in the Elementary School," The Arithmetic Teacher, VI (December, 1959), 302-305.

[3]Theodore Clymer, "New Ventures in the Teaching of Reading," The National Elementary Principal, XLIII (February, 1964), 26-30.

and curriculum planning is advocated by those who favor the nongraded school. Each of the components of graded school organization, as historically established, is denied in the nongraded school. Emphasis is upon continuous progress in learning without externally imposed standards, and emphasis is placed upon individual differences among children and the need for flexibility of school organization to provide for these differences.

Goodlad and Anderson reported that nongraded programs are most frequent in the primary division of the school, and, in their view, should include the entire elementary school program.[1] The oldest nongraded program now in effect is in Milwaukee, Wisconsin, and has been in operation since 1942. This form of school organization has been increasing in acceptance as an alternative to the graded school.

A system of Individually Guided Education is a comprehensive system of instruction designed to produce higher educational achievements through providing for differences among students in rate of learning, in learning style, and in other characteristics. IGE is more comprehensive than individualized instruction, when individualized instruction is viewed as instructional materials and equipment with little or no assistance from a teacher. In IGE, self-instructional materials or systems are simply one important kind of instructional material or medium to be used in

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[1]Goodlad and Anderson, op. cit.

instructional programming for the individual. The major com-

ponents of IGE are as follows:

1. An organization for instruction and a related admin-
    istrative organization at both the building and cen-
    tral office level, collectively called the MUS-E.
    This organizational/administrative arrangement is
    designed to provide for educational and instructional
    decision making at appropriate levels; open communi-
    cation among students, teachers, and administrators;
    and accountability by educational personnel at var-
    ious levels.

2. A model of instructional programming for the indi-
    vidual student, and related guidance procedures,
    designed to provide for differences among students
    in their rates and styles of learning, level of
    motivation, and other characteristics and also to
    take into account all the educational objectives of
    the school.

3. Curriculum materials, related statements of instruc-
    tional objectives, and criterion-referenced tests
    which can be adopted or adapted by the staff of
    individual schools to suit the characteristics
    of the students attending the particular school.

4. A model for developing measurement tools and evalu-
    ation procedures including pre-assessment of chil-
    dren's readiness, assessment of progress and final
    achievement with criterion-referenced tests, feed-
    back to the teacher and the child, and evaluation
    of the IGE design and its components. This model
    can be used by school people and others in develop-
    ing their own instruments and procedures.

5. A program of home-school communications that rein-
    forces the school's efforts by generating the
    interest and encouragement of parents and other
    adults whose attitudes influence pupil motivation
    and learning.

6. Facilitative environments in school buildings,
    school system central offices, state education
    agencies, and teacher education institutions. Help-
    ful in producing these environments are: (a) a
    staff development program which includes in-service
    and campus-based educational programs to prepare
    personnel for the new roles implied by the other
    components outlined above; (b) state networks com-
    prised of the state education agency, local school

systems, and teacher education institutions to
demonstrate, install, and maintain IGE schools
and components; and (c) within-state leagues or
other networks of local school systems and support
agencies to generate new ideas and secure consultant
help.

7. Continuing research and development to generate
knowledge and to produce tested materials and pro-
cedures. The primary elements here are development
and development-based research to refine all the
IGE components and research on learning and instruc-
tion to generate knowledge that will lead to improved
second generation components or their replacements.
Each school building must engage in practical
research in order to design, implement, and evaluate
instructional programs for individual students.

Klausmeier, Morrow, and Walter indicated that the

nongraded I & R unit replaced the age-graded, self-contained

classroom. Research is included in the title to reflect the

fact that the staff must continuously do practical research

in order to devise and evaluate an instructional program

appropriate for each child. Actual practices vary from the

prototype to take into account local conditions.

The main function of each unit is to plan, carry out,

and evaluate as a hierarchical team, instructional programs

for the children of the unit. Each unit engages in some

on-the-job inservice education. Some units plan and conduct

research and development cooperatively with other agencies,

and some are involved in preservice education.

The instructional program for individual students is

planned and carried out by the unit staff cooperatively.

Similarly, developing instructional methods and materials

or carrying out a research project are cooperative activities.

The unit usually has consultants from the central office or elsewhere to assist staff members with planning.

The IIC

At the second level of organization is the building Instructional Improvement Committee, a new organization that became possible in 1967, when the first entire school buildings were organized completely into units.

The four main functions for which the IIC takes primary initiative are: stating the educational objectives and developing the educational program for the entire school building; interpreting and implementing district-wide and school-wide policies that affect the educational program of the building; coordinating unit activities to achieve continuity in all curriculum areas; and arranging for the use of facilities, time, material, etc., that the units do not manage independently. The IIC thus deals primarily with development and coordinating functions related to instruction.

The SPC

Substantial changes are required to move from the self-contained classroom concept to that of the unit and the IIC. The System-Wide Policy Committee, or SPC, at the third organizational level, was created to facilitate this transition. Four decision-making and facilitative responsibilities for which the System-Wide Policy Committee takes primary initiative are identifying the functions to be performed in the MUS-Es of the system, recruiting personnel for each

school and arranging for their inservice education, provid-
ing instructional materials, and disseminating relevant
information within the system and community.

IGE has evolved over a six-year period, with the
organization-administration elements conceptualized and intro-
duced first. There were 131 I & R units in ten school build-
ings in Wisconsin in 1965-1966; in 1970-1971 there were 283
units in 99 MUS-E schools in Wisconsin, and an estimated 65
MUS-Es in other states. Less than 5 per cent of the units
that were formed in Wisconsin during the five-year period
were discontinued, and not a single MUS-E with an IIC has
reverted to the prior pattern. The MUS-E is judged to be
sound conceptually and economically attractive so as to
become functional under a wide variety of school conditions.

The organizational-administrative specifications
related to specialization of tasks, cooperative planning
and open communication among teachers and administrators,
decision making at appropriate levels in the school system,
nongrading of students, and related phenomena have been
attained. Higher student achievement is occurring where the
curriculum component in reading has been incorporated into
smoothly functioning MUS-Es. IGE practices in early I & R
units generally resulted in dramatic increases in student
achievement over a short time interval. By 1975-1975 the
children who entered kindergartens of the first MUS-Es will
be completing their seventh year of schooling. By 1976 some
will have experienced individual programming in reading and

other curriculum areas for most of their elementary school
years. More definitive answers regarding student achieve-
ments and other characteristics will be available at that
time.

Concepts, Theories, and Practices Related to the Individualization of Instruction

Two of the more recent publications in this category
are Individualizing Instruction,[1] The Sixty-First Yearbook
of the National Society for the Study of Education, Part I,
and Individualizing Instruction,[2] the 1964 yearbook of the
Association for Supervision and Curriculum Development.

The Sixty-First Yearbook of the National Society
for the Study of Education, Part I, was used by the writer
as a primary source of information during a critical period
of the investigation. It included a rationale for the dif-
ferentiation of instruction, as well as principles and pro-
cedures which were useful in the development of the individual-
ized instructional program for the experimental group. Some
of the ideas gained from reading this book, which helped to
provide both direction and dimension to the study, are
summarized below:

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[1]Fred T. Tyler, et al., Individualizing Instruction,
The Sixty-First Yearbook of the National Society for the
Study of Education, Part I (Chicago, Ill.: The University
of Chicago Press, 1962).

[2]Ronald C. Doll, ed., Individualizing Instruction,
ASCD Yearbook (Washington, D. C.: Association for Super-
vision and Curriculum Development, 1964).

1. There is a need in education for a reasonable com-
   promise between totally individualized instruction,
   with the consequent necessity of finding an individ-
   ualized "occupational niche" for each person, and
   the adoption of some practical standards of educa-
   tion and occupation which may be wasteful of some
   human capacities, but will be easier to implement
   in a complex, modern society.[1]

2. A group will be better fitted to deal with unfore-
   seen and unusual situations if it has developed a
   tolerance for disagreement.
       . . . This tolerance for disagreement is a
   function of individuals being willing by habit to
   invite the opinions of others, even when those
   others are of lesser "rank"--are presumed to be of
   lesser experience, training and ability to con-
   tribute to a decision.
       . . . In order to have "tolerance of disagree-
   ment" there must be disagreement. It is one thing
   to habituate students to be attentive to others, to
   be polite, to refrain from interrupting, but it is
   quite another thing to stifle objection by suggest-
   ing that politeness calls for saying that every
   opinion proffered is sound. A gentle critic is no
   less a critic.[2]

3. The use of the developmental approach in education
   commits the school to the recognition of individual
   differences, and to an educational program which
   includes provisions for:
   a. varied rates of pupil progress
   b. marking and reporting progress with respect
      to the child's particular developmental
      characteristics as well as assumed norms or
      standards
   c. the use of subject matter which has both
      meaning and importance for the learner
   d. pupil progress based, not on a grade-level
      concept, but on the idea of a continuum of
      cumulative experience along which each child
      moves in his own special way
   e. program enrichment and related school
      activities which are open to all students
   f. the use of flexible grouping plans rather
      than the use of one grouping plan exclusively

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[1]Garrett Hardin, "Biology and Individual Differences,"
in Tyler, et al., op. cit., pp. 11-24.

[2]Robert H. Beck, "Society and Individual Differences,"
in Tyler, et al., op. cit., p. 42.

g. a staffing arrangement which makes it possible for each child to be well known by at least one "faculty member-counselor" at a given time

h. continued reliance on the human element rather than instructional aids in the teacher-learning process.[1]

4. The school should have (a) a structure and organization which makes it easier to see individual needs, and (b) large curriculum units, rather than extremely segmented courses, to take care of individual differences.[2]

5. The individualization of instruction includes all steps taken to meet the particular needs of individual pupils.

. . . These steps will sometimes involve the selection and organization of content, but they will include as well, the creation of situations in which pupils will work and be considered both as individuals and as members of groups. In no sense should "individualization of instruction" be equated with "individual teaching" or tutoring. Realistic adjustment to differences within a classroom requires that both group and individual instruction be carried out. . . .[3]

6. The success of a program is dependent upon the careful planning and hard work of the teacher.

. . . The teacher is the key to curricular and instructional provisions. Material centers, time blocks, small classes, scheduling, grouping, curriculum guides, and audio-visual aids are only devised to facilitate teaching. None of them alone will produce desirable changes in students. Only as the teacher utilizes the resources available to him in organizing his class and carrying out an instructional program adjusted to the needs of students can we hope to make programs in developing the potential of the students in the public schools.[4]

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[1]Harold G. Shane, "The School and Individual Differences," in Tyler, et al., op. cit., pp. 44-61.

[2]Fred T. Wilhelms, "The Curriculum and Individual Differences," in Tyler, et al., op. cit., pp. 62-74.

[3]Theodore Clymer and Nolan C. Kearney, "Curricular and Instructional Provisions for Individual Differences," in Tyler, et al., op. cit., p. 268.

[4]Ibid., p. 282.

Individualizing Instruction

The 1964 yearbook of the Association for Supervision
and Curriculum Development was published after the conclusion
of the experiment outlined above; but it should be helpful
to others who wish to make some provision for the individual-
ization of instruction in the classroom.

The Yearbook Committee expressed the belief that the
chief object of individualization is the release of potential
in the individual learner, and said:

> . . . The most helpful orientation that an educator
> can hold toward discovering, developing, and releasing
> human potential is openmindedness concerning each
> learner's potential, together with a sense of obligation
> to help each learner realize his potential, which is in
> conformity with his own best interests and with social
> ideals.[1]

The process of human development and the conditions
which foster it, the importance of the pupil's self-image,
and factors affecting teacher-pupil relationships were pre-
sented in the introductory chapters of the yearbook. In
subsequent chapters the use of subject matter in releasing
human potential, practices which foster individualization in
the classroom, and the effect of environment on the personal
fulfillment of the learner were described. Finally, the
roles of supervisors and administrators in (1) helping
teachers discover and develop potential in their pupils, and
(2) facilitating discovery and development of potential in
the teachers themselves were presented by a panel of

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[1]Robert F. DeHaan and Ronald C. Doll, "Individualiza-
tion and Human Potential," in Doll, op. cit., pp. 13-14.

discussants which included representative members of the yearbook committee and public school administrators.

Another major source of information with implications for the individualization of instruction was Tyler's The Psychology of Human Differences,[1] a compendium of research on individual differences among children and adults. In this book the author presented new information obtained from research since World War II, and pointed out trends in current studies related to individual differences.

In Chapter 15 of Children Learn to Read,[2] Russell described the nature of individual differences among school children with reference to reading abilities, and suggested a variety of ways in which the classroom teacher may provide for these differences in reading instruction. Two other books, written somewhat in the style of a teacher's handbook, which presented practical methods for individualizing instruction in the primary and intermediate grades, were (1) Providing for Individual Differences in the Elementary School[3] by

[1]Leona Tyler, The Psychology of Human Differences (2nd ed.; New York: Appleton-Century-Crofts, Inc., 1956).

[2]David H. Russell, Children Learn to Read (2nd ed.; Boston: Ginn and Company, 1961), pp. 489-525.

[3]Norma E. Cutts and Nicholas Moseley, Providing for Individual Differences in the Elementary School (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960).

Cutts and Moseley and (2) <u>Educator's Guide to Personalized</u>
<u>Reading Instruction</u>[1] by Barbe.

Many other books and articles in professional jour-
nals contained material which was pertinent to the subject
of individualized instruction; but they are not included in
this review, either because they presented concepts,
theories or they belonged to a larger category of profes-
sional literature dealing with methodology and having appli-
cation in any teaching situation.

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Reports on Experiments Involving
Individualized Instruction

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Experiments in Individualized Reading

Despite widespread interest in the adaptation of
instruction to individual needs, a relatively small number
of valid research dealing with the techniques and effects
of such instruction have been reported to date. The majority
of these dealt with the individualization of instruction in
reading.

Kaar, in 1951, was one of the first to attempt an
evaluation of an individualized reading program.[2] Using 197
third-grade pupils in Pittsburg, California, who received

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[1]Walter B. Barbe, <u>Educator's Guide to Personalized</u>
<u>Reading Instruction</u> (Englewood Cliffs, New Jersey: Prentice-
Hall, Inc., 1961).

[2]Harold W. Kaar, "An Evaluation of an Individualized
Method of Teaching Reading in the Third Grade" (unpublished
Doctoral dissertation, University of California, Berkeley,
1951).

instruction in an individualized reading program, as the experimental group, and 99 third-grade pupils in Martinez, California, who were instructed in reading groups, as the control group, he compared the reading gains of the experimental and control groups during a period of six months. The results of the investigation showed that the control group exceeded the experimental group in comprehension by six to eight months; and the control group also exceeded the experimental group in vocabulary by eight to nine months.

From the viewpoint of the teachers and administrators in Pittsburg, however, the children in the individualized program developed better study skills, read more books, and comprehended better than they had under their previous methods of instruction. The teachers reported that the individualized program required less time for preparation and was easier to teach.

Cyrog (1959),[1] Duker (1957),[2] and McChristy (1957),[3] found that pupils who received individualized instruction made greater progress in reading vocabulary and reading

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[1]Frances Cyrog, "The Principal and His Staff Move Forward in Developing New Ways of Thinking About Reading," California Journal of Elementary Education, XXVII (February, 1959), 178-182.

[2]Sam Duker, "Research Reports: Effects of Introducing an Individualized Reading Approach by Student Teachers," Reading in Action, December, 1957, pp. 59-62.

[3]Antoinette McChristy, "A Comparative Study to Determine Whether Self-Selection Reading Can Be Successfully Used at Second Grade Level" (unpublished Master's thesis, University of Southern California, Los Angeles, 1957).

comprehension than those who were instructed in groups. From the viewpoint of teachers and administrators involved in these experiments, the children in individualized programs developed better study skills, read more books, and comprehended better than the children who received group instruction.

In all studies previously reported in this thesis, the term "individualized reading" was used to denote a particular type of reading instruction, which Johnson defined in this way:

> Essentially, individualized reading is a new organization of the reading program in which pupils read independently rather than in organized groups, with books (trade books), chosen by the pupils having a different book instead of all pupils having the same book.[1]

Other studies by Safford,[2] Sartain (1960),[3] Bohnhorst and Sellers (1959),[4] and Rothrock[5] showed inconclusive results, or no advantage for individualized reading instruction.

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[1]Elearnor M. Johnson, "Individualized Reading," Curriculum Letter, No. 35 (Middletown, Connecticut: Wesleyan University).

[2]Alton L. Safford, "Evaluation of an Individualized Reading Program," The Reading Teacher, XIII (April, 1960), 266-281.

[3]Harry W. Sartain, "The Roseville Experiment With Individualized Reading," The Reading Teacher, XIII (April, 1960), 277-281.

[4]Ben A. Bohnhorst and Sophia N. Sellars, "Individual Reading Instruction vs. Basal Textbook Instruction: Some Tentative Explorations," Elementary English, XXXVI (March, 1959), 185-186.

[5]Dayton G. Rothrock, "Heterogeneous, Homogeneous, or Individualized Approach to Reading?" Elementary English, XXVII (April, 1961), 233-235.

A number of studies showing positive results for individualized reading were analyzed. Some of them were "experiences" rather than "experiments," but they provided further information which is needed for objective appraisal of this type of reading instruction.[1]

Other investigators have used the term "individualized reading" to refer to various kinds of personalized reading instruction. To interpret the following studies accurately, it is necessary to note the type of personalized instruction offered in each case.

The individualized reading program described by Fowler (1960)[2] was a flexible one which permitted all types of experiences in reading, writing, speaking, and listening, small groups and individual pupils. This program was known as the RISI reading program at Northwestern Elementary Laboratory School, Northwestern State College of Louisiana. (RISI stands for Reading, Interest, Sharing, and Instruction.)

The RISI program, which continued for three years, was initiated by teachers who wanted to improve reading at the fourth-year level. It required the use of many books of different interests and of different reading levels, including

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[1]Philip J. Acinapuro, "A Comparative Study of the Results of Two Reading Programs--An Individualized Pattern and a Three Ability Group Pattern" (unpublished Doctoral dissertation, Teachers College, Columbia University, New York, 1959).

[2]L. F. Fowler, "The RISI Individualized Reading Program," The Reading Teacher, XIV (November, 1960), 101-102.

many supplementary readers. A 70-minute block of time was used daily for the total reading program. An effort was made to keep the time equally divided among reading, sharing, and instructing.

Achievement test results and teacher observation showed that a majority of the pupils in the RISI program progressed more than 1.5 grade levels in reading each year, compared with gains of less than one grade level which were made by a majority of fourth-year pupils before the program was begun. The poor readers made the greatest progress in reading skills, as well as in personality improvement. The many types of reading experiences provided in the sharing program did much for the total development of all the pupils.

Fowler reported that the program was not a cure-all, but the pupils made more progress in the RISI program than in the basal program of former years.

Schatz (1960)[1] reported the results of another modified approach to individualized reading. This program was developed in the first grade at University School on the campus of The Ohio State University. It had several important characteristics:

1. The total class had opportunities to work together in reading.

2. Small groups met, sometimes regularly and sometimes occasionally, to read for varied and changing purposes.

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[1]Esther E. Schatz, Exploring Independent Reading in the Primary Grades (Columbus, Ohio: The Ohio State University, 1960).

3. Individual children started to read on their own as
    soon as they developed the sight vocabulary and word-
    recognition techniques needed to help them take this
    step with confidence.

Within this framework, the teachers and children had

much freedom. Pupils were encouraged to work at their own

pace when reading individually and when reading with a group.

Test results showed that the pupils in this experi-

mental class rated higher in vocabulary development, but

lower in comprehension. The lower score in comprehension

was due, perhaps, to the fact that not all members of the

class possessed the common basic vocabulary of the organized

reading program and of the test itself. Schatz believed that

other values accrued to the children in the experimental pro-

gram. She reported that: (1) they all learned to read by

the end of the year, (2) they were able to read independently

at an earlier date, and (3) they gained additional enrichment

from the sharing period.

Several kinds of reading programs have been discussed

briefly in the foregoing section. These programs differ in

many particulars, but in general they fall into three cate-

gories: (1) group instruction in basal readers, (2) individ-

ualized instruction with self-selection of materials, and

(3) instruction which combines certain features of the group

approach and of the individualized approach.

Gray, Witty, McCullough, and Stauffer attempted to

evaluate the results of studies such as these, to answer the

question: What does research say about the relative values

of these different plans? Their conclusions were similar in
many respects.

Gray emphasized that many types of reading materials
and activities are essential in developing self-reliant, inde-
pendent readers with well-balanced, diversified interests.
"This is a goal," he said, "which cannot be achieved through
the advocacy of one type of instruction, whether group or
individualized.[1]

Witty said:

It seems to us that it is idle to debate whether indi-
vidualized or group approaches are preferable. Common
sense as well as some of the studies would support the
use of both approaches in effective combinations and
not with one subservient to the other. In doing this,
we should, of course, recognize the need for the abandon-
ment of this routine basal approach in using a single
reading series; but this would not rule out systematic
instruction in which reading textbooks in various combi-
nations are used as needed.[2]

McCullough was in agreement with Witty, and stated:

In every good reading program some of the activities
should involve the whole class, some a small group, and
some the individuals. In each case, individual needs
are served, for the individual may need to share some-
thing with the whole class, learn something with the
help of others in a group, or prove that he knows some-
thing by doing it himself.
Grouping, itself, is a method of individualizing, not
a way of escaping responsibility. Six types of grouping
for reading instruction have been identified: Achieve-
ment grouping, in which a student reads with others
material which is easy enough for him to read but which
contains some challenge requiring the help of the teacher;
team grouping, in which two or more students work on a

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[1]William S. Gray, "Role of Group and Individual
Teaching in a Sound Reading Program," The Reading Teacher,
XI (December, 1957), 99-104.

[2]Paul Witty, "A Forward Look in Reading," Elementary
English, XXXVIII (March, 1961), 161.

skill together without the aid of the teacher; tutorial grouping, in which one student who knows a technique helps others who do not know it; research grouping, in which students curious about the same information seek it together in reference sources; and interest grouping, in which students having the same hobby or preference in recreational reading share ideas. In achievement grouping the teacher provides a systematic, year-long instructional program reviewing and building important skills.[1]

Stauffer provided one of the most comprehensive comparisons of individualized and group-type directed reading instruction. He reported that as early as 1888, educators were denouncing lock-step methods of instruction. He then traced the development of group-type instruction and the current trend toward individualization of instruction. He identified the boundaries of individualized instruction and of group-type directed reading, and showed how one may overlap the other. Stauffer then concluded with the recommendation that a modified basal reader approach be used.

> To do this effectively, one must drop the notion that a basic reader program in and of itself is final and sacred. It is not. Drop the notion that time can be equated with equality. Not every group must be met every day for the same length of time.

Continuing, he said:

3. The idea that a basic book recommended for a grade level must be "finished" by all pupils in a grade before they can be promoted must be discarded.
4. Teaching reading as a memoriter process by presenting new words in advance of the reading and then having pupils tell back the story must be stopped. If reading is taught as a thinking process, even short basic-reader stories will be read with enthusiasm.
5. Teachers must provide many books and allow children to make their own selections.

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[1]Constance M. McCullough, "Opinions Differ on Individualized Reading," NEA Journal, XLVII (March, 1958), 163.

6. Effective skills of word attack must be taught. Basic reading books do not provide for such skill training; neither do trade books. Such skills are presented in detail only when studybooks or workbooks are well organized. The studybooks designed to par- allel the basic reader programs should be used and the skills should be taught systematically. Teachers' manuals are not studybooks.

7. The reading program should be divided so as to allow about half of the time for each approach--a basic reader program and an individualized program. This might be done by using the group approach with basic readers for a week or two, and then the individual- ized or self-selection approach for a similar period of time. Where a pupil is free to select day after day for two or three weeks, he is almost forced to examine his interests and decide more carefully about what he wants to do.[1]

Stauffer defended his recommendations with these reasons:

1. A modified basic reader approach allows for the use of basic readers designed to develop reading-thinking skills in a group situation. The individualized reading program allows for seeking, self-selection, and pacing--with a library as the source of materials.

2. Both group and individualized reading activities provide different classroom organization. Self- selection time requires resourceful teacher-pupil planning. Structured basic reader programs provide compact, organized, systematized plans.

3. Pupil motives for reading can be activated and honored differently in both situations. Both set the stage differently so that pupils encounter reading experi- ences promoted by varied ideas, and by different materials.

4. Different skills are taught in each. The basic reader material provides the vehicle for training in purpose setting, hypothesizing, examining the facts, reaching relevant conclusions; in versatility in reading, in systematically checking comprehension and word-attack skills. Self-selection time pro- vides training in the resourceful use of skills acquired in group-directed activities of skills acquired when performing individually.[2]

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[1]Russell G. Stauffer, "Individualized and Group- Type Reading Instruction," Elementary English, XIV (October, 1960), 381.

[2]Ibid., p. 382.

Individualized Instruction
in Other Subjects

Research literature includes a few isolated studies related to the individualization of instruction in other subjects. Herman,[1] in 1963, experimented with a type of contract spelling in which the pupils promised to fulfill certain obligations in order to attain a certain grade. Eisman,[2] in 1963, concluded a three-year experiment in individualized spelling in which the children in the experimental group were permitted to take as many spelling words as they could learn each week, and to progress as fast as they were able. The control group followed the weekly lesson plan in the California State-adopted speller. At the end of three years, the children in the individualized program were working on the average from .8 to 1.5 grades higher in spelling than the children in the group program. The experimental program achieved relatively greater success with children in the third grade than with older children.

Spanga,[3] in 1960, reported success in using a refresher course in arithmetic as the basis for an individualized instructional program. Because the course covered a wide range of content at varying levels of difficulty, it

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[1]Jerry J. Herman, "Individualize Your Instruction by Contract Teaching," Clearing House, XXXVII (May, 1963), 551.

[2]Edward Eisman, "Individualizing Spelling: Second Report," Elementary English, XL (May, 1963), 529-530.

[3]Frank Spanga, "An Experiment With Individualized Arithmetic," Instructor, LXIX (February, 1960), 52, 88.

was possible to adjust assignments to the needs of individual students. Weaver,[1] in 1954, used another method for individualizing instruction. As each new concept or process was introduced, the children were encouraged to suggest and follow their own methods of attack. Then the teacher observed the levels of response, and followed through with the necessary instruction to insure each child's understanding of the subject matter.

Purported results of these and other investigations tend to show that individualized instruction is more effective in meeting pupil needs than is group instruction. There are not enough studies on individualized instruction in these subjects, however, to indicate any definite trend.

Instruction of Disadvantaged Children

In current professional literature an increasing amount of attention is being given to the education of disadvantaged children; that is, of children who, because of their socioeconomic status, their racial background, and/or other kinds of deprivation and discrimination, do not achieve as well in school as children from more favorable environments. Much of this literature has implications for the instruction of children like those in Experimental Group A, who lived in a lower socioeconomic area and belonged, for the most part, to racial minority groups.

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[1]J. Fred Weaver, "Differentiated Instruction in Arithmetic: An Overview and a Promising Trend," Education, LXXIV (January, 1954), 300-305.

Many investigators, including Bayley (1954),[1] Havighurst and Janke (1944),[2] Hollingshead (1949),[3] Milner (1951),[4] and Taba (1955),[5] found a well-established three-way relationship between socioeconomic status, intelligence, and success in school. While there are many individual exceptions, the trend is for children in the lower socioeconomic levels to make not only lower scores on intelligence tests, but also lower grades in school and lower scores on achievement tests, particularly in reading and related subjects.

Because the schools are obligated to meet the needs of all children, many schools are trying to develop programs of compensatory education which will help disadvantaged children overcome their handicaps and achieve their full potential in school. New York has initiated a number of such programs, including one which was planned especially to meet the needs of Puerto Rican students. Milwaukee has

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[1]Nancy Bayley, "Some Increasing Parent-Child Similarities During the Growth of Children," Journal of Educational Psychology, XLV (January, 1954), 1-21.

[2]R. J. Havighurst and L. L. Janke, "Relations Between Ability and Social Status in a Midwestern Community: I. Ten-Year-Old Children," Journal of Educational Psychology, XXXV (September, 1944), 357-368.

[3]August B. Hollingshead, Elmtown's Youth: Impact of Social Classes on Adolescents (New York: John Wiley & Sons, 1949), Table 6.

[4]Esther Milner, "A Study of the Relationship Between Reading Readiness in Grade 1 School Children and Patterns of Parent-Child Interaction," Child Development, XX (June, 1951), 95-112.

[5]Hilda Tabe, School Culture: Studies of Participation and Leadership (Washington, D. C.: American Council on Education, 1955), pp. 102-103.

established special classes in some schools for children of transient families. Pittsburgh, Chicago, Detroit, and Washington, D. C. are reported to have in operation programs involving some type of compensatory education; and in other schools throughout the country new measures are being taken to meet the needs of the disadvantaged child.

The Educational Policies Commission suggested certain steps which should be taken in order to improve the welfare and the education of disadvantaged Americans:

1. Discrimination should be replaced everywhere by respect for all the people whatever their social or ethnic background.
2. Employment should be available for all the people.
3. Disadvantaged children need exceptionally small classes and extra school personnel.
4. Adult education should be expanded.
5. Excellent teachers are required, and high salaries are needed to attract and retain many of the best college graduates.
6. Per-pupil expenditures for school program should be increased.
7. The Federal Government should help the state and local districts finance an adequate education for all Americans.
8. A broad base of planning as well as financing is needed because the problem of the disadvantaged American cannot be solved by treating it locally while ignoring its geographical crigins.[1]

Wolfe said that the curriculum which is planned to meet the needs of the culturally deprived should:

1. Emphasize health education; 2. improve human relations through study of all peoples and cultures; 3. widen recreational opportunities; 4. enlarge social services; 5. widen participation in group living and civic affairs; 6. extend opportunities for creating, interpreting and appreciating the beautiful; 7. improve

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[1]Educational Policies Commission, Education and the Disadvantaged American (Washington, D. C.: National Education Association, 1962), pp. 36-37.

economic stability through improved personal and voca-
tional guidance; 8. extend knowledge of the cultural
heritage; 9. offer opportunities to discover children's
talents and abilities; and 10. utilize life situations
to enlarge meanings, develop ability to think and solve
problems and generally motivate learning.[1]

Newton[2] recommended for the culturally deprived

child (a) a climate of acceptance, (b) many and varied experi-

ences, (c) a teacher who is a "model of the best in standard

English usage," (d) many opportunities for practicing standard

English usage in functional activities under teacher guidance,

(e) a continual translation of the student's idiom into

standard English, and (f) experiences which will help the

child to become aware of different levels or forms of language

usage, and to understand that some have greater social accept-

ability than others.

Sexton[3] stated that the single most important curric-

ular adjustment which could be made for lower-income children

is in reading, "because it is the basic learning skill."

She also suggested that the schools may need to abandon

grammar textbooks and provide instead a more practical type

of language instruction, such as short-form exercises adapted

to the specific language problems of the pupils.

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[1]Deborah P. Wolfe, "Curriculum Adaptations for the
Culturally Deprived," _Journal of Negro Education_, XXXI
(Spring, 1962), 143.

[2]Eunice S. Newton, "Culturally Deprived Child in Our
Verbal Schools," _Journal of Negro Education_, XXXI (Spring,
1962), 184-187.

[3]Patricia C. Sexton, _Education and Income_ (New York:
The Viking Press, 1961), pp. 256-257.

While there is no consensus as to what kind of instructional program is best for disadvantaged children, most writers agree that major changes in both curriculum and the social environment of the school are needed.

Summary

In 1934, Cubberley observed that the day of the simple, uniform school system has gone forever. True as this was in 1934, it is much more evident today as new forms of school organization are advocated, and old forms re-evaluated or reintroduced. Efforts continue within and without the profession to devise a basis of moving children through the educational enterprise from kindergarten to graduation which will provide for individual differences, sound curriculum development, be administratively feasible, gain public acceptance, and meet the criteria of enabling the school so organized to achieve the objectives of educating each child to the limits of his interests and abilities.

CHAPTER III

DESIGN OF THE STUDY

The Community

The community involved in this study uniquely encom-
passes portions of three cities, located southwest of
Metropolitan Detroit. It is a residential community of
approximately 30,000 people, with very little industrial
base and only the beginning of a significant commercial
development.

There are relatively few apartment buildings and
other rental units in these cities. The majority of the
residents own their homes. The community has been called an
upper lower to lower middle class area by those who have
lived and worked there for a prolonged period.

The School District

The community schools enroll approximately 5,000
students in a k-12 program housed in four elementary schools,
one junior high school, and one high school. The district
covers one square mile.

The district is providing generally good service to
students. However, a tax rate of five mills for operation
and debt retirement does not provide for restoration of

certain programs at the elementary level that were once in operation, e.g., full-time librarians, physical education, art, or music programs.

State grants totaling approximately $230,000 for the school year 1971-72 have made it possible for the four elementary schools to move in an innovative manner. Provisions for in-service activities and the purchase of hard and software were made possible through such funding.

All four schools are staffed with paraprofessionals who participate in in-service training in each of these schools. Three of these schools, with the exception of the experimental school, have a readiness program and remain graded in structure. Additionally, the three schools have a language block which allows teachers to work from a modified team approach. This school year marks the beginning for the three schools to qualify for funding under Section 3 of the State's comprehensive educational program study.

The experimental school used for this study has been funded through Section 3 for the past three years. A summary of the in-service education program is outlined in this chapter.

The employment of a new Superintendent of Schools during the summer of 1971 has resulted in many positive procedural changes in the Central Office Administration, and the formation of an advisory committee charged with the responsibility of evaluating plant and teaching-learning strategies for the k-12 programs.

Sample Description

It is the purpose of this study to compare two methods of teaching in the elementary school as related to achievement in reading, mathematics, and self-concept of children. Specifically, the sampling included children in grades 1, 2, and 3.

The experimental sample included children involved in an Individually Guided Education program, which is a nongraded team approach. The control sample included children in a traditional self-contained approach.

For this study, four groups were selected as the experimental, or E groups, designated as E1, E2, E3, and E4. The E group consisted of 299 students representing children in inter-age classes, ages 6-9. Traditionally, these age levels represent grades 1, 2, and 3.

The control, or C groups, were designated as C5, C6, and C7 groups. The C group consisted of 93 students in traditional self-contained classrooms representing grades 1, 2, and 3, but for purpose of this study they were grouped inter-age for data analysis only.

TABLE 1.--Numbers of participants in control and experimental groups.

	E 1	E 2	E 3	E 4	C 5	C 6	C 7
Grade 1	20	21	31	22	12	12	12
Grade 2	24	26	30	25	10	10	10
Grade 3	28	25	24	23	10	12	5
Total	72	72	85	70	32	34	27

Specifically, the children in the experimental and control groups were selected on the basis of sex, socio-economic level, and reading and mathematics achievement. An attempt was made to obtain similarity between the experimental and control groups.

Approval of the Board of Education and the Superintendent was gained after a discussion was held with them. An explanatory letter concerning the study prepared by the Superintendent of Schools was mailed to parents of student participants in the experimental and control groups. (See Appendix A.) It should be pointed out that all students in both the experimental school and the control school representing grades 1, 2, and 3 received the explanatory letter. This procedure would possibly help, in that those students chosen for the study would not consider themselves special or different.

Administration of the Instruments

The students in both the control groups and the experimental groups were to be measured in the areas of reading, mathematics, and self-concept. These tests were administered to the control and experimental groups prior to the experimental period and immediately at the termination of the experimental period. Pretests were administered during the second week of May, 1971. Posttests were administered during the second week of May, 1972. Also, a self-concept test was administered in the same manner.

The specific tests administered to the various groups are as follows:

Reading

Pretest: Metropolitan Readiness--Form F; Metropolitan Primary I Battery, Form G

Posttest: Metropolitan Primary II, Form G; Metropolitan Elementary Battery, Form F

Mathematics

Pretest: Metropolitan Primary I Battery, Form G

Posttest: Metropolitan Primary II, Form G; Metropolitan Elementary Battery, Form F

Self-Concept

Pretest: Piers-Harris Children's Self-Concept Scale--AA (The Way I Feel About Myself)

Posttest: Piers-Harris Children's Self-Concept Scale--BB (The Way I Feel About Myself)

Questionnaires designed to obtain the reactions of teachers in the experimental school using the teaching-learning strategies of Individually Guided Education were developed. These questionnaires were administered prior to the study and then at the termination of the study. Questionnaires were also designed for parents whose children were involved in the IGE school.

Specifically, the questionnaires used included:

(1) Individually Guided Education Teacher Questionnaire (Appendix B)

(2) Individually Guided Education Student Questionnaire (Appendix B)

(3) Individually Guided Education Parent Questionnaire (Appendix B)

Treatment of the Data

The data were programmed and processed by the computer at Michigan State University. The following statistical techniques were employed:

1. An analysis of variance technique was used to determine the significance of difference between mean scores of reading and mathematics scores in the experimental school and the control school.

2. An analysis of variance of pretest scores was made to determine if there was a significant difference between experimental groups and control groups in reading and math achievement.

3. An analysis of variance of posttest scores was made to determine if there was any significant difference between the experimental groups and the control groups in reading and math achievement.

4. An analysis of mean gain scores was conducted in both groups in reading and math achievement.

5. An analysis of covariance was used, adjusting initial differences in the groups.

6. Chi-square analysis of teacher perceptions, student perceptions, and parent perceptions of the experimental group school was conducted.

7. In the administration of the "What I like about myself. . ." and "What I dislike about myself. . . ," scores were averaged for each group, resulting in a mean score for both the experimental and control groups.

Experimental Group In-Service Education Program
1969-70; 1970-71 School Year

The central focus of the experimental group in-service education programs was on the development of better methods for teaching disadvantaged children with specific emphasis on IGE teaching-learning strategies.

To accomplish this goal, a number of short- and long-range tasks were identified, defined, and initiated at a series of meetings involving the experimental school staff. These meetings were held on Saturday mornings following Friday visitations in the school by outside consultants. The consultants had observed instructional procedures in their Friday visits, discussed problems and progress with individual teachers, and consulted with the principal on the development of plans for the necessary in-service activities.

The Multi-Level Reading Program

One of the essential teaching strategies of IGE is the multi-level reading program. The purpose of a multi-level reading program is to devise an instructional strategy which will insure that an elementary child is placed with other children of approximately the same _reading_ level, regardless of the child's individual _grade_ level. At the present time, examination of the common grade level structure indicated that in an individual classroom there are children reading within a wide range of grade levels. For example, in November, 1969, as part of the data gathered for this study, the Metropolitan Readiness Test was given to the

boys and girls. The scores showed that there were children who ranged from categories of "very well equipped for first-grade work" to "chances of difficulty high under ordinary instructional conditions."

The staff completed a multi-level reading program which consisted of a thorough examination of all of the reading skills to be learned, ranging from the reading readiness level to grade seven. After these skills were identified, they were carefully grouped into reading levels. These reading levels, rather than chronological age, determined how children were to be grouped. Copies of some of the reading level materials used to make these decisions are included in the appendix.

The Effective Use of the Multi-Media Approach

Significant studies of the use of multi-media approaches to teaching indicate superior gains in learning compared to gains made when media are used individually. Recognizing this, the school staff devoted an in-service session to the analysis of this approach and developed applications of the techniques to their respective class programs. In this, use was made of the overhead projector and preparation and use of transparencies, the tape recorder and its use by children as well as teachers, closed circuit television techniques, the motion picture film and the silent and sound-accompanied filmstrip, the use of the Polaroid camera to develop pictures in sequence on a given topic, and the

potential role in the future of computer-assisted instruction.

There was a distinctly discernible increase in classroom involving the use of several of the above media. For example, the Polaroid camera was widely used not only by teachers but by pupils as well, once they were trained in its usage. As the school was provided with a video taping unit, it became both a popular and valuable tool for the instructional program.

The Use of Community Resources for Classroom Enrichment

Too frequently, classroom teachers limit their teaching to those materials available within the bounds of the classroom or school. Yet, we know that a wealth of materials and other measures for teaching is to be found in the community outside the school. For example, the second grade social studies curriculum usually included study of community helpers, such as the fireman. Study in this area should include a visit to the fire station, where children can observe at first hand how firemen live, what they do in their work there, etc. Reading and talking about this are only partially effective in learning. First hand information is both possible and essential in this area.

An awakened awareness of the value of community resources in enhancing the instructional program has spurred the teachers to plan and conduct a comprehensive survey of the community. In this survey, information was gathered,

organized by subject area and by grade or learning levels.
The task was carried on by teachers and parents. Plans
call for continuous re-evaluation and revision of this file
to assure its up-to-dateness.

The Achievement of Dramatization as a
Useful Classroom Technique

Even though it is seldom used, the technique of
dramatization is extremely valuable as a tool for learning
and development. Through dramatization, students can better
develop creativity, poise, group process skills and attitudes,
communication skills, and an improved self-concept. Further-
more, greater depth in understanding can also result, partic-
ularly in the areas of the language arts and the social
studies. Numerous positive illustrations via slides and
other media were provided for teachers in the program ses-
sions dealing with this topic.

One of the best illustrations of the effects of the
above discussion was the play SPRING, presented by students
and teachers. This involved several classes working together
while the teachers planned and worked together as a team.
The success of this kind of planning encouraged the classes
to present the play to over 400 parents in a highly successful
program.

The Individually Guided Education Program (IGE)

Specifically, an IGE learning program is designed to
meet the learning needs of the individual on the basis of an

assessment of his achievement, aptitudes, and overall <u>learning</u> <u>personality</u> as these relate to his <u>learning objectives</u>. To achieve this goal, an IGE school is a "multiunit school" or has a "school-within-a-school" organizational pattern. An IGE school is differentiated staffing, nongradedness, and team teaching to produce a teaching-learning environment which is dedicated to individualizing education to the learning needs of each child--a tailor-made program for each student. Stated another way, <u>it is a school designed for children rather than having the children fit the school</u>. The goals of IGE can only be realized through a commitment from the administrators and teachers within a school. With well-prepared training materials and a trained consultant, the IGE program can be implemented successfully in a relatively short time.

The multiunit school is made up of teams or units of teachers, paraprofessionals, and inter-age groups of boys and girls. The teachers have the opportunity to decide which unit they want to be working members of, and a leader is chosen by the team membership. An instructional aide is included, who is a paid paraprofessional. It was imperative that the unit interview the paraprofessional to insure that there would be a good working relationship. Each team may include a clerical aide, whose responsibilities would be to prepare all of the mimeographed materials needed by the unit or team. If a team is fortunate, a talented clerical aide

could be used to develop any graphic materials needed for the teaching-learning situations.

Each team leader automatically became a member of the instructional improvement committee, or IIC, which was made up of team leaders, auxiliary staff (Learning Center Director, music teacher, etc.), and building principal. The IIC met regularly with the principal to help coordinate the use of schoolwide facilities and resources and to help evaluate the progress of the school in achieving its objectives. Each team leader was the formal liaison between the team and the principal, and provided input to the IIC for problems beyond the scope of the team to solve; he provided feedback to members of each team on proposed schoolwide plans and policies. Under this arrangement, the role of the principal changed drastically. He no longer "ran" a school, but rather his major concerns and his energy were centered on the problems related to the instructional program of each of the teaching teams. The principal of an IGE school asserted, "With the IIC the principal is relieved of the entire responsibility for making decisions on the instructional program. I now feel that I have several assistants. Furthermore, the role of the teacher changes in an IGE school. She now becomes a decision maker, not only in the team situation, but also in terms of all school policies and procedures through the functioning of the instructional improvement committee."

Other IGE Behavior Needed

Some of the more pertinent changed behaviors essential in the staff to realize fully an IGE school are listed below. Steps in the evaluation of each of these behaviors are also included.

1. To Learn How to Define Behavioral Objectives.

    Each staff member was given materials related to Mager's book, <u>Defining Behavioral Objectives</u>. A careful study was made by the participants prior to a scheduled in-service meeting.

    Evaluation:

    Each staff member was required to write an objective behaviorally. These statements were discussed and each teacher had to have his statement approved by the group.

2. To Learn How to Devise Pre-Assessment and Post-Assessment Tools.

    Teachers at all levels assume that the youngsters know little or nothing about a particular topic to be studied. In an IGE school this is not true. Prior to teaching a unit of study in social studies or science, a member of a team prepared a pre-assessment tool on the particular unit to be taught. The team membership then critiqued the appropriateness of the assessment tool. Once approved by the team, the pre-assessment tool was administered to all of the youngsters in the team. On the basis of the data on

these tests, the youngsters were grouped, i.e., those
youngsters who could demonstrate successful performance
on the behavioral objectives defined were grouped in
one section, while those youngsters who demonstrated
that they understood some of the behavioral objectives
were grouped in another section, etc.

A post-assessment tool was designed which was
used with the children after they had been exposed to
the materials and activities for the various behavioral
objectives in the unit of study. If the child showed
that he had achieved the objectives, then he moved on
to the next unit of study, but if the child did not
succeed in the acquisition of the objectives, then he
was recycled in the teaching-learning situation until
his performance showed that he understood the defined
objectives.

Evaluation:

A three-day simulation was used for the purpose of
helping the staff members put together all of the
instructional strategies learned. In the instruc-
tional unit, "What Are the Planets?" a volunteer
team of teachers developed a pre-assessment and
post-assessment tool for the unit. Each of the
staff members learned how these tools were devel-
oped and how they were used for grouping purposes
with the boys and girls representing traditional
grade levels one, two, and three.

3. To Understand the Techniques for Ungrading the Skill Areas of Reading, Mathematics, and Spelling.

Teachers in an experimental group school became involved in the development of a sequential list of the skills to be used in reading, mathematics, and spelling. The staff was divided into three committees with a chairman for each. They then studied all of the materials for their particular instructional area and determined the skills to be taught for each. After these lists were developed, they were then divided arbitrarily into levels. These materials were then used to determine where the child was at a particular time; to determine groupings with the team; to know what skills were to be developed on a particular level; to determine how much a child had accomplished in the skills included in the level; and to help parents know the progress made by their children on these skill areas.

Evaluation:

All of the levels materials for reading, spelling, and mathematics were developed by the various committees. These materials were used in the fall of the year for grouping students within each of the teams. The level materials were carefully checked with a master copy developed by the consultants, who had had experience developing such lists with

several other school systems throughout the country. (See appendix for copy of level materials.)

4. To Learn How to Plan in a Team Situation.

Team planning is the key to success in a multiunit school. In the in-service session, the team discussed the four component parts of planning which included: goal-setting meeting, design meeting, place and time meeting, and situational meeting. Once the staff learned the ingredients of each of the four components and had an opportunity to be involved in simulated planning, then and only then did the teams function effectively. As one team leader of the simulation stated: "The excitement of planning together as each team member thought of a new and different activity to challenge all students was truly stimulating. The training and new ideas have added much enthusiasm to my efforts in team teaching. The critiquing after we finished teaching certainly helped us to see if our activities were helping to achieve our goals, or if they were unnecessary busy work." But teams will only be successful if time is allotted for the teams to plan. Strategies were developed by the principal for an uninterrupted block of time for team planning. Other planning sessions were arranged by the team through manipulation of their schedules. It was

beautiful to see how the team members pooled together
all of their ideas and picked each other's brains.
Much better decisions were made and resulted in some
exciting teaching situations for the youngsters.
Evaluation:

> Thorough discussions were held with the staff to
> insure that each understood the planning strategies
> in the team situation. A three-day simulation was
> most helpful in reinforcing these strategies.

5. To Learn the Techniques Employed in Critiqueing the
   Work of the Teaching Team.

The evaluation of teacher performance is imperative
if teachers are to improve their teaching, but in an
IGE school the methodology is vastly different.
Rather than the principal spending two or three times
a year in a teacher's class, the critiqueing of
teaching was done by the principal and/or teachers
in the form of an observation team. The techniques
used by the teaching team prior to the teaching and
in preparation for meeting with the observation team
were discussed. Every effort was made to assist the
teaching team to improve their performance, but at
the same time the observation team improved them-
selves by critiqueing the teaching situation observed.
Approximately once a month, each teaching team par-
ticipated in a critiqueing session with an observation
team.

6. How to Group Children in an IGE School.

    All types of modes or grouping practices were used
    in the individually guided school, such as large
    group, small group, independent study, and one-to-one
    relationship. Large group instruction, although
    common in team teaching, was used rarely in the IGE
    school. Small group, independent study, and one-to-
    one relationship were modes continuously used for the
    purpose of giving children opportunities to grow in
    self-direction. Through these modes, youngsters
    realized the instructional objectives through activi-
    ties and the use of materials of their choice. In
    cases where a student progressed rapidly, a contract
    of work was developed with one of the team members.
    Once the independent study was carefully defined and
    agreed upon, the student pursued his work. The team
    member, learning center staff, and even other stu-
    dents in the team played an important part in helping
    students with their contract of work.

    Evaluation:

        Discussions were held on the various modes. In
        the three-day simulation, the total staff saw how
        various modes were used in the teaching-learning
        situation. Large groups, small groups, and one-to
        one learning modes were used in the inter-age
        group situation.

7. To Determine if the Staff Acquired the Understanding of the Various Instructional Strategies Needed for the Implementation of an IGE School.

Carefully developed pre-assessment tests in the areas of behavioral objectives, assessment, grouping, and materials and media were administered to the staff prior to the in-service sessions. Following the completion of the in-service meetings, a post-assessment test was administered to the staff. This examination attempted to assess each staff member's understanding of all the concepts of IGE. Each question was indexed with a reference so that if an answer was checked incorrectly, then the staff member could refer to the printed materials placed in his hands during the in-service sessions.

Evaluation:

In the pre-assessment test, a perfect score was 71. The scores on this test ranged from a low of 42 to a high of 60. The mean score was 53. In the post-assessment test, a perfect score was 83. The scores on this test ranged from a low of 73 to a high of 82. The mean score was 77. Following the scoring of the post-assessment test, the consultants discussed each of the questions raised by the staff members to insure that they understood the concepts of IGE.

Organized in-service education was a conscious attempt to help school personnel improve their experiences, with the expectation that children will have improved experiences. Organized in-service rests on the assumption that children's lives will not be changed very much unless the professional and personal lives of their teachers are made ever richer with fruitful experiences.

Summary

The school district in which this study took place is considered a disadvantaged area, and includes parents of the lower socioeconomic levels. Federal and state funds enable the professional staff to develop innovative programs. One of the innovative programs developed in the Experimental School is Individually Guided Education. Carefully planned in-service programs helped the staff to learn of the teaching-learning strategies of IGE.

Children from traditional self-contained classrooms in one school made up the control group, while children from another school involved in the Individually Guided Education program made up the experimental group. Procedures were defined to include equated groups.

Pretests and posttests in reading, mathematics, and self-concept were administered to both the control and experimental groups. The time period for the study was approximately nine months. The quanitative data were subjected to analysis to determine growth in these three areas.

Subjective evidence was gathered through questionnaires which were submitted to teachers, parents, and children.

The following chapter is devoted to the analysis of the data gathered in the study.

CHAPTER IV

ANALYSIS OF THE DATA

Contained in Chapter IV is an analysis of the data.

Five hypotheses were presented in Chapter I, around which

this study has been developed. Each of these hypotheses has

been analyzed separately, and the data obtained and approp-

riate explanation are presented in this chapter.

The chapter is divided into two main sections; the

first section presents the quantitative analysis, and the

second presents the qualitative analysis of the data.

The quantitative analysis of the data for the study

was done from the computer center at Michigan State Univer-

sity. The qualitative analysis was done manually by the

researcher.

QUANTITATIVE ANALYSIS

Intelligence Quotient--Covariate

The intelligence quotient was used as a covariate

in this study to adjust for initial differences in the experi-

mental and control groups. Table 2 presents the data for

the analysis of the covariate, I.Q.

A chi-square test of hypothesis of no association

between dependent and independent variables showed I.Q. to be

significant with three degrees of freedom and a significance
level of .0001. The results of this analysis show I.Q. is
significant as a covariate. Therefore, the covariate was
retained.

TABLE 2.--Statistics for regression analysis--covariate is I.Q.

Variable	Multi-Regression Squared	Multi-Regression	F-Value	Significance Level
Reading	0.0570	0.2388	23.2124	.0001*
Mathematics (raw scores)	0.1145	0.3384	49.6765	.0001*

*Significant at the .0001 level.

Presentation of Reading and Mathematics Achievement and Self-Concept Data

In order to present the reading and mathematics
achievement test data and the self-concept data, tables were
prepared. These tables are presented in the order that
follows:

- F-Ratio for Multivariate Test of Equality of Experi-
mental and Control Means

- Univariate Tests of Experimental and Control Groups

- F-Ratio Multivariate Test for Equality of Means of
Sub-Groups Within Treatments

- F-Ratio for Univariate Test of Equality Means

- Mean Tables in Reading, Mathematics, and Self-Concept.

Significance of the Achievement
and Self-Concept Data

In order to ascertain the significance of the gains that are represented by the data, the data were subjected to statistical analysis. Table 3 presents the results of statistical analysis of the significance of the difference of the means of the three variables--reading, mathematics, and self-concept--between the experimental and control groups.

TABLE 3.--F-ratio for multivariate test of equality of experimental and control means.

Degrees of Freedom	F	P Less Than	Significance Level
3	25.7460	.00009	.05

The results of statistical analysis reported in Table 3 show that the difference between the means of the experimental group and the control group was significant at less than the .05 level of significance for the three variables--reading, mathematics, and self-concept.

To find the cause of the multivariate significance, individual test results were compared in reading, mathematics, and self-concept between the experimental and control groups. The results appear in Table 4.

The results of statistical analysis reported in Table 4 were significant at less than the .05 level of significance for mathematics and self-concept in the

experimental and control groups. Although reading was not significant, it was close.

TABLE 4.--Univariate test of experimental and control groups in reading, mathematics and self-concept.

Variable	Between Mean Sq.	Univariate F	Significance Level
Reading	4010.29	2,2575	0.1338
Mathematics	4058.11	8,7477	0.0033*
Self-Concept	3355.42	72,6900	0.0000*

*Significant at less than .05

F-Ratio Multivariate Test

An F-ratio test was used for significance of the difference between the means of the subgroups within the experimental and control groups. The results from the test are reported in Table 5.

TABLE 5.--F-ratio multivariate test for equality of means of subgroups within the experimental and control groups.

Degrees of Freedom	F	P Less Than	Significance Level
15	5.62	.00009	.01*

*Significant at the .01 level

The results of the test reported in Table 5 indicate that gains made in the three variables (reading, mathematics, and self-concept) in the experimental and control groups were significant at the .01 level.

The data presented seem to support the hypothesis that the IGE method of teaching as related to reading, mathematics, and self-concept at the elementary level is superior to the methods used in the traditionally self-contained school at the elementary level.

F-Ratio Test Univariate

In order to see the cause of the significance, as determined in Table 5, individual (univariate) tests were again done on reading, mathematics, and self-concept. The test was referred for significance at the .05 level of significance. The results of this test are reported in Table 6.

TABLE 6.--F-ratio for univariate test of equality of means of subgroups within the experimental and control groups.

Variable	Between Means Squared	Univariate F	P Less Than
Reading	4785.0829	2.6936	0.0209*
Mathematics	916.5241	1.9757	0.0814
Self-Concept	507.8035	11.0008	0.0001*

*Significant at less than .05

The results of the F-ratio test reported in Table 6 show that the means scores of the subgroups differed significantly for reading and self-concept. Mathematics was on the border of significance.

Presentation of Reading and Mathematics Achievement and Self-Concept Data

Analysis of Reading Data

Tables were prepared to present an analysis of the reading, mathematics, and self-concept data. These tables give mean gain or loss scores for the experimental and control groups. The covariate was I.Q. Table 7 presents the mean gain scores for reading for the experimental and control groups; the covariate is I.Q. The data given are in terms of how the experimental group compares in reading with the control group in reading.

TABLE 7.--Mean gain for reading for experimental and control groups (covariate is I.Q.).

Group	E1	E2	E3	C4	C5	C6	C7
N	72	72	85	70	32	34	27
I.Q.	97	96	92	91	98	98	100
Gain[a]	-1.90	+11.6	+11.72	+7.74	-7.53	+1.35	+9.85
Experimental Means = +7.48				Control Means = +0.65			

[a]Represent raw scores

Table 7 shows that greater gains were made in the experimental group in reading than in the control group.

Analysis of Mathematics Data

Table 8 represents data for mathematics scores when computed for all 292 students in the study. The data given are in terms of the mean gain scores for each group. The covariate is I.Q.

TABLE 8.--Mean gain or loss scores for mathematics for experimental and control groups (covariate is I.Q.).

Group	E1	E2	E3	E4	C5	C6	C7
N	72	72	85	70	32	34	27
I.Q.	97	96	92	91	98	98	100
Gain/ Loss	+28.53	+24.35	+28.34	+28.74	+20.94	+18.24	+20.44
	Experimental Means = +27.14				Control Means = +18.84		

The differences between mean scores in mathematics of the experimental and control groups show higher gains in the experimental group than in the control group. This seems to support the hypothesis that students in the experimental group would have greater gains in mathematics over the students in the control group.

Analysis of Self-Concept Data

Table 9 presents the data for the 392 students used in the study for the mean scores for self-concept; the covariate is I.Q.

TABLE 9.--Mean gain or loss scores for self-concept for experimental and control groups (covariate is I.Q.).

Group	E1	E2	E3	E4	C5	C6	C7
N	72	72	85	70	32	34	27
I.Q.	97	96	92	91	98	98	100
Gain/ Loss	+11.54	+8.28	+10.71	+16.40	+5.06	+5.38	+3.67
	Experimental Means = 11.31				Control Means = +4.83		

Table 9 presents the mean scores in self-concept for the experimental and control groups. The mean gains are significantly higher in the experimental group as compared to mean gain scores in the control group. The significance levels support the hypothesis that there is a significant difference in the self-concept of children in the experimental group (IGE) as compared with the control group (self-contained classrooms).

Mean Grade Level Scores in Reading
and Mathematics

The preceding gains were measured by raw test scores. Table 10 translates those data into grade equivalencies.

The experimental group gained a mean grade level of 1.69 (one year and almost seven months) in reading, and a

mean grade level gain of .8 (eight months) in mathematics, while the control group had a mean grade level gain of .4 in reading and .2 in mathematics. Significant gains were made in reading and mathematics by the experimental group using Individually Guided Education techniques.

TABLE 10.--Pretest and posttest data of mean scores in reading and mathematics used to equate experimental and control groups.

Groups	Sexes B G	Mean Intelligence Scores	Reading			Mathematics		
			Pre Test	Post Test	Mean Gain	Pre Test	Post Test	Mean Gain
E1	32 40	97	1.3[a]	3.4	+2.1	1.5	2.4	+ .9
E2	35 37	96	1.3	2.6	+1.3	1.7	2.2	+ .5
E3	38 47	92	1.1	2.7	+1.6	1.7	2.7	+1.0
E4	36 34	91	1.1	2.6	+1.5	1.6	2.4	+ .8
			Experimental Mean = +1.69			Experimental Mean = +.8		
C5	15 17	98	1.3	2.1	+ .8	2.0	2.4	+ .4
C6	16 18	98	1.5	1.6	+ .1	2.1	2.4	+ .3
C7	13 14	100	1.5	1.9	+ .4	1.5	1.2	- .3
			Control Mean = +.4			Control Mean = +.2		

[a]Expressed as one year and three months gain.

Conclusions Based on Quantitative Analysis

The statistics presented in the quantitative analysis and the interpretation of the data presented appear to support the following conclusions:

1. The gains in math were significantly greater in the experimental group as compared to the gains in math in the control group.

2. The gains in reading were close to significance in the experimental group as compared to the gains in reading in the control group.

3. The gains were significantly greater in self-concept in the experimental group when compared to the control group.

4. Individual teachers in the (Subgroups) have a significant effect on math and self-concept.

QUALITATIVE ANALYSIS

The second section of the chapter presents the qualitative analysis of the data and the findings. Questionnaires were employed in gathering data for this phase of the study. Some direct responses from the experimental school teachers, students, and parents are included, depicting their views regarding the IGE program. Additionally, an assessment of the teacher in-service program of the IGE staff was reported. All teachers in the experimental school responded to the questionnaire (see Appendix B). A random sampling of students and parents was selected to respond to the respective questionnaires (see Appendix B). A chi-square test was used

to ascertain the significance of the data collected from the
teachers', students', and parents' responses to the ques-
tionnaire. The findings are presented in table form.

TABLE 11.--Frequency of teacher responses to questions 1 and 2.[a]

	A[b]	B[c]	C[d]	D[e]	Total
Question 1	1	1	17	2	21
Question 2	2	3	14	2	21
Total	3	4	31	4	42

[a]Question 1: In your opinion, how effectively were
the teachers assigned to Units to utilize their complementary
strength?
     Question 2: In your opinion, how effectively were
the teachers assigned to Units according to their professional
compatibility?

[b]Not effectively assigned in most cases.

[c]Effectively assigned in some cases.

[d]Effectively assigned in most cases.

[e]Effectively assigned in all cases.

TABLE 12.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	1	1.5	-0.5	0.25	.167
2	1	2.0	-1.0	1.00	.500
3	17	15.5	1.5	2.25	.145
4	2	2.0	0.0	0.00	.000
5	2	1.5	0.5	0.25	.167
6	3	1.0	1.0	1.00	.500
7	14	15.5	-1.5	2.25	.145
8	2	2.0	0.0	0.00	.000
				$x^2=$	1.624

The chi-square value of 1.624, when referred to the alpha table, was found to be highly significant at the .05 level of significance for three degrees of freedom. This significance would indicate very positive teacher perceptions of the IGE program as related to teacher assignment.

TABLE 13.--Frequency of teacher responses to questions 3 and 4.[a]

	A Not to My Knowledge	B Sometimes	C In Most Cases	D Always	Total
Question 3	12	3	6	0	21
Question 4	0	5	15	1	21
Total	12	8	21	1	42

[a]Question 3: Does your Instructional Improvement Committee (IIC) resolve problems which involve two or more Units in the school?
Question 4: Does the IIC coordinate curricular development in your school?

TABLE 14.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	12	6.0	6.0	36.00	6.000
2	3	4.0	-1.0	1.00	.250
3	6	10.5	-4.5	20.25	1.928
4	0	0.5	-0.5	0.25	.500
5	0	6.0	-6.0	36.00	6.000
6	5	4.0	1.0	1.00	.250
7	15	10.5	4.5	20.25	1.928

$$x^2 = 17.356$$

The chi-square of 17.356 is not significant at the .05 level of significance for three degrees of freedom. This total chi-square value not reaching the significance level does not indicate that teacher perceptions of the IGE program are negative as related to resolving problems and coordinating the curricular development. Again, in the possible response, item "C" (In Most Cases) showed indications of significance.

TABLE 15.--Frequency of teacher responses to questions 5 and 6.[a]

	A No	B In A Minor Way	C Yes	Total
Question 5	15	4	2	21
Question 6	8	7	6	21
Total	23	11	8	42

[a]Question 5: In your opinion, does the IIC coordinate the in-service education program for your school?
Question 6: In your opinion, does the IIC facilitate school-wide communication?

TABLE 16.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	15	11.5	3.5	12.25	1.060
2	4	5.5	-1.5	2.25	.409
3	2	4.0	-2.0	4.00	1.000
4	8	11.5	-3.5	12.25	1.060
5	7	5.5	1.5	2.25	.409
6	6	4.0	2.0	4.00	1.000
					$x^2=4.938$

The chi-square value of 4.938 is significant at the .05 level of significance for two degrees of freedom. This significance would indicate that the teachers perceive the IGE program to be effective as far as coordinating and facilitating in-service and school-wide communication.

TABLE 17.--Frequency of teacher responses to questions 7 and 8.[a]

	A[b]	B[c]	C[d]	D[e]	Total
Question 7	0	18	3	0	21
Question 8	8	10	1	2	21
Total	8	28	4	2	42

[a]Question 7: To what degree do you believe students are accepting greater responsibility for selecting their own objectives?
Question 8: To what degree are students involved in selecting learning activities to pursue their objectives?

[b]Some students participate 10-30%.

[c]Often students participate 31-60%.

[d]Usually students participate 61-90%.

[e]Students participate 91-100%.

TABLE 18.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	0	4	-4	16	4.000
2	18	14	4	16	1.142
3	3	2	1	1	.500
4	0	1	-1	1	1.000
5	8	4	4	16	4.000
6	10	14	-4	16	1.142
7	1	2	-1	1	.500
8	2	1	1	1	1.000

$x^2 = 13.284$

The chi-square value of 13.284 is not significant at the .05 level of significance for three degrees of freedom. However, significance seems to be indicated when examining responses individually.

In an examination of teacher responses to questions related to the Individually Guided Education program, there were positive indications of (1) teacher perceptions of the IGE program as related to teacher assignment, (2) teacher perceptions of the IGE program as related to coordinating and facilitating in-service and school-wide communication, and (3) teacher perceptions of the IGE program as related to student involvement in selecting their own objectives. There were negative perceptions as related to resolving problems and coordinating the curriculum development.

Parents' Perceptions of I.G.E.

The following tables present tables of a random sampling of parental perceptions of the IGE program.

TABLE 19.--Frequency of parent responses to questions 1 and 2.[a]

	A Yes	B Would Like To	C No	Total
Question 1	60	5	35	100
Question 2	72	28	0	100
Total	132	33	35	200

[a]Question 1: Have you attended a meeting about the new program?
Question 2: Have you heard of IGE, Individually Guided Education?

TABLE 20.--Chi-square analysis of frequencies.

Cells	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	60	66.0	6.0	46.00	.545
2	5	16.5	11.5	132.25	8.015
3	35	17.5	17.5	306.25	17.500
4	72	66.0	6.0	36.00	.545
5	28	16.5	11.5	132.25	8.015
6	0	17.5	-17.5	306.25	17.500
					$x^2=52.120$

The chi-square value of 52.120 is not significant at the .05 level for two degrees of freedom. This would seem to indicate that parents do not attend school meetings. However, this does not mean that the IGE program _per se_ is responsible for parents' lack of attendance.

TABLE 21.--Frequency of parent responses to questions 3 and 4.[a]

	A Yes	B About the Same	C I Don't Know	D No, Liked It Better Last Year	Total
Question 3	67	19	3	11	100
Question 4	60	14	13	13	100
Total	127	33	16	24	200

[a]Question 3: Does your child/children enjoy school more this year than last year?
Question 4: Do you as a parent like the school program more this year than last year?

TABLE 22.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	67	63.5	3.5	12.25	.193
2	19	16.5	2.5	6.25	.379
3	3	8.0	-5.0	25.00	3.125
4	11	12.0	-1.0	1.00	.083
5	60	63.5	-3.5	12.25	.193
6	14	16.5	-2.5	6.25	.379
7	13	8.0	5.0	25.00	3.125
8	13	12.0	1.0	1.00	.083

$$x^2 = 7.560$$

The chi-square value of 7.560 is significant at the .05 level of significance for three degrees of freedom. This significance indicates that parents like the school better under the IGE program and students enjoy school better under the IGE program.

TABLE 23.--Frequency of parent responses to questions 5 and 6.[a]

	A Yes	B No	Total
Question 5	87	13	100
Question 6	78	22	100
Total	165	35	200

[a]Question 5: Does your youngest child enjoy being with older children?
Question 6: Does your oldest child enjoy being with younger children?

TABLE 24.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	87	82.5	4.5	20.25	.245
2	13	17.5	-4.5	20.25	1.157
3	78	82.5	-4.5	20.25	.245
4	22	17.5	4.5	20.25	1.157

$$x^2 = 2.804$$

The chi-square value of 2.804 is significant at the .05 level of significance for one degree of freedom. These findings seem to indicate that parents of students in the experimental school think their children perceive the inter-age grouping pattern in an acceptable manner.

TABLE 25.--Frequency of parent responses to questions 7 and 8.[a]

	A Yes	B About The Same	C No	Total
Question 7	42	50	8	100
Question 8	86	12	2	100
Total	128	62	10	200

[a]Question 7: Does your child talk about his school more this year than last year?
Question 8: Do you feel that your child is learning more this year than last year?

TABLE 26.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	42	64	-22	484	7.562
2	50	31	19	361	11.645
3	8	5	3	9	1.800
4	86	64	22	484	7.562
5	12	31	-19	361	11.645
6	2	5	- 3	9	1.800
					x^2=42.014

The chi-square value of 42.014 is not significant at the .05 level of significance for two degrees of freedom.

TABLE 27.--Frequency of parent responses to questions 9 and 10.[a]

	A Yes	B Sometimes	C No	Total
Question 9	66	8	26	100
Question 10	13	79	8	100
Total	79	87	34	200

[a]Question 9: Have the teachers or principal discussed the IGE program with you?
      Question 10: Have other parents discussed the IGE program with you?

The chi-square value of 103.026 is not significant at the .05 level of significance for two degrees of freedom (see Table 28). Although a high percentage of the 100 parents responding to question 9 indicated neither the teachers nor the principal had discussed the IGE program with them,

the efforts were constant on the part of the experimental school staff to provide means of communication with parents.

TABLE 28.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	66	39.5	26.5	702.25	17.778
2	8	43.5	-35.5	1260.25	28.971
3	26	17.0	9.0	81.00	4.764
4	13	39.5	-26.5	702.25	17.778
5	79	43.5	35.5	1260.25	28.971
6	8	17.0	- 9.0	81.00	4.764
				$x^2=$	103.026

An examination of the data related to parental perceptions of the Individually Guided Education program shows the following:

Positive perceptions

Children and parents like the program more this year than last year.

Children enjoy inter-age grouping pattern.

Negative perceptions

Parents do not attend meetings concerning IGE.

Children do not talk more about school this year than last year.

Teachers and parents have not discussed the IGE program.

Parent Evaluation of Individually Guided Education Program

A simple five-question form was devised in an attempt to make an assessment of the effect the Individually Guided

Education Program had on the boys and girls. The questionnaire was distributed to approximately 425 families. Two hundred seventy-one, or 64 per cent of the questionnaires were returned. The results are as follows:

1. Two hundred sixty-one, or 96 per cent of the parents indicated they felt their child was happier in school this year.

2. Two hundred fifty, or 96 per cent of the parents indicated they felt their child was getting more individual help in school this year.

3. Two hundred fifty-four, or 94 per cent of the parents indicated they felt their child was reading more at home.

4. Two hundred sixty-six, or 98 per cent of the parents indicated they felt their child was more willing to do his homework during the school year.

5. Two hundred sixty-eight, or 99 per cent of the parents indicated they would like to see more teachers and paraprofessionals used in the IGE program the coming year.

Student Perceptions of the Individually Guided Education Program

A questionnaire was administered to a random sampling of students in the experimental groups. Five paired questions were asked in an effort to gain some insights of the students' perceptions of the Individually Guided Education program. The results are presented in the following tables.

TABLE 29.--Frequency of student responses to questions 1 and 2.[a]

	A Yes	B About The Same	C I Don't Know	D No, Liked It Better Last Year	Total
Question 1	75	11	11	3	100
Question 2	51	8	30	11	100
Total	126	19	41	14	200

[a]Question 1: Do you like school more this year than last?

Question 2: Do your parents like your school more this year than last?

TABLE 30.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	75	63.0	12.0	144.00	2.285
2	11	9.5	1.5	2.25	.236
3	11	20.5	- 9.5	90.25	4.402
4	3	7.0	- 4.0	16.00	2.285
5	51	63.0	-12.0	144.00	2.285
6	8	9.5	- 1.5	2.25	.236
7	30	20.5	9.5	90.25	4.402
8	11	7.0	4.0	16.00	2.285

$$x^2 = 18.416$$

The chi-square value of 18.416 is not significant at the .05 level of significance for three degrees of freedom. An examination of individual cells revealed that pupils in most cases did like school better this year than during the last school year. This was also indicated in parental responses.

TABLE 31.--Frequency of student responses to questions 3 and 4.[a]

	A Yes, Both of Them Have	B Yes, One of Them Has	C I Don't Know	D No, They Haven't	Total
Question 3	10	38	15	37	100
Question 4	52	14	23	11	100
Total	62	52	38	48	200

[a]Question 3: Have your parents attended a meeting about your school?

Question 4: Have your parents heard of IGE?

TABLE 32.--Chi-square analysis of frequencies.

Cell	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	10	31	-21	441	14.225
2	38	26	12	144	5.538
3	15	19	4	16	.842
4	37	24	13	169	7.041
5	52	31	21	441	14.225
6	14	26	-12	144	5.538
7	23	19	4	16	.842
8	11	24	13	169	7.041

$$x^2=55.292$$

The chi-square value of 55.292 is not significant at the .05 level of significance for three degrees of freedom. These findings indicate the parents have not attended meetings regarding the IGE program.

TABLE 33.--Frequency of student responses to questions 5 and 6.[a]

	A Yes, All the Time	B Yes, Most of the Time	C Not Always	D No	 Total
Question 5	0	87	13	0	100
Question 6	0	95	5	0	100
Total	0	182	18	0	200

[a]Question 5: Are you taught in the same place all day? (Do not count special subjects such as instrumental music or gym.)
Question 6: Are the same students in class with you all the time?

TABLE 34.--Chi-square analysis of frequencies.

Cells	Observed Frequency	Expected Frequency	Difference	Difference Squared	Value
1	0	0	0	0	0.000
2	87	91	-4	16	.175
3	13	9	4	16	1.777
4	0	0	0	0	0.000
5	0	0	0	0	0.000
6	95	91	4	16	.175
7	5	9	-4	16	1.777
8	0	0	0	0	0.000

$$x^2 = 3.904$$

The chi-square value of 3.904 is significant at the .05 level of significance for three degrees of freedom. The findings indicate that students in the experimental school interact with more than one teacher during the day for instruction.

TABLE 35.--Frequency of student responses to questions 7 and 8.[a]

	A Always	B Sometimes	C I Don't Know	D Almost Never	Total
Question 7	15	84	1	0	100
Question 8	82	9	9	0	100
Total	97	93	10	0	200

[a]Question 7: Are there older or younger students in your class? (Students from other grade-levels.)
     Question 8: Do you like having older and younger students in your class?

TABLE 36.--Chi-square analysis of frequencies.

Cells	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	15	48.5	-33.5	1122.25	23.130
2	84	46.5	37.5	1306.25	28.091
3	1	5.0	- 4.0	16.00	3.333
4	0	0.0	0.0	0.00	0.000
5	82	48.5	33.5	1122.25	23.139
6	9	46.5	-37.5	1306.25	28.091
7	9	5.0	4.0	16.00	3.333
8	0	0.0	0.0	0.00	0.000
					x^2=109.126

The chi-square value of 109.126 is not significant at the .05 level of significance for three degrees of freedom.

TABLE 37.--Frequency of student responses to questions 9 and 10.[a]

	A At Least Once a Day	B About Once or Twice a Month	C About Once a Month	D Never	Total
Question 9	10	85	0	5	100
Question 10	39	57	3	1	100
Total	49	142	3	6	200

[a]Question 9: How often are you taught with just you and a teacher?
Question 10: How often do you work on things that you choose?

TABLE 38.--Chi-square analysis of frequencies.

Cells	Observed Frequency	Expected Frequency	Difference	Difference Squared	x^2 Value
1	10	24.5	14.5	210.25	8.581
2	85	71.0	14.0	196.25	2.761
3	0	1.5	- 1.5	2.25	1.500
4	5	3.0	2.0	4.00	1.333
5	39	24.5	14.5	210.25	8.581
6	57	71.0	-14.0	196.00	2.761
7	3	1.5	1.5	2.25	1.500
8	1	3.0	- 2.0	4.00	1.333
					$x^2 = 28.350$

The chi-square value of 28.350 is not significant at the .05 level of significance for three degrees of freedom.

An examination of the data show that the only significant result as related to student perceptions is question 5 (Are you taught in the same place all day?) and 6 (Are the same students in class with you all the time?). It should be pointed out that although the students remain together in mathematics and reading, these groups are all inter-aged.

Conclusions Based on Qualitative Analysis

An analysis of the qualitative data presented seems to support the following conclusions:

Teacher Perceptions

1. There were positive teacher perceptions of the Individually Guided Education program as related to teacher assignment to units or teams.

2. There were positive teacher perceptions of the Individually Guided Education program as related to coordinating and facilitating in-service and school-wide communications.

3. There were negative teacher perceptions as related to the Instructional Improvement Committee resolving problems which involved two or more units in the school.

4. There were negative teacher perceptions of the Individually Guided Education program as related to students accepting greater responsibility for selecting their own objectives.

Parent Perceptions

1. There were positive parent perceptions as to children and parents liking the Individually Guided Education program.

2. There were positive parent perceptions as to the inter-age classes when their youngest children enjoyed being with older children and vice versa for classroom instruction.

3. There were negative parent perceptions of the Individually Guided Education program as related to parents attending meetings about the IGE program.

4. There were negative parent perceptions of the Individually Guided Education program as related to their children not talking more about school this year than last year.

5. There were negative parent perceptions of the Individually Guided Education program as related to the principal or teacher discussing the IGE program with them.

Further parental comments concerning Individually Guided Education were obtained through a five-question form. The parents overwhelmingly indicated positive reactions to the program.

Student Perceptions

1. There were positive perceptions cf students of the Individually Guided Education program as related to students being taught by more than one teacher during the day, and having the same students in class all day.

2. There were negative perceptions of students of the Individually Guided Education program as related to students

and parents liking school more this year than last year.

3.   There were negative perceptions of students of the Individually Guided Education program as related to their parents attending meetings at school concerning the IGE concept.

4.   There were negative perceptions of students of the Individually Guided Education program as related to having older or younger children from other grade levels in their class.

5.   There were negative perceptions of students of the Individually Guided Education program as related to the frequency of students being taught with just the student and a teacher.

Summary

In this chapter the hypotheses stated in Chapter I were analyzed. The first section of the chapter presented an analysis of the quantitative data. The second section of the chapter presented the qualitative analysis. The qualitative data gathered were confined to teachers, parents, and students of the IGE school. For purposes of summarization, the five hypotheses will be stated in question form and answered on the basis of the data gathered.

Question 1:   Will there be a significant difference in reading skills of students enrolled in the IGE school, as measured by standardized tests, as compared with children enrolled in a traditionally organized elementary school?

Statistically, no significant difference between the
experimental and the control group mean gains was found.
However, the gains in reading were close to significance in
the experimental group as compared to gains in reading in the
control group.

Question 2: Will there be a significant difference in mathe-
             matical skills, as measured by standardized
             tests, in children in the experimental group
             (IGE) as compared with children in the control
             group?

There was a significant difference in the gains in
mathematic skills of the experimental group when compared to
the gains in mathematic skills of the control group.

Question 3: Will there be a significant difference in the
             self-concept of children in the experimental
             group (IGE) as compared with the control group
             (traditional school)?

The gains were significantly greater in self-concept
in the experimental group when compared to the control group.

Question 4: Will the attitudes of teachers of children in
             the experimental group be positive toward the
             IGE concept?

Teacher perceptions were positive in (a) the area of
teacher assignment and (b) the area of coordination and facili-
tating in-service and school-wide communication. There were
negative teacher perceptions in (a) the area of the Instruc-
tional Improvement Committee resolving problems which involved
two or more units in the school and (b) students accepting
greater responsibility for selecting their own objectives.

Question 5:   Will the attitudes of parents of children in the experimental group be positive toward the IGE concept?

Parents were positive as to the Individually Guided Education program by expressing (a) that both children and parents like this program and (b) that their youngest child enjoyed being with older children. Negative perceptions were expressed by parents in the following: (a) in meetings concerning this program for parents, (b) their children not talking about school this year as they did last year, and (c) teachers and principal not discussing the IGE program with them.

Question 6:   Will the attitudes of students in the experimental group be positive toward the IGE concept?

Student perceptions concerning Individually Guided Education were positive only in the area where students were being taught by more than one teacher during the day and in having the same students in class all the time. Negative perceptions were found in the following areas: (a) liking school this year more than last year, (2) having their parents attend a meeting about IGE, (3) having older or younger children from other grade levels in their class, and (4) being taught by the teacher and himself and working on things of his own choosing.

The final chapter is devoted to a concise summary of the research, conclusions, implications, and suggestions for further study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The final chapter is devoted to a summary of the study, followed by a discussion of the conclusions generated from the analysis of the data, and concluded with recommendations for further research.

Summary

The Community

The community encompasses portions of three cities located in the southwest of Metropolitan Detroit. It is a community of 30,000 people, representing the upper lower to lower middle class socioeconomic levels.

The School District

Five thousand students in the kindergarten through twelfth grades are enrolled in four elementary, one junior high, and one senior high school.

Insufficient school support prevented the school personnel from continuing with certain aspects of the instructional program. State grants have enabled the school district to develop some innovative programs. A forward-looking superintendent and a qualified staff enable the school district to move ahead.

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The Purpose of the Study

The purpose of the study was to compare two methods
of teaching in the elementary school as related to achieve-
ment in reading, arithmetic, and self-concept of children.

The Sample

The children in the experimental groups and the
control groups were selected on the basis of sex, socio-
economic level, and reading and mathematics achievement.
The teachers in the experimental group were trained in the
techniques of Individually Guided Education, which is a
nongraded team instructional approach. The children in the
control groups were in traditional self-contained classrooms.
For the purposes of this study, all of the children were
inter-aged for data analysis only.

The Instruments Employed

The students in both the control groups and the
experimental groups were measured in the areas of reading,
mathematics, and self-concept. Pretests were administered
during the second week of May, 1971, while the posttests
were administered during the second week of May, 1972.

Various forms of the Metropolitan reading and
mathematics tests and Piers-Harris Children's Self-Concept
Scale were given. Questionnaires were also administered to
teachers, parents, and students involved in the Individually
Guided Education Program.

Treatment of the Data

The data were programmed and processed by the computer at Michigan State University. Several statistical techniques were employed in the analysis of the data.

Findings

Hypothesis 1: There is a significant difference in reading skills of students enrolled in the IGE school, as measured by standardized tests, as compared with the children enrolled in a traditionally organized elementary school.

A study of Table 4 (Chapter IV) indicates that there is no significant difference in reading between the experimental and the control group mean gains. A close scrutiny of the data shows that the gains in reading were close to being significant in the experimental group, as compared to gains in reading in the control group.

Hypothesis 2: There is a significant difference in mathematical skills, as measured by standardized tests, in children in the experimental group (IGE) as compared with children in the control group (self-contained classroom).

There was a significant difference in the gains in mathematics skills of the experimental groups when compared to the gains in the mathematics skills of the control group.

It is fair to conclude that children in the Individually Guided Education program seem to learn the mathematical skills with greater proficiency than the children in the traditional self-contained classrooms.

Hypothesis 3:   There is a significant difference in the self-concept of children in the experimental group (IGE) as compared with the control group (self-contained classroom).

There was a significant difference in gains in self-concept of the experimental groups when compared to the gains in self-concept of the control group. It is fair to conclude that children involved in the Individually Guided Education program improved greatly in their self-concept.

Hypothesis 4:   The attitudes of teachers of children in the experimental group (IGE) will be positive toward the IGE concept.

Parents of children in the Individually Guided Education program showed positive attitudes toward the program by expressing that their children and they liked the IGE program, and that their children enjoyed the inter-aged classroom arrangement. There were negative attitudes toward attendance at meetings concerning the IGE program. Unfortunately, attendance at special meetings during the school day and in the evenings was sparse. Every effort was made by the principal and the staff to entice parents to these meetings.

Parents had negative attitudes because their children were not discussing their school or learning as much as they did last year. This perception may be held by parents, but the quantitative data show otherwise.

Parents also were negative because they did not feel the staff and other parents had discussed the IGE program. This is unfortunate because of the great deal of effort that

was made to have programs at various hours of the day to accommodate parents.

Despite these negative attitudes, as measured by statistical data, the subjective statements from parents overwhelmingly approve and support the continuance of the Individually Guided Education program.

Hypothesis 6: The attitudes of students in the experimental group will be positive toward the IGE concept.

The attitudes of students in the Individually Guided Education program were positive in the area where they were being taught by more than one teacher during the day and having the same students in class all the time. It should be pointed out that the students apparently approve of the inter-age grouping because all of the groups were inter-aged.

Negative attitudes were expressed by the children when they and their parents felt that they did not like school as much this year as last. Furthermore, their parents did not attend meetings and did not hear of IGE. Again, although the quantitative data show these negative attitudes, parental reactions were positive about the IGE program. Parents did not attend meetings, but a host of printed materials were sent home to parents through the 1971-72 school year. Teachers reported that parents did stop in to learn more about the program on an informal basis.

Negative attitudes were expressed with having older or younger children from other grade levels in their classes. There seems to be an inconsistency because the students

expressed positively having the same students in class all the time. As was pointed out previously, these "same students" were inter-aged classes.

The data also showed that the students had negative feelings because they were not taught individually and did not have an opportunity to work on things of their own choosing.

Conclusions

1. Children in the Individually Guided Education program may not show significant gains in reading as compared with children in a traditional self-contained classroom.

2. Children in the Individually Guided Education program show significant gains in mathematics as compared with children in a traditional self-contained classroom.

3. Children in the Individually Guided Education program show significant gains in growth in self-concept as compared with children in traditional self-contained classrooms.

4. There are mixed feelings among teachers on various aspects of an Individually Guided Education program. Written comments by participating teachers show that they are very positive about the IGE program.

5. There are mixed feelings among parents on various aspects of an Individually Guided Education program. Written and oral comments by parents show that they are very positive about the IGE program.

6. There are mixed feelings of children on various aspects of an Individually Guided Education program.

Recommendations for Further Study

The study dealt specifically with the areas of reading, mathematics, and self-concept. It seems that studies today limit themselves to the areas of reading and mathematics. Much of this may be due to the pressure of state assessment tests, such as in the state of Michigan, or just the pressure to have children perform successfully in the academic areas. If children must succeed in mathematics and reading, what about the other instructional areas--namely, science, social studies, and English? Therefore, it is recommended that a study be done to look at growth of children in all instructional areas.

A longitudinal study of possibly three or five years of the impact of an Individually Guided Education program on learnings should be undertaken. Also, the longitudinal study should look at the self-concept of these children. Are these gains the result of the Hawthorne effect?

The previous recommendations for study center on the child and changes in the child in academic areas and self-concept. What about the teacher? Does the teacher change in any way as a result of training and involvement in an Individually Guided Education program? Can she make better decisions? Can she plan more effectively? How does she relate to children of varying age levels? These and many

more questions should be studied in relation to the classroom teacher in an Individually Guided Education program.

One of the important changes in role occurs with the principal. With the Instructional Improvement Committee, all of the decisions which affect the children and the teachers are made within this group. The principal within the IIC holds one vote, while the teacher representatives could easily outvote the administrator. What is the principal's reaction? What about his security factor? What is the effect of the IIC on the whole school climate? Such questions need to be answered in relation to the role of the principal in an IGE school.

Implications

With the concern for the improvement of the education of children, both the advantaged and the disadvantaged, it behooves administrators and teachers to consider seriously the implementation of the Individually Guided Education program. The findings show significant growth in an least one instructional area, but more important, there was very significant growth in the self-concept of these children. With this knowledge, then it is imperative that IGE be installed in schools throughout the country. There are enough data to support the premise that when a child's self-concept is good, learning will be enhanced.

The installation of an Individually Guided Education program has definite implications for the board of education.

No innovative program can be installed without sufficient funds for in-service training of the administrator and the staff. These funds should be provided to hire a qualified trainer who has the necessary skills, not only in Individually Guided Education techniques, but more important, in how to work successfully with administrators and teachers.

Any innovative program places responsibilities on the parents. When a school is embarking on an Individually Guided Education program, parents should be alerted to the change in the teaching-learning strategies for a particular school. Parents, in turn, should participate in the various meetings planned for them. Also, any printed materials sent to them should be carefully studied. Any questions concerning the program should result in personal conferences with the teacher or the principal. Parental participation is important to the success of an Individually Guided Education program.

Reflections

During the past two years, the researcher has been involved in the implementation of an Individually Guided Education program. The training the researcher received, and the training the teachers received, made all of us more cognizant of children. Our first concern was the children. We worked diligently to develop teaching strategies which made the learnings for children more exciting. Truly, the school environment became a joy to everyone. But all of

this could not be possible without the needed funds for training, and for the follow-through after the staff inaugurated the program. A great deal of credit must go to the consultant, whose enthusiasm for children and good teaching permeated the staff. He had to face a very traditional and insecure staff, but his kindness, warmth, and genuineness brought about great changes in the behavior of the administrator and the staff. As was pointed out in the implications, a trainer must know the strategies of IGE, but more important, he must know how to work effectively with teachers. This consultant was unequivocally outstanding.

The researcher hopes she will be instrumental in installing IGE in other schools, and hopes that she can get other administrators to implement this program. She has seen the changes in children, teachers, and administrators as a result of this training. Furthermore, the researcher has heard the positive feelings of parents whose children are involved in an IGE program.

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APPENDICES

APPENDIX A

LETTERS TO PARENTS OF EXPERIMENTAL

AND CONTROL GROUPS

INTRODUCTORY LETTER TO PARENTS OF CHILDREN
IN EXPERIMENTAL AND CONTROL GROUP

Dear Parent or Guardian,

This letter is being sent to all parents and guardians of children attending the Mokersky and McNair Elementary Schools to keep you informed about some very important happenings in these two schools. District-wide, the Westwood Schools have as a theme the improvement of instruction. Various new techniques are being introduced in the several schools which show real promise for improving your child's basic skills in reading, writing, science, arithmetic, and in the development of a child's attitude which hopefully will shape his feelings about making the most of school during the next several years of his life.

From time to time, it will be necessary to measure the progress a child makes in the school and through the various units of instruction. Some of the measurements will be taken routinely as is the custom to do almost daily in a child's school experience. Other measurements will be taken of children, randomly selected, who are thought to be representative of other children in their class and in their school. In all cases, we feel these additional tests will provide some rather sound educational experiences for the children being measured. It is our desire that all children could be involved in this particular experience but, I am sure you will understand, that with several hundred children it is not always possible for them to participate in the regular skills measurement as well as the additional measurements we will introduce this spring.

I wanted you to have this information, for you may have two children in the same school, or they may have friends some who will experience these additional measurements while others will not. Additionally, the teachers and principals at each school know you may be curious about this should parents discuss it with each other.

We are pleased to serve your children with the best techniques and materials that can be made available, and we appreciate your understanding the importance of our determining that new instructional programs are doing what they are supposed to do for your children and the children who will follow them.

If you have any questions at any time concerning the program, please contact me or Mrs. Bradford, Assistant Superintendent for Pupil Accounting.

Thank you.

Sincerely,

Paul R. Hunt, Ed.D.
Superintendent

LETTER ACCOMPANYING PARENT QUESTIONNAIRE

Dear Parents,

We are constantly putting forth efforts to bring about con-
tinued improvements in our school program at McNair School.

The attached sheets seek to get your reaction to the Indi-
vidually Guided Education (IGE) Program now in effect at
McNair School.

The copy of the questionnaire sent seeks to get your reaction
to each of the sixteen (16) items listed.

The questionnaire is being sent to a random selection of
parents to get views from parents of children at various age
levels. Due to a time factor, we are not able to send the
questionnaire to every home. Parents not surveyed at this
time will be surveyed at another time.

The additional remarks requested in item nine (9) will be
greatly appreciated.

Thank you for your continued cooperation.

<div style="text-align:right">Cordially,</div>

<div style="text-align:right">Equilla F. Bradford</div>

McNair Elementary School
Westwood Community Schools
Inkster, Michigan

LETTER OF THANKS TO PARENTS OF CHILDREN IN THE
EXPERIMENTAL AND CONTROL GROUPS

Dear Parents:

As the school year hastily draws to a close I'd like to take this opportunity to again thank you for the privilege of working with your children in the Individually Guided Education Study.

The study should be finished during the summer, 1971. The results from the study will be made available at the beginning of the 1972-1973 school year to the elementary school personnel and to parents who have specific interests.

My very best wishes to each of you and to your children.

Cordially,

Equilla F. Bradford

McNair Elementary School
Westwood Community Schools
Inkster, Michigan

APPENDIX B

TEACHER, PARENT, AND STUDENT

QUESTIONNAIRES AND RESPONSES

TEACHER PERCEPTION OF INDIVIDUALLY
GUIDED EDUCATION QUESTIONNAIRE

Directions

1. Only teachers who have been teaching in an IGE School
    for at least two months are asked to respond to this
    questionnaire.

2. It is important that only one response is marked for
    each question.

3. Please answer the questions of this questionnaire while
    considering your full teaching day and the general
    nature of your teaching environment.

TEACHER PERCEPTION OF INDIVIDUALLY
GUIDED EDUCATION QUESTIONNAIRE

1. In your opinion, how effectively were the teachers assigned to Units to utilize their complementary strength?

    a. Not effectively assigned in most cases
    b. Effectively assigned in some cases
    c. Effectively assigned in most cases
    d. Effectively assigned in all cases

2. In your opinion, how effectively were the teachers assigned to Units according to their professional compatibility?

    a. Not effectively assigned in more cases
    b. Effectively assigned in some cases
    c. Effectively assigned in most cases
    d. Effectively assigned in all cases

3. Does your Instructional Improvement Committee (IIC) resolve those problems which involve two or more units in the school?

    a. Not to my knowledge
    b. Sometimes
    c. In most cases
    d. Always

4. Does the IIC coordinate curricular development in your school?

    a. Not to my knowledge
    b. Sometimes
    c. In most cases
    d. Always

5. In your opinion, does the IIC coordinate the in-service education program for your school?

    a. No
    b. In a minor way
    c. Yes

6. In your opinion, does the IIC facilitate school-wide communication?

   a. No
   b. In a minor way
   c. Yes

7. To what degree do you believe students are accepting greater responsibility for selecting their own objectives?

   a. Some students participate 10-30%
   b. Often students participate 31-60%
   c. Usually students participate 61-90%
   d. Students participate 91-100%

8. To what degree are students involved in selecting learning activities to pursue their objectives?

   a. Some students participate 10-30%
   b. Often students participate 31-60%
   c. Usually students participate 61-90%
   d. Students participate 91-100%

9. Have you attended a meeting about the new program?

   a. Yes
   b. Would like to
   c. No

10. Have you heard of IGE, Individually Guided Education?

    a. Yes
    b. Would like to
    c. No

TEACHER REACTIONS TO THE INDIVIDUALLY GUIDED EDUCATION PROGRAM IN THE EXPERIMENTAL SCHOOL

1. "The children seem eager to learn."

2. "It's more work for the teacher but it's worth it."

3. "The slower children don't seem to feel defeated. They don't have to try to keep up with the rest of the class."

4. "I think the slower children and the brighter ones benefit from this program."

5. "The children gain in self-confidence."

6. "It's helpful exchanging ideas with other teachers who have some of the same children."

7. "The children become more independent. They are anxious to see how much they can do on their own."

8. "The program helps eliminate some behavior problems."

9. "The slower children can experience success and the brighter ones don't get bored."

10. "Children are becoming less fearful of giving the wrong answer."

11. "The program decreases frustration in teachers and students."

12. "Children begin to accept some responsibility for their own learning."

13. "The children are encouraged by their own success."

14. "I'm gaining more insight as to how children learn."

PARENTS' PERCEPTION OF INDIVIDUALLY
GUIDED EDUCATION QUESTIONNAIRE

1. Does your child/children enjoy school more this year than last year?

    a. Yes
    b. About the same
    c. I don't know
    d. No, liked it better last year

2. Do you as a parent like the school program more this year than last?

    a. Yes
    b. About the same
    c. I don't know
    d. No, liked it better last year

3. Does your youngest child enjoy being with older children?

    a. Yes
    b. No

4. Does your oldest child enjoy being with younger children?

    a. Yes
    b. No

5. Does your child talk about his school more this year than last year?

    a. Yes
    b. About the same
    c. No

6. Do you feel that your child is learning more this year than last year?

    a. Yes
    b. About the same
    c. No

7. Have the teachers or principal discussed the IGE program with you?

   a. Yes
   b. Sometimes
   c. No

8. Have other parents discussed the IGE program with you?

   a. Yes
   b. Sometimes
   c. No

9. What would you suggest as the best way to inform parents of the IGE program?

   _____

   _____

   _____

   _____

PARENT RESPONSES TO QUESTION NINE ON THE
PARENTAL INDIVIDUALLY GUIDED EDUCATION QUESTIONNAIRE

Question 9:   What would you suggest as the best way to
inform parents of the IGE Program?

1.   "An open house meeting."

2.   "Through the child and pamphlets."

3.   "If you could put it down on paper so I can always
remember it."

4.   "I would like to receive a weekly progress report."

5.   "A meeting or a paper stating step by step of the program."

6.   "Parent-teacher meetings or by mail."

7.   "There could be copies made of each meeting and sent to
the parents so that those unable to come to the meetings
will be kept up to date on what's going on."

8.   "By inviting parents to visit IGE program discussion or
meeting."

9.   "In order to reach all parents it will take a combination
of ways to inform parents. I suggest sending information
home, meetings, and classroom visits."

10.   "Perhaps an hour seminar for questions and answers."

11.   "Set up a date and time for all parents to come to the
school and have the teachers discuss the program with
them."

12.   "I suggest the best way would be by telephone."

13.   "Newsletter, child's attitude toward new program, and
parent, teacher, student conferences."

14.   "I think you should have open-house for the parents while
the IGE program is in process."

15.   "Invite parents for questions and answers sessions,
periodically."

PARENT EVALUATION FORM OF THE
INDIVIDUALLY GUIDED EDUCATION PROGRAM

	yes	no
1. Do you feel your child is happier in school this year?	☐	☐
2. Do you feel that your child is getting more individual help in school this year?	☐	☐
3. Do you feel that your child is reading more at home?	☐	☐
4. Do you feel that your child is more willing to do his homework this year?	☐	☐
5. Would you like to see this project using more teachers and paraprofessionals in McNair School continued next year?	☐	☐

PARENT REACTIONS TO THE INDIVIDUALLY GUIDED
EDUCATION PROGRAM IN THE EXPERIMENTAL SCHOOL

1. "My daughter used to hate school because she couldn't keep up with the class. She likes it better now."

2. "He reads at home now. He never did that before."

3. "My children feel happier about school."

4. "He shows more pride in his work. He brings his papers home."

5. "I feel that the children are getting more attention."

6. "I was really surprised at the progress Kevin made in his arithmetic."

7. "I like the program because I feel that my child is not expected to fit a pattern."

8. "The program is very valuable to the student. It gives them the freedom to use what they have. I think the program is just wonderful."

STUDENT PERCEPTION OF INDIVIDUALLY
GUIDED EDUCATION QUESTIONNAIRE

Instructions

The students to whom you administer this questionnaire should
be selected randomly from the students in your school. If
you feel that any of the students selected will not feel
free to be completely open with you because of your position
or previous relationship, another staff member should con-
duct the interview.

You should explain each question sufficiently to insure that
the student understands and can respond to it both honestly
and accurately. You may find it helpful to have the student
read both the questions and response options from his own
copy. If so, please feel free to use that technique;
however, you should mark the response in each case.

STUDENT PERCEPTION OF INDIVIDUALLY
GUIDED EDUCATION QUESTIONNAIRE

1. Do you like school more this year than last?

   a. Yes
   b. About the same
   c. I don't know
   d. No, liked it better last year

2. Do your parents like your school more this year than last?

   a. Yes
   b. About the same
   c. I don't know
   d. No, liked it better last year

3. Have your parents attended a meeting about your school?

   a. Yes, both of them have
   b. Yes, one of them has
   c. I don't know
   d. No, they haven't

4. Have your parents heard of IGE?

   a. Yes, both of them have
   b. Yes, one of them has
   c. I don't know
   d. No, they haven't

5. Are you taught in the same place all day? (Do not count special subjects such as instrumental music or gym.)

   a. Yes, all the time
   b. Yes, most of the time
   c. Not always

6. Are the same students in class with you all the time?

   a. Yes, all the time
   b. Yes, most of the time
   c. Not always

7. Are there older or younger students in your class?
   (Students from other grade levels.)

   a. Always
   b. Sometimes
   c. I don't know
   d. Almost never

8. Do you like having older and younger students in your
   class?

   a. Always
   b. Sometimes
   c. I don't know
   d. Almost never

9. How often are you taught with just you and a teacher?

   a. At least once a day
   b. About once or twice a week
   c. About once a month
   d. Never

10. How often do you work on things that you choose?

    a. At least once a day
    b. About once or twice a week
    c. About once a month
    d. Never

THE PIERS-HARRIS

CHILDREN'S SELF-CONCEPT SCALE

(The Way I Feel About Myself)

THE WAY I FEEL ABOUT MYSELF

NAME. . . . .

AGE . . . . GIRL OR BOY . . . .

GRADE . . . . SCHOOL. . . . .

DATE. . . . .

DIRECTIONS

Here are a set of statements. Some of them are true of you
and so you will circle the yes. Some are not true of you and
so you will circle the no. Answer every question even if
some are hard to decide, but do not circle both yes and no.
Remember, circle the yes if the statement is generally like
you, or circle the no if the statement is generally not like
you. There are no right or wrong answers. Only you can tell
us how you feel about yourself, so we hope you will mark the
way you really feel inside.

1. My classmates make fun of me. . . . . yes   no

2. I am a happy person . . . . yes   no

3. It is hard for me to make friends . . . . yes   no

4. I am often sad. . . . . yes   no

5. I am smart. yes   no

6. I am shy. . . . . yes   no

7. I get nervous when the teacher calls on me. . . . yes   no

8. My looks bother me. . . . . yes   no

9. When I grow up, I will be an important person . . yes   no

10. I get worried when we have tests in school. . . . yes   no

11. I am unpopular. . . . . yes   no

12. I am well behaved in school . . . . yes   no

13. It is usually my fault when something
     goes wrong. yes   no

14. I cause trouble to my family. . . . . yes   no

15. I am strong . . . . yes   no

16. I have good ideas . . . . yes   no

17. I am an important member of my family . . . . . . yes   no

18. I usually want my own way . . . . yes   no

19. I am good at making things with my hands. . . . . yes   no

20. I give up easily. . . . . yes   no

21. I am good in my school work. . . . . yes   no

22. I do many bad things . . . . yes   no

23. I can draw well. . . . . yes   no

24. I am good in music . . . . yes   no

25. I behave badly at home . . . . yes   no

26. I am slow in finishing my school work. . . . . . yes   no

27. I am an important member of my class . . . . . . yes   no

28. I am nervous . . . . yes   no

29. I have pretty eyes . . . . yes   no

30. I can give a good report in front of the class . yes   no

31. In school I am a dreamer . . . . yes   no

32. I pick on my brother(s) and sister(s). . . . . . yes   no

33. My friends like my ideas . . . . yes   no

34. I often get into trouble . . . . yes   no

35. I am obedient at home. . . . . yes   no

36. I am lucky . . . . yes   no

37. I worry a lot. . . . . yes   no

38. My parents expect too much of me . . . . yes   no

39. I like being the way I am. . . . . yes   no

40. I feel left out of things. . . . . yes   no

41. I have nice hair . . . . yes   no

42. I often volunteer in school. . . . . yes   no

43. I wish I were different. . . . . yes   no

44. I sleep well at night. . . . . yes   no

45. I hate school. . . . . yes   no

46. I am among the last to be chosen for games . . . yes   no

47. I am sick a lot. . . . . yes   no

48. I am often mean to other people. . . . . yes   no

49. My classmates in school think I have good ideas. yes   no

50. I am unhappy . . . . yes   no

51. I have many friends. . . . . yes   no

52. I am cheerful. . . . . yes   no

53. I am dumb about most things. . . . . yes   no

54. I am good looking. . . . . yes   no

55. I have lots of pep . . . . yes   no

56. I get into a lot of fights . . . . yes   no

57. I am popular with boys . . . . yes   no

58. People pick on me. . . . . yes   no

59. My family is disappointed in me. . . . . yes   no

60. I have a pleasant face . . . . yes   no

61. When I try to make something, everything
    seems to go wrong. . . . . yes   no

62. I am picked on at home . . . . yes   no

63. I am a leader in games and sports. . . . . yes   no

64. I am clumsy. yes   no

65. In games and sports, I watch instead of play . . yes   no

66. I forget what I learn. . . . . yes   no

67. I am easy to get along with. . . . . yes   no

68. I lose my temper easily. . . . . yes   no

69. I am popular with girls. . . . . yes   no

70. I am a good reader . . . . yes   no

71. I would rather work alone than with a group. . . yes   no

72. I like my brother (sister) . . . . yes   no

73. I have a good figure . . . . yes   no

74. I am often afraid. . . . . **yes**   no

75. I am always dropping or breaking things. . . . . **yes**   no

76. I can be trusted . . . . **yes**   no

77. I am different from other people . . . . yes   no

78. I think bad thoughts . . . . yes   no

79. I cry easily . . . . **yes**   no

80. I am a good person . . . . yes   no

Score:_____

APPENDIX C

INDIVIDUALLY GUIDED EDUCATION

ORGANIZATIONAL CHART AND BIBLIOGRAPHY

ORGANIZATIONAL CHART OF THE EXPERIMENTAL MULTIUNIT SCHOOL GROUPS OF 299 STUDENTS

| Representative Teachers |
| Representative Unit Leaders |

| Representative Principals |

| Central Office Consultants |

| External Consultants |

| Central Office Administrator |

| Principal |

| IMC Director |

| Unit Leader A |
| 3 Staff Teachers
Teacher Aide
Instructional Secretary
72 students
Ages 6 - 9 |

Unit A

| Unit Leader B |
| 3 Staff Teachers
Teacher Aide
Instructional Secretary
72 students
Ages 6 - 9 |

Unit B

| Unit Leader C |
| 3 Staff Teachers
Teacher Aide
Instructional Secretary
85 students
Ages 6 - 9 |

Unit C

| Unit Leader D |
| 3 Staff Teachers
Teacher Aide
Instructional Secretary
70 students
Ages 6 - 9 |

Unit D

——— Building Instructional Improvement Committee

- - - System-Wide Policy Committee

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APPENDIX D

READING LEVELS MATERIAL

MULTI-LEVEL READING PROGRAM
LEVEL ONE-READING READINESS-SKILLS PROFILE

NAME _____ TEACHER _____ DATE _____

OBJECTIVES OF PRE-READING PERIOD:

1. To assist the child in becoming adjusted to life in school
2. To help the child gain emotional and social maturity
3. To broaden the child's background of experience
4. To help the child increase his speaking and understanding vocabulary
5. To find out to what extent the child has the skills necessary to begin reading
6. To provide activities which will foster the development of readiness in reading
7. To increase the child's interest in reading and to make him aware of the functions of reading

FACTORS TO CONSIDER IN EDUCATIONAL READINESS:

1. Emotional stability
2. Physical maturity
3. Mental maturity
4. Social development

UNDERSTANDINGS & SKILLS NECESSARY FOR THE READING ACT:

A. USING PICTURES TO GET MEANING

____ 1. Recognizes a picture tells a story
____ 2. Can give main idea
____ 3. Can arrange pictures in sequential order
____ 4. Can note details to increase meaning
____ 5. Can draw conclusions or predict outcomes from a picture
____ 6. Can classify pictures
____ 7. Can read pictures - implied meanings (sad, happy, busy, tired)
____ 8. Can identify new concepts from pictures
____ 9. Can retell a story using picture clues

B. LISTENING SKILLS

____ 1. Can follow simple directions
____ 2. Can give the main idea of the story read
____ 3. Can retell significant details
____ 4. Show maturation in length of attention span
    ____ a. while listening to stories
    ____ b. while listening to records
____ 5. Can listen for a variety of purposes
____ 6. Can translate what he hears to actions

C. SKILL IN USING CONTEXT

____ 1. Can use oral context to supply a missing word or thought
____ 2. Can use oral context to predict outcomes
____ 3. Can use oral context to get new meaning
____ 4. Can use oral context to determine rhyming words

D. SKILL IN MAKING AUDITORY DISCRIMINATION

____ 1. Can pick out words that begin alike
    ____ a. single consonants
    ____ b. consonant blends
    ____ c. consonant digraphs
    ____ d. long vowels
____ 2. Can identify and discriminate between sound patterns
____ 3. Can hear word variants

E. SKILL IN USING CONTEXT, AUDITORY AND PICTURE CLUES TO ARRIVE AT MEANING

F. SKILL IN MAKING VISUAL DISCRIMINATIONS

____ 1. Can tell how objects are alike, different
____ 2. Can identify objects of a class, shape, size, color
____ 3. Can pick out names which begin alike
____ 4. Recognizes the form of a group of words
____ 5. Recognizes the form of a group of letters
____ 6. Recognizes differences between forms of letters

G. SKILL IN USING THE LEFT TO RIGHT SEQUENCE IN READING

____ 1. Can put parts of a story (pictures) in proper sequence
____ 2. Know the meaning of left and right
____ 3. Can retell a story from a book with the correct page sequence