

1982

A comparison between traditional and nontraditional elementary schools on the basis of the academic achievement and self-esteem of students and parental perceptions of the education provided

Willie C. Johnson
Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/rtd>

 Part of the [Elementary Education and Teaching Commons](#)

Recommended Citation

Johnson, Willie C., "A comparison between traditional and nontraditional elementary schools on the basis of the academic achievement and self-esteem of students and parental perceptions of the education provided " (1982). *Retrospective Theses and Dissertations*. 7539.

<https://lib.dr.iastate.edu/rtd/7539>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

INFORMATION TO USERS

This reproduction was made from a copy of a document sent to us for microfilming. While the most advanced technology has been used to photograph and reproduce this document, the quality of the reproduction is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help clarify markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure complete continuity.
2. When an image on the film is obliterated with a round black mark, it is an indication of either blurred copy because of movement during exposure, duplicate copy, or copyrighted materials that should not have been filmed. For blurred pages, a good image of the page can be found in the adjacent frame. If copyrighted materials were deleted, a target note will appear listing the pages in the adjacent frame.
3. When a map, drawing or chart, etc., is part of the material being photographed, a definite method of "sectioning" the material has been followed. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.
4. For illustrations that cannot be satisfactorily reproduced by xerographic means, photographic prints can be purchased at additional cost and inserted into your xerographic copy. These prints are available upon request from the Dissertations Customer Services Department.
5. Some pages in any document may have indistinct print. In all cases the best available copy has been filmed.

**University
Microfilms
International**

300 N. Zeeb Road
Ann Arbor, MI 48106

8224331

Johnson, Willie C.

A COMPARISON BETWEEN TRADITIONAL AND NONTRADITIONAL
ELEMENTARY SCHOOLS ON THE BASIS OF THE ACADEMIC
ACHIEVEMENT AND SELF-ESTEEM OF STUDENTS AND PARENTAL
PERCEPTIONS OF THE EDUCATION PROVIDED

Iowa State University

PH.D. 1982

**University
Microfilms
International** 300 N. Zeeb Road, Ann Arbor, MI 48106

A comparison between traditional and nontraditional
elementary schools on the basis of the academic
achievement and self-esteem of students and parental
perceptions of the education provided

by

Willie C. Johnson

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education
Major: Education (Research and Evaluation)

Approved:

Signature was redacted for privacy.

In Charge of Major Work

Signature was redacted for privacy.

For the Major Department

Signature was redacted for privacy.

For the Graduate College

Iowa State University
Ames, Iowa

1982

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
Purpose of the Study	3
Rationale	4
Problem	5
Definitions	5
Objectives of the Study	7
Hypotheses	7
Assumptions	8
Delimitations	8
Organization of the Study	9
REVIEW OF LITERATURE	10
Basic Skills Movement	10
Summary of the basic skills movement	15
Review of Related Evaluations and Research	15
Summary of related evaluations and research	22
Related Studies on Self-Concept	22
Summary of studies on self-concept	24
Parent Reaction to Public Schools	25
Summary of parent reaction to public schools	27
METHOD OF PROCEDURE	28
Sample	28
Fundamental School Program	31
Instrumentation	34

Standardized measures	34
District objectives-based test	38
Coopersmith Self-Esteem Inventory	40
Parents survey	41
Data Analysis	41
Iowa Test of Basic Skills and Iowa Test of Educational Development	41
Objectives-based test data	43
Coopersmith Self-Esteem Inventory	44
Parent survey	44
FINDINGS	45
Analysis of the Two-Factor Experiment	47
Analysis of the two-factor experiment for group I	48
Summary of the two-factor experiment for group I	55
Analysis of the two-factor experiment for group II	55
Summary of the two-factor experiment for group II	63
Analysis of the two-factor experiment for group III	63
Summary of the two-factor experiment for group III	72
Comparison of District Objectives-Based Test Results	72
Comparison between experimental and control group I	73
Comparison between experimental and control group II	73
Comparison between experimental and control group III	73
Summary of the objectives-based tests results	75
Comparison of the Coopersmith Self-Esteem Inventory Results	75
Comparison between experimental and control group I	75
Comparison between experimental and control group II	76
Comparison between experimental and control group III	76
Summary of the Coopersmith Self-Esteem Inventory results	79
Parent Survey	79
Grades for schools	80
Agreement with statement about the elementary schools	82
Participation in elementary school activities and programs	82
Philosophy of education	87
Summary of parent survey	87
Summary	87

SUMMARY	90
Group I	93
Conclusion	94
Group II	95
Conclusion	96
Group III	96
Conclusion	98
Parent Survey	99
Conclusion	99
Conclusion	100
Recommendations	102a
REFERENCE NOTES	102b
REFERENCES	103
ACKNOWLEDGEMENTS	106b
APPENDIX A. KINDERGARTEN APPLICATION FORM	107
APPENDIX B. PARENT AND STUDENT SURVEY	109
APPENDIX C. COOPERSMITH SELF-ESTEEM INVENTORY (CSEI)	112
APPENDIX D. PARENT SURVEY	116

INTRODUCTION

Americans have spent millions of dollars and devoted the time of hundreds of scholars on curriculum development projects. Most of this money and effort has been spent in designing course materials and preparing teachers for their use. Such course material was intended to replace existing material in the traditional school subjects, especially mathematics, writing and reading. Due to the amount of money and effort expended, evidence regarding the value of these materials has been closely monitored. In order to secure such evidence, a number of studies were designed and implemented which compared the achievement scores of students who utilized traditional materials to students who utilized revised materials.

As a result of publicity in the last few years on declining test scores, educators as well as parents have become increasingly concerned about the quality of education in their schools. A publication written by the National School Public Relations Association (1976) revealed that parents and communities were concerned whether students were learning the "basics." In 1978, the United States government established a new Title II (P.L. 95-561) of the Elementary and Secondary Act of 1965: Title II ... Basic Skills Improvement. The stated purposes of this legislation were:

- 1) to assist federal, state, and local educational agencies to coordinate the use of all available resources for elementary and secondary education to improve instruction so that all children are able to master the basic skills of reading, mathematics, and effective communication, both written and oral;

- 2) to encourage states to develop comprehensive and systematic plans for improving achievement in the basic skills;
- 3) to provide financial assistance to state and local educational agencies for developing programs in the basic skills;
- 4) to develop means by which parents working with the schools can contribute to improving the educational achievements;
- 5) to encourage the involvement of the private sector in the delivery to children, youths, and adults of educational services and materials that will improve achievement in the basic skills;
- 6) to expand the use of television and other technology in the delivery of instructional programs aimed at improving achievement in the basic skills.

In response to these concerns, school districts have begun to place greater emphasis on the basic skills. In the mid-seventies, some school districts were establishing fundamental, often called traditional public school programs as an alternative to the "regular" public school programs in their communities. In general, these fundamental schools were an outgrowth of the movement toward increasing concern with the teaching of basic skills, discipline, homework, and other traditional values such as citizenship and national loyalty. This national movement was viewed as a shift away from the liberal educational practices of the late 1960s and early 1970s.

Educators and community members stated that conventional elementary schools did not prepare students for junior and senior high schools (Jones, 1976). They claimed that students were not able to read, write, or add. Fundamental schools promised to do what many lay persons felt the regular schools had not been able to do: teach youngsters to read, write, add, and perhaps most important, to behave.

Some opponents of this movement referred to traditional schools as

armed camps (Jones, 1976), while others believed they were the answer to education's current problems. William Pharis, executive director of the National Association of Elementary School Principals, characterized this movement as an "outgrowth of a Puritan ethic that said anything that was good for you had to hurt and that, if kids were enjoying themselves in school, there must be something wrong" (Jones, 1976, p. 28).

Purpose of the Study

School administrators were hesitant to welcome innovations without some assurance of their effectiveness prior to their incorporation. Generally speaking, effectiveness was interpreted in terms of some overt, observable performance, such as student achievement. Placing emphasis on the basic skills has now become a major thrust for administrators in elementary schools all over the nation. Whether this kind of administrative and functional structure improves and enhances learning for elementary school children has become the central concern for educators as well as parents. This study of fundamental school students and their parents' perceptions is an attempt to provide relevant evidence addressing this concern. This is a follow-up study of students presently in grades 8 through 10 to determine how those students who were exposed to a liberal elementary curriculum compare with those who were exposed to a traditional elementary curriculum in the areas of basic skills and self-concept. The study also compares the perceptions of students' parents to determine if there are differences in their attitudes toward education.

Ratiopale

Fundamental (traditional) schools were generally established with the philosophy that stress should be placed on three R's, strict discipline, and controlled classrooms. While President of the Pasadena, California School Board, Henry Myers (1976) believed that children were incompetent to know what they needed to learn and needed the guidance that teachers provided. Myers stated that their philosophy was simple:

"We don't believe that structured, self-contained classrooms are antithetical to the development of a 'positive self-concept' or self-esteem. Nor do we buy the theory that competition is a bad thing. On the contrary, we contend that children need to overcome frustration and occasional defeat, and learn to build successfully from them" (p. 31).

According to Myers (1976), the basic goals underlying any fundamental school were generally categorized into five areas:

- 1) To master the basic skills for continued learning;
- 2) To know and understand one's history, heritage and governmental structure, and to reason in a logical and objective manner;
- 3) To challenge each child to do his best;
- 4) To ensure accountability;
- 5) To reinforce parental teaching of citizenship, respect, discipline, and personal responsibility.

In addition to heavy doses of the three R's and an emphasis on discipline, most traditional schools also stress four other aspects: use of textbooks, homework, dress codes, and patriotism.

Since the establishment of the traditional school programs more than a century ago, educators have been modifying the program structure through various plans. The critical question is should students today

be forced to fit into the long-established and generally accepted pattern of fundamental (traditional) school programs or should the elementary school programs adapt to the more liberal educational practices popular in the late 1960s and early 1970s? For the remainder of this study, school programs which have been discussed as liberal programs of the 60s and early 70s will be referred to as "regular" programs. Those referred to as traditional will be labeled as "fundamental" school systems.

Problem

Research focusing upon the academic performance and attitudes of students who have received a fundamental elementary school education is virtually nonexistent at all levels of the school district, including state and national levels. Thus, this study represents an initial attempt at investigating the sustaining cognitive effects of an Iowa fundamental school program on its current students and former students who are now enrolled in junior and senior high school, without the benefit of comparative group analysis.

Definitions

1. Experimental group. Students who enrolled in a fundamental school program in grades 4, 5, and 6 during the fall of 1976 and remained in the program or were promoted from the program at the time of this study.
2. Control group. Students enrolled in a regular school program, at the same grade level as their counterparts in the experimental group.

3. Fundamental school. An alternative elementary school program organized with proposed enhanced emphasis on reading, writing, arithmetic, strict discipline, dress codes, controlled classrooms, homework, and patriotism.

4. Regular school. A public school providing instruction to students by means of departmentalized, magnet, or individually guided educational programs.

5. Student achievement. The scores earned by students on the Iowa Test of Basic Skills; the Iowa Test of Educational Development; and an Iowa District Objectives-Based Test.

6. Teachers. Certificated employees assigned to teach at the K-elementary, junior or senior high school levels.

7. Elementary school. A regular public school in Iowa encompassing at least grades one through six or one through eight.

8. Junior high school. A regular public school in Iowa encompassing grades seven through nine, seven through eight, or six through eight.

9. Senior high school. A regular public school in Iowa encompassing grades ten through twelve, or nine through twelve.

10. Parent. Adult(s) having custodial responsibility for a child included in this study.

11. Basic skills. A curriculum in which emphasis is placed on reading, writing, and arithmetic.

3. Fundamental school. An alternative elementary school program organized with proposed enhanced emphasis on reading, writing, arithmetic, strict discipline, dress codes, controlled classrooms, homework, and patriotism.

4. Regular school. A public school providing instruction to students by means of departmentalized, magnet, or individually guided educational programs.

5. Student achievement. The scores earned by students on the Iowa Test of Basic Skills; the Iowa Test of Educational Development; and an Iowa District Objectives-Based Test.

6. Teachers. Certificated employees assigned to teach at the K-elementary, junior or senior high school levels.

7. Elementary school. A regular public school in Iowa encompassing at least grades one through six or one through eight.

8. Junior high school. A regular public school in Iowa encompassing grades seven through nine, seven through eight, or six through eight.

9. Senior high school. A regular public school in Iowa encompassing grades ten through twelve, or nine through twelve.

10. Parent. Adult(s) having custodial responsibility for a child included in this study.

11. Basic skills. A curriculum in which emphasis is placed on reading, writing, and arithmetic.

Objectives of the Study

The primary objectives of this study were:

1. To assess the effectiveness of a fundamental school program through comparison of fundamental and regular school student achievement in reading, writing, and arithmetic.
2. To compare the self-esteem of students who attended regular schools with those who attended fundamental schools' programs.
3. To assess parental attitudes and opinions regarding the goals, nature, and quality of education in both regular and fundamental elementary school programs.

Hypotheses

The hypotheses formulated for testing were developed on the basis of general research hypotheses which have been logically deduced from the rationale and objectives of this study. The hypotheses were:

1. There are no significant differences between the mean achievement of experimental groups and the control groups as measured by the Iowa Test of Basic Skills and Iowa Test of Educational Development for each time period under study.
2. There are no significant differences between the mean student achievement in mathematics utilizing a district objective-based test for the experimental groups and control groups.
3. There are no significant differences between the mean student achievement in reading utilizing a district objective-based test for the experimental groups and the control groups.
4. There are no significant differences between mean students' self-esteem as measured by the Coopersmith Self-Esteem Inventory for

the experimental and control groups.

5. There is no significant difference between the experimental and control groups on measures of parental perceptions of the goals, nature and quality of education provided.

Assumptions

1. The norm-referenced and objectives-based test results used in this study are a reasonably reliable measurement of student achievement.

2. Original differences between the achievement levels of the experimental and control groups were not completely eliminated through the matching of students on an individual basis, but the range in actual achievement will not be great enough to confound the findings.

3. All achievement measuring instruments utilized, norm-referenced, and objectives-based, as well as the self-esteem measuring instrument are valid and reliable.

4. The information gained from parents relative to their perceptions of the goals, nature, and quality of education is both valid and reliable.

Delimitations

The experimental group and control group were matched on an individual basis using grade, age, sex, race, father's occupation and highest grade of school completed, course grades, and Iowa Test of

Basic Skills results (where test result data were available). Local conditions and test information on some occasions did not permit the investigator to select the control group with both the Iowa Test of Basic Skills and course grades. Since raw scores were not available, percentile ranks were utilized in analyzing the Iowa Test of Basic Skills and the Iowa Test of Educational Development. No attempt was made to control the quality of the teaching staff and it should be noted that the teachers at the fundamental school were volunteers from among the district teaching ranks. The findings of this study can apply only to the district involved in the study or a comparable school district and are not generalizable to the population as a whole.

Organization of the Study

The material presented in this study has been divided into five chapters. The first chapter includes the problems inherent in the regular elementary school, the common goals of a fundamental school, the purpose of the study, the rationale, problem and specific objectives of this study, hypotheses, definitions of terms used, assumptions, and delimitations of this study. The second chapter is an assessment and summary of publications and research studies relevant to the fundamental school organization. Contained in the third chapter are the methodology and design for the study. The fourth chapter presents the findings. The fifth chapter discusses the findings, their implications, and a summary.

REVIEW OF LITERATURE

Research focusing on how students were affected by the fundamental school, or back-to-basics concept as they continue their education through the junior and senior high levels was minimal at the District, State or National level at the time of this study.

Basic Skills Movement

The back-to-basics movement illustrated and intensified the increasingly general interest of parent, teachers, administrators, and school board members in students' achievement. In 1978, the United States Government established a new Title II (P.L. 95-561) of the Elementary and Secondary Act of 1965: Title II ... Basic Skills Improvement, in an attempt to aid in upgrading basic skills of our students. There was a high degree of agreement in the country that the most important function of the public school was to teach literacy (Garza, 1980). According to Garza, one needed only to gauge the momentum of the back-to-basics movement to be impressed with the relative importance that people place on literacy.

This study was not designed to ascertain the literacy of fundamental school students. Rather the aim was to compare fundamental with regular school students' achievement in reading, writing, and arithmetic, self-concepts, as well as parent perceptions of the education provided. However, literacy is one of the major components of the study. As Borden (1979) stated:

The hysteria presently endemic among back-to-basics adherents, proponents, and victims apparently is motivated by an antediluvian concept of the intent of education and of the contents that would satisfy that intent. Indeed, after listening to the recommendations, pleas, injunctions, and threats, one would assume: (1) that no product of American education can read, write, speak, add, subtract, multiply, or divide; and (2) that, without exception, the graduates of America's schools get lost on the highways, cheated at supermarkets, hookwinked by politicians and defrauded by hucksters (p. 85).

According to information gathered by the National Center for Educational Statistics (NCES), nationwide about 87 percent of the seventeen-year-olds were functionally literate. The percentage of literacy ranges from almost 91 percent in the central area of the country to 80 percent in the southeast (77: Good News, 1977). Also, another NCES report in 1978 showed that these same seventeen-year-olds spent less than five hours on homework each week. That same report disclosed that 35 percent of these individuals watched from one to three hours of television on school nights, 12 percent watched from three to five hours per night, and 5 percent watched five or more hours per night (NAEP News, 1978). Given this perspective, one might ask if it is anything less than miraculous that there were any literacy at all among such a group. The big question was, can a narrowing of focus to "basics" do any better?

The term "basic education" was conceived by the Council for Basic Education in 1956 (Weber, 1975). The Council wanted the term to describe education in the elementary stages of the three R's. The Council believed more emphasis should have been placed on some subjects; reading, writing and arithmetic, as well as the creation of standards to measure the student's progress and establishment of a standard to govern promo-

tion. The Council views have caused confusion in many sectors. Weber believed that some educators had confined basic education to the three R's, whereas others had used the term to refer to all education except higher education.

The idea of basic curriculum was not a new one. The idea goes back to the Trivium, the Quadrivium, Latin and Greek, etc. (Weber, 1975). According to Weber, in this century, several contrary ideas were common: Some community people thought basic education was undemocratic. Some thought children could not cope with the academic subjects and courses should have been varied to help them adjust to life. Another idea was that social development, rather than intellectual development, should be the primary emphasis of schooling.

It was not until Sputnik in the 1950s that the American people began to demand a renewed emphasis on academic achievement (Dornmoyer, 1979; Rubin, 1979). Researchers (Weber, 1975; Rubin, 1979) reported that there were several reasons for the reemphasis of the basics, such as: rising cost of schooling; public concerns about the outcomes of schools; deteriorating discipline in the schools; and disillusionment with many of the recent educational innovations.

In the late 1960s and early 1970s, the back-to-basics movement was very widespread throughout school districts in the United States, but the school districts most noted for the back-to-basics alternative schools were: Pasadena, Cupertino, and Palo Alto, California; Jefferson County, Colorado; and Charlotte-Mecklenburg, North Carolina (Weber, 1975; Shaw, 1975; Principal's Services, 1976).

Although many nonschool factors may have caused decline in test

scores and low achievement, a panel that was established by the National Academy of Education (NAE, 1979) to respond to policy-related questions on the cause, diagnosis, and cure for the problems identified some salient within-school factors. The panel consisted of scholars of the time: Professor Stephen K. Bailey, President of NAE and chairman of the panel; and Professors John B. Carroll, Jeanne Chall, Robert Glaser, John I. Goodlad, Diane Ravitch, Lauren Resnick, Ralph W. Tyler, and Robert L. Thorndike. The panel believed that four within-school factors had been particularly important in causing declining writing skills and SAT scores: (1) the proliferation of courses; (2) confusion about the appropriate role of teachers; (3) slackening of "on task" attention; and (4) a dismantling of opportunities for intensive study in selective academic environments at the secondary level.

Declining test scores in the last few years have been the concerns of many parents and educators (Rubin, 1979). The National School Public Relation Association (1976) stated that 54% of parents and other residents responding to a Gallup poll felt more time should be spent teaching the basic skills to improve education. Don R. Roberts, superintendent of Newport News, Virginia (NSPRA, 1976) reported educators were doing a better job than the public thought, but teachers as well as administrators were becoming increasingly frustrated as society continued to turn to the schools to solve its problems. The solution in Virginia was a new five-year program to narrow the level of accountability to areas which were measurable and most important, namely reading and mathematics skills.

The seventh annual Gallup poll (Jones, 1976) indicated that nearly

60% of all parents would have, if given the option, sent their children to alternative public schools that emphasize strict discipline and the three R's and also have dress codes for students and teachers.

Ethna Reid, Director of the Exemplary Center for Reading Instruction in Salt Lake City (Association for Supervision and Curriculum Development, 1980) reported the issue was not direct instruction versus individualization, but teacher-centered versus child-centered classrooms. Open classrooms, where students were free to explore and teachers were consultants, were based on a mistaken premise, because it was thought that teachers did not see any responsibility for instruction in open classrooms.

Richard Rossmiller (ASCD, 1980) spent eight years as head of the Wisconsin Research and Development Center, the institution that spawned Individually Guided Education. Rossmiller reported the important thing was keeping students on task, and that becomes harder as your structure gets more complex. Rossmiller concluded from his research that it is easier for many students on task if they use direct instruction because every student is supposed to be doing the same thing. He also found that some teachers were much better than others at keeping students engaged, and instruction mode did not make a lot of difference.

Donald Medley (1977) of the University of Virginia reported that his review of almost 300 studies revealed clear differences among teachers in their ability to produce lasting gains on tests. Medley found that more effective teachers of disadvantaged primary students spend less time on classroom management, give less independent seat work, ask more "low-level" questions, and teach large groups or the whole class.

Barak Rosenshine (Medley, 1977) of the University of Illinois reported that "direct instruction" was effective because it kept students engaged in learning, not just engaged, but engaged with a high level of accurate responses. He further reported that students learned best in classrooms where there was an academic emphasis, instruction was teacher-directed, and students were taught in groups, not one at a time.

Summary of the basic skills movement

The basic skill movement was a national movement which shifted the educational pendulum of the late 1960s and early 1970s. The movement was spawned by dissatisfaction with what were perceived as nonrigorous schools. The movement was influenced by the emphasis on subject matters and the intellectually rigorous curriculum of the late 1950s and early 1960s. The authors noted the back-to-basic movement as a means of increasing students' achievement, producing measurable outcomes, providing accountability and increasing the literacy of students. The authors further indicated reading, writing, and arithmetic were basic not only because they were useful skills, but because they develop within students the ability to think.

Review of Related Evaluations and Research

In the early 1970s, many citizens and educators in the Pasadena, California unified school district were troubled by the same signs of scholastic slippage that bothered observers everywhere in the United

States: declines in reading, writing, and arithmetic (three R's) skills as measured by standardized tests; permissiveness, and poor discipline in school; reports of high school graduates unable to fill out employment application forms; apparent preoccupation of school staffs with peripheral subject matter outside the mainstream of science, social studies, and the three R's (Principal's Service, 1976).

John Marshall Fundamental School of the Pasadena, California Unified District, formerly an elementary junior high school, was chosen to be the first fundamental school (Principal's Services, 1976; Shaw, 1975). John Marshall opened in the fall of 1973. According to these reports, there were 3,000 applicants throughout the district for the K-8 school. A total of 950 students were accepted. The pressure for admission was so great that at midyear, the total was raised to 1,100. John Marshall began its second year of operation with a K-12 school with an enrollment over 1,600. Also, John Marshall spawned a second school in that district on its model, Sierra Mesa Alternative (K-6), with 410 students enrolled.

Discipline and achievement were the hallmark of John Marshall Fundamental School. Its enrollment was voluntary and parents who sent their children to the school were expected to endorse its philosophy and rules. The district was accepting student applications on a first-come-first-served basis. The district was under federal integration guidelines; thus, ethnic breakdown of the fundamental school student body was to parallel the ethnic breakdown of the district (Principal's Service, 1976).

The student body was about 52 percent males and 48 percent female,

of which approximately 41 percent were black, 42 percent were Anglo-Caucasian, and 13 percent were Spanish surname (Shaw, 1975).

The Principal's Service publication (1976) indicated that students and parents were satisfied with the John Marshall program. Further, the report indicated that students appreciated the firm, "no-nonsense" treatment and parents were grateful for the grip on their children's learning behavior. The program's success was based on the school's standing on academic achievement test results (Shaw, 1975; Principal's Service, 1976). Academic results during the first year of operation were substantial. The school's elementary school students were equal to or exceeded the district median scored in 18 out of 21 tests. Their median test scores were improved by 12 percent more than any other school in their district. Shaw (1975) indicated the school ranked number 2 in their district in only one category, ninth grade mathematics. At all other grade levels, its mathematics and language arts scores were highest in the district.

Many administrators at fundamental schools had been reporting that they were seeing changes in their students' test scores. Verdell Reynolds, Principal of John Marshall Fundamental School, Pasadena, California (Harris, 1977; Shaw, 1975) presented various statistics to Pasadena's first international conference on basic education which indicated that test scores in their four fundamental schools exceeded the scores in the regular schools. In 18 test score categories in 1976, John Marshall was highest in 17 and tied for highest of the 18th. In addition to their high performance, Pasadena's fundamental schools also cost less per pupil to run.

Newsweek, 1981, reported that Chicago's first and only official back-to-basic grade school was successfully created. In the initial stage of the fundamental approach, it was revealed that only three of the school's 800 students could read on grade level; however, within three years, half the students were reading on grade level. This increase in performance was attributed to the school's (Beasley) old-fashioned curriculum, in which the children learned reading, writing, and arithmetic by practicing phonics, diagramming sentences and drilling in the multiplication tables. Also, according to this report, it was believed that what really made this fundamental approach work was the "Excellence Plus" contract signed by students and their parents. It committed them to strict policies on discipline, attendance, promotion standards, dress codes and homework ("Back to Basics," 1981).

Three fundamental schools in Minneapolis, Minnesota were evaluated in the 1978-79 school years using parent, student, and teacher surveys, standardized test results, and enrollment records. The parents indicated the greatest reasons for their selection of fundamental school for their children were the emphasis on reading, arithmetic, writing, discipline, self-contained classrooms, citizenship, and character development (Johnson and Pearson, 1979). The parents were generally satisfied with homework load, opportunity for involvement with teachers, and their children's progress. The teachers and students were generally less enthusiastic than parents about parental involvement, discipline policy, and homework completion. Academically, the three schools exceeded the gains expected by a national norm group on standardized reading and mathematics tests (Johnson and Pearson, 1979).

In 1977 (Educational Research Service), Cupertino Union School District in Cupertino, California evaluated different alternatives offered to elementary students. These alternatives included a fundamental, back-to-basics school, a school which emphasized personal and effective development, and an open school.

The fundamental program, "Academics Plus," was teacher-directed and centered on instruction in the basic skills. Students were grouped heterogeneously in self-contained classrooms, and were expected to follow a dress code and adhere to a policy of strict discipline. Report cards with letter grades for academic subjects and separate ratings for work habits, citizenship, and effort were standard (Pursell, 1976).

The program was evaluated in 1973, its first year of operation. The use of pre- and post-testing with the SRA Achievement Test and by observers using the Flanders Interactional Analysis technique were used to measure progress.

According to the Educational Research Service Brief (1977), the Flanders method indicated that teachers talk occupied 63 percent of class time; pupil talk, 26 percent of the time; independent teacher work, 9 percent; and silence or confusion 2 percent of the available time. The SRA Achievement Test scores of primary pupils indicated growth of 0.8 years in language arts and 0.9 years in reading and mathematics. The fundamental students were below the district norms in language arts, equal to district norms in mathematics and above district norms in reading. At the intermediate level, the fundamental students' averages were 1.2 years growth in language arts and mathematics, and 1.4 years growth in reading. The fundamental students were above their local

In 1977 (Educational Research Service), Cupertino Union School District in Cupertino, California evaluated different alternatives offered to elementary students. These alternatives included a fundamental, back-to-basics school, a school which emphasized personal and effective development, and an open school.

The fundamental program, "Academics Plus," was teacher-directed and centered on instruction in the basic skills. Students were grouped heterogeneously in self-contained classrooms, and were expected to follow a dress code and adhere to a policy of strict discipline. Report cards with letter grades for academic subjects and separate ratings for work habits, citizenship, and effort were standard (Pursell, 1976).

The program was evaluated in 1973, its first year of operation. The use of pre- and post-testing with the SRA Achievement Test and by observers using the Flanders Interactional Analysis technique were used to measure progress.

According to the Educational Research Service Brief (1977), the Flanders method indicated that teachers talk occupied 63 percent of class time; pupil talk, 26 percent of the time; independent teacher work, 9 percent; and silence or confusion 2 percent of the available time. The SRA Achievement Test scores of primary pupils indicated growth of 0.8 years in language arts and 0.9 years in reading and mathematics. The fundamental students were below the district norms in language arts, equal to district norms in mathematics and above district norms in reading. At the intermediate level, the fundamental students' averages were 1.2 years growth in language arts and mathematics, and 1.4 years growth in reading. The fundamental students were above their local

norms in reading and mathematics and below in language arts.

In 1976 through 1979, there were three annual summative evaluation reports of the Des Moines Independent Community School District, fundamental school, Des Moines, Iowa. These reports described and reported on progress of the district fundamental school program. Based on an objectives-based test designed to measure achievement and norm referenced test results, the fundamental school students generally exceeded the average performance of other students throughout the Des Moines Independent Community School District (Oliver, 1977; Wilson, 1978, 1979). Also, the 1978 and 1979 evaluation reports of the Des Moines fundamental school program generally stated that fundamental school students' test results, objectives-based and norm referenced, exceeded those of students attending the regular Des Moines public schools. These evaluation reports consistently emphasized the amount of time allotted for the teaching of reading, writing and arithmetic (three R's), suggesting that fundamental schools students' performance on objectives-based and norm referenced measures were accounted for through their achievement in the three R's. The results of these evaluations were based primarily on the goals established for the fundamental school program.

Many alternative schools had their beginning in the public school systems throughout the United States in the 1970s (Smith et al., 1981). Smith reported that, although no difference in alternative and regular schools had been specified, environmental characteristics were one source of variance. Using Maslow's hierarchy of needs, Smith developed the Statement About School (SAS) Inventory. His findings comparing an alternative and regular school were: most alternative schools satisfied

students' needs better than regular schools. However, comparisons of teachers and students of schools termed "relaxed" (regular) with schools termed "strict" (back-to-basics) revealed no significant differences ($P > .05$).

Wrightstone (1968) studied an experimental nongraded instruction school in New York City. One objective of the program was to improve learning in reading, writing and arithmetic. The report on that program revealed that comparisons of gain scores for grades 3, 4, 5, and 6 exceeded the expected normal growth. Another finding of that report was that students in the lower 25 percentile gained less than expected normal gain in mideastern schools.

Hopke (1969) sought to see if there were basic differences between primary grade open concept school students and primary grade traditional self-contained classroom students. The Iowa Test of Basic Skills (ITBS) was used to assess basic skills achievement, the School Sentiment Index was used to measure attitudes toward schools, the Self-Concept and Motivation Inventory was used to measure academic self-concept and motivation, and the Self Appraisal Inventory was used to measure global self-concept. Subjects included 140 first, second, and third grade students who had attended the two types of schools since kindergarten. Hopke's data indicated no significant differences in the achievement of first grade students on the ITBS. However, traditional second and third grade students scored significantly higher than open concept students. Further analysis revealed that open concept students scored significantly higher than traditional students on the School Sentiment Index, with students' attitudes toward school consistently improving with higher

grade levels. The investigation showed no significant differences between the groups on academic self-concept.

Summary of related evaluations and research

The evaluations described in this section indicated that students attending fundamental schools generally received higher scores on standardized and objectives-based test results. The authors were largely in agreement that the main factors in the creations of the schools were declining test scores, pressure from parents, distrust of the open classroom and progressive alternative schools. An effort was made to provide a wider range of alternatives.

The fundamental schools were opened in the early 1970s. The programs generally placed emphasis on basic subjects, letter grades and character guidance as well as academic guidance.

Related Studies on Self-Concept

In 1960, Davidson and Lang stated, "feelings about the self are established early in life and are modified by subsequent experiences. Among the significant people believed to affect the child's feeling about himself are first, his parents, and later, his teacher" (p. 107).

Davidson (1960) compared children's perception of their teacher's feeling toward them to self-perception, academic achievement, and classroom behavior. Davidson found: (1) children's perception of their teachers' feelings toward them was significantly positively related; (2) the more positive the children's perception of their teachers'

feeling, the higher was their academic achievement and their classroom behavior was rated higher by their teachers. Scheirer (1979) reported that negative evidence for a causal connection between self-concept and academic achievement should be viewed cautiously by researchers and educators.

Iverson (1981) examined the efforts of teacher-parent contact on the reading achievement of 398 underachievers. It was hypothesized that home environment influences classroom learning. The findings of this study indicated: (1) with increasing numbers of contacts, younger children made significant gains in reading; and (2) increasing numbers of contacts were associated with decreased achievement in older children.

Trowbridge (1975) found that children of low socio-economic status (SES) were consistent with their middle SES counterparts in all areas but one. Children of low SES felt they were more able worthwhile persons in school and in the eyes of their teachers than children of middle SES. Trowbridge postulated that children of middle SES ought to perceive themselves more positively in school and academically because they scored higher on measures used to evaluate school performance. Data from the longitudinal study strongly indicated that children of middle SES did not think much of themselves in terms of school. According to Trowbridge, part of the reason was that these children did not think their teachers perceived them highly. In a longitudinal study (Trowbridge, 1975) that was concerned with the relationship between self-concept and school performance which involved students 8 to 13 years of age, findings indicated that children's self-concept scores were correlated with (1) standard achievement scores; Iowa Test of Basic Skills,

and (2) reading level scores. The study suggested that self-concept and school performance were positively related. The correlation coefficient between achievement test scores and self-concept in the high intelligence group was 0.52, the average was 0.42; the coefficient between reading scores and self-concept in the high intelligence group was 0.44, the average was 0.39. The report also indicated that in both groups, the higher the self-concept of a child, the higher his/her school performance tended to be.

Port (1979) administered the Hawaii State Test of Essential Competencies (HSTEC) to tenth-grade students who attended public high schools. This test was used to measure students' mastery of fourteen essential competencies. The competencies were dichotomized into basic skills and other skills. One purpose of this study was to investigate the relationship between the achievement of tenth grade students and specific background variables. The data indicated that the HSTEC achievement scores for various ethnic groups corresponded to their socio-economic status. Also, the analysis showed that children of professional educators did not achieve significantly higher than children of non-professional parents of comparable occupational and educational levels.

Summary of studies on self-concept

The studies described in this section indicated a need for further research regarding the relationship between self-concept, socio-economic status, and student achievement of students from fundamental and regular school systems. The Coopersmith Self-Esteem Inventory has been widely

used in research to assess students' self-concept. The Iowa Test of Basic Skills has been used extensively as an achievement indicator for testing the relationship between student performance and self-concept. Critics of research indicated that readers should view studies relating self-concept and achievement cautiously.

Parent Reaction to Public Schools

The success of an educational program depends on public support. Several studies have addressed parental and public response as they relate to the quality of education in public schools. Recent literature suggested that parents and the public tend to agree that discipline and basic skills are major problems in the public schools (Gallup, 1978; Elam, 1980; Warren and Lagomarcino, 1981; Schoenenberger, 1980).

According to Gallup (1978), the public has cited discipline as the "biggest problem" in the public school from 1969 to 1976. Another category cited often (more than 10 percent of the respondents) by respondents in 1976 was poor curriculum. These concerns were related to the basic skills. Findings from the 1976 Gallup report indicated that when the public was asked about ways of improving the quality of public school education, 51% wanted more attention to basic skills; 50% wanted stricter discipline; 42% wanted emphasis on individual needs of students; 41% wanted improvement of parent-school relations; 39% emphasized moral development; and 27% believed that academic standards should be raised.

Elam and Gough (1980) reported that lay persons believed lack of

discipline was the biggest problem in their local schools. Findings in this report also indicated that the third highest concern of lay persons was "standard/quality: basic education and the three R's." The fifth concern was lack of parental support.

Warren and Lagomarcino (1981) surveyed 760 respondents throughout 98 of the 99 counties in the state of Iowa. This survey focused primarily on the attitudes of individuals concerning public elementary and secondary education in Iowa. As revealed in a national survey by Gallup and Smith, discipline was identified as the most serious problem in the schools. The data also indicated that most respondents agreed on the need for public schools to teach more of the basic skills, reading, writing, and arithmetic. One-half of the sample felt that the reports from Iowa schools to parents were adequate; and 29 percent felt the reports were inadequate.

Findings from the 12th Annual Gallup Poll indicated that 61 percent of parents of public school students, and 72 percent of parochial school students believed not enough attention was being given to reading, writing, and arithmetic in public schools. Further findings of this report revealed that 84 percent of the parents of public school students and 83 percent of the parents of parochial school students preferred schools that would deal with morals and moral behavior; 83 percent of the parents believed schools should keep them informed of their children's progress; and if more emphasis was placed on the three R's, school programs would be improved.

According to Schoenenberger (1980), the Des Moines Independent School District, Des Moines, Iowa, surveyed parents of students attending

16 dual-assignment and 16 single-assignment principal buildings. The purpose of the survey was to ascertain parents' perceptions of their children's progress and treatment by the school staff. No significant differences were found between parents of students who participated in the district desegregation plan and parents of students who did not participate in the district's desegregation plan.

Summary of parent reaction to public schools

For more than a decade, George Gallup and other researchers have been surveying samples of parents and the general public. These instruments sought opinions and attitudes of parents and/or the public concerning the quality of their schools and the criteria they used in determining the excellence or lack of it in their local school system. These investigations were done periodically, with basic questions repeated, to gauge shifts in opinions. There was general agreement in the studies that discipline and basic skills were major problems in the public schools.

METHOD OF PROCEDURE

Sample

The sample used in this study consisted of 104 students in the Des Moines Independent Community School District, enrolled in eighth, ninth, and tenth grades during the 1980-81 school year. There were two groups, experimental and control: the experimental group consisted of 52 students who enrolled in the Des Moines fundamental school in 1976; the control group consisted of 52 students in the district's regular schools. The students were subdivided into three groups as follows:

Group I:

Students who attended the fundamental school for one year and were tenth graders in senior high school. These students were the first group of sixth graders enrolled in the fundamental school program. Of the original 27 sixth graders who completed one full year in the fundamental school, 15 (55 percent) were still enrolled in the Des Moines Independent Community School District. Therefore, a total of 30 students were in Group I, 15 former fundamental school students and 15 matched regular school students.

Group II:

Students who attended the fundamental school for two years and were ninth graders in junior or senior high. These students were the first group of fifth graders enrolled in the fundamental school program. Of the original 22 fifth graders who completed two years at the fundamental school, 19 (86 percent) were still enrolled in the Des Moines Independent Community School District. Hence, a total of 38 students were in Group II, 19 former fundamental school students and 19 matched regular school students.

Group III:

Students who enrolled in the fundamental school and their counterparts in the regular elementary schools. These fundamental school students were the first fourth graders and were still enrolled in the fundamental school as eighth graders. This group consisted of 36 students, 18 fundamental school students and 18 matched regular school students.

The 52 Des Moines Fundamental School students, referred to as the experimental group, and their 52 counterparts from the "regular" school program, referred to as the control group, were matched on an individual basis. The purpose of matching was to reduce the effects of extraneous, yet significant variables which could potentially confound the difference due primarily to the effects of the fundamental school program as related to student achievement. That is, students of the same age, grade, sex, race, and home background tend to be more alike (Port, 1979). Thus, it was hoped that the effects of the fundamental school program on student achievement could be more clearly identified. The matching was accomplished by utilizing previous data on the students selected for the study. Data were taken from their cumulative records for three years prior to the 1976-77 school year.

In September 1980, the lists of fourth, fifth, and sixth grade students who had participated in the fundamental school program during the 1976-77 school year were obtained from the fundamental school records. The list revealed that 73 of the original 84 students enrolled in the 1976-77 school year had completed one year in the program at these three grade levels. Of the 73 students, 52 remained in the Des Moines Independent Community Schools as of September 1980. The fundamental school staff and counselors in the district stated that the 21 students who did not remain in the district had either moved out of the district or transferred to one of the local parochial schools. A concerted effort was made to obtain the school assignment for each of the 52 students who remained in the district by utilizing the Mid-Iowa Computer Center student data base. Of the 52 students remaining,

18 were still in the fundamental school in the eighth grade. These 18 students were in the fourth grade when the Fundamental School opened in 1976. The other 34 students were located in one of 15 other Des Moines district public school buildings. Upon completion of this task, a search of the students' cumulative records was initiated. The cumulative record search essentially entailed two phases. Phase one involved the collection of data from the fundamental students' cumulative records for the 1973-74 through 1975-76 school years. These data were used to form a control group by matching against the records of students who were enrolled in the districts' regular school program. Data collected for matching purposes in phase one were:

Student information: identification number, age, grade, sex, race, absenteeism and trait rating (i.e., conduct, respect for authority, etc., appearing on student cumulative records).

Home background: adult with whom student lived, occupation of father and mother, father's highest grade completed.

Achievement: Iowa Test of Basic Skills scores and subject grade marks.

Once the control group students had been identified, phase two of the cumulative record search began. This entailed the collection of data covering the school years 1976-77 through 1979-80 for both fundamental and regular school students. Data collection for comparison in phase two for the four school years indicated above were as follows:

Absenteeism and trait rating: Iowa Test of Basic Skills; Iowa Test of Educational Development; subject marks; objectives-based test results (mathematics Minimum Competency test, reading Minimum Competency test, language arts test, spelling test, social studies test and science test).

Fundamental School Program

The fundamental school program in this study was an outgrowth of the "Back to Basics" movement which emphasized the teaching of the basic skills of reading, writing, and arithmetic and the promoting of classroom discipline, homework, and other fundamental practices such as citizenship and national loyalty.

The fundamental school program was established after considerable study by the Des Moines school administration and Board of Education (Oliver, 1977). This study began early in 1975 with a screening of available literature regarding "fundamental," "basic," or "traditional" schools which were currently in operation across the nation. Later in 1975, two school administrators from the Des Moines Independent School visited the fundamental school in Pasadena, California. On August 22, 1975, a committee was appointed by the Assistant Superintendent for Education to study the feasibility of establishing a fundamental school in September 1976.

Members of the committee included teachers, principals, and central office administrators. Both the elementary and secondary levels were represented on the committee.

After approximately five months of investigation, the committee made its preliminary report on February 3, 1976. The report dealt with possible locations, philosophy, goals, dress code, instructional program, reporting of student progress, time allotments, and selection criteria for both students and staff.

On March 16, 1976, the Des Moines Independent Community School

District's Board of Directors approved the establishment of a fundamental school to serve as an alternative for those parents and children concerned about the degree of emphasis placed on the "basic skills."

The philosophy and goals of the school as established were:

Philosophy:

Through the establishment of a fundamental school, the district would offer an alternative educational setting for parents who desire a "back to the basics" emphasis. This fundamental school will stress the basic academic skills, respect for authority and will teach citizenship and appreciation of values and the heritage of America.

Goals:

1. To place primary emphasis on the teaching of reading, writing and arithmetic in a sequential manner;
2. To develop good independent study habits, which will include requiring homework for all students;
3. To provide a quiet, orderly learning environment;
4. To provide quantitative measurement of student progress through testing and letter or number grades;
5. To build within each child a sense of responsibility, confidence, pride in accomplishment, and a positive self-image through proven academic achievement.
6. To emphasize discipline and the authority of the teacher.

As stated in a Des Moines Public School interoffice memorandum dated October 31, 1978, it was not felt that these goals differed essentially from other Des Moines elementary school goals except for the proposed enhanced emphasis on basic skills, citizenship and discipline (Note 1 and 2). However, the fundamental school philosophy probably afforded greater assurance to parents who valued those goals above others. Moreover, the signed agreement (Appendix A) by parents to support the philosophy potentially contributed not only to the morale of the staff but

to the attitudes of the students and the feeling of participation on behalf of the parents. The major difference between the goals of the fundamental school and those of other Des Moines elementary schools was the amount of specified time to be devoted to the instruction of reading, writing, and arithmetic.

The Des Moines Fundamental School opened on August 30, 1976, with a kindergarten through sixth (K-6) grades program housed at the old Jefferson Elementary School Building. The school continued to operate at that site until the 1979-80 school year. At that time, the Board of Directors approved relocating the school in the former Hoak Elementary School Building, which had previously been closed due to declining enrollment. While at the old Jefferson site, a seventh grade program was added and the kindergarten program dropped. In 1980-81, the fundamental school program was expanded to accommodate an eighth grade class. This expansion came about as a result of a district survey (Appendix B) of students and parents indicating a desire to have an eighth grade program at the fundamental school. The faculty members for the fundamental school were chosen from among selected volunteers within the system's teaching ranks. Due to space limitations imposed by the size of the building, only one section (classroom) each of grades K-6 was initially established. The regular faculty of the school consisted of one half-time kindergarten teacher and a full-time teacher in each of the six grades. A half-time principal was also assigned to the building as program administrator.

At the beginning of the 1980 through 1981 school year, the Fundamental School staff included the following: 0.5 full-time equivalent

(FTE) principal, 8.0 FTE classroom teachers, a 0.4 FTE art teacher, a 0.4 FTE physical education teacher, a 0.5 FTE learning disabilities teacher, a 0.4 FTE library associate and 1.0 building associate.

The original enrollment for the school was randomly selected from among applicants responding to a commitment letter mailed by the district. The commitment survey was conducted by the Des Moines Independent School District's Department of Evaluation and Research to determine the potential number of enrollees in the program. As of March 11, 1976 (the cut-off date for applications), 630 applications were received. Approximately 100 applications were received after the deadline. The applications included individuals attending 49 of the 50 Des Moines elementary schools plus three parochial elementary schools. From the applications, students were randomly selected. However, care (Wilson, 1978) was taken to insure that a proper minority balance was maintained by limiting minority enrollment to no more than 25% of the total enrollment. When a child from a particular family was chosen, all children from that family were automatically selected.

Instrumentation

Standardized measures

National norm-referenced test results, the Iowa Test of Basic Skills (ITBS) and/or the Iowa Test of Educational Development (ITED) were collected for both the experimental and control groups. These data were collected from the students' records for falls 1976, 1976, 1977, 1978, and 1980. The ITBS Multilevel battery levels 9 and 10 were given to grades 4 and 5 in September 1975. The ITED Multilevel battery levels 9, 10, and

11 were given to grades 4, 5, and 6 in September 1976. The ITBS multilevel 14 was given to grade 8 in September 1980. The ITED Level 1 was given to grades 9 and 10 in September 1980. All of the test data were machine scored at the University of Iowa, Iowa City, Iowa.

The Iowa Tests of Basic Skills reflect the continuous nature of skills development. In each of the eleven basic skills, a single wide-range test was provided to represent the range of skills development from low level grade 3 through superior grade 9. Each test was organized into overlapping levels of skills development (Figure 1) (Hieronymus, p. 3).

Levels were designed by numbers that correspond roughly to chronological age. That is, Level 10 corresponds to a developmental level that was typical or average for children 10 years old, etc. There was no mention of grade levels in the test booklets or on the answer sheets. The levels corresponded to average achievement at age-grade levels. That is, level 10 corresponded to grade 4 and level 11 corresponded to grade 5, etc. (Hieronymus, p. 3). The ITBS test results were divided into five subjects: vocabulary, reading comprehension language skills (i.e., spelling, capitalization, punctuation and usage), work-study skills (i.e., visual materials and reference materials), and mathematics skills (i.e., mathematics concepts, mathematics problem solving, and mathematics computation). The ITED was divided into two overlapping levels, designated I and II. Level I contained easier and less-sophisticated exercises than level II and was intended primarily for grades 9 and 10 (University of Iowa, p. 2). The ITED test results were divided into seven subtests: Expression, Quantitative Thinking,

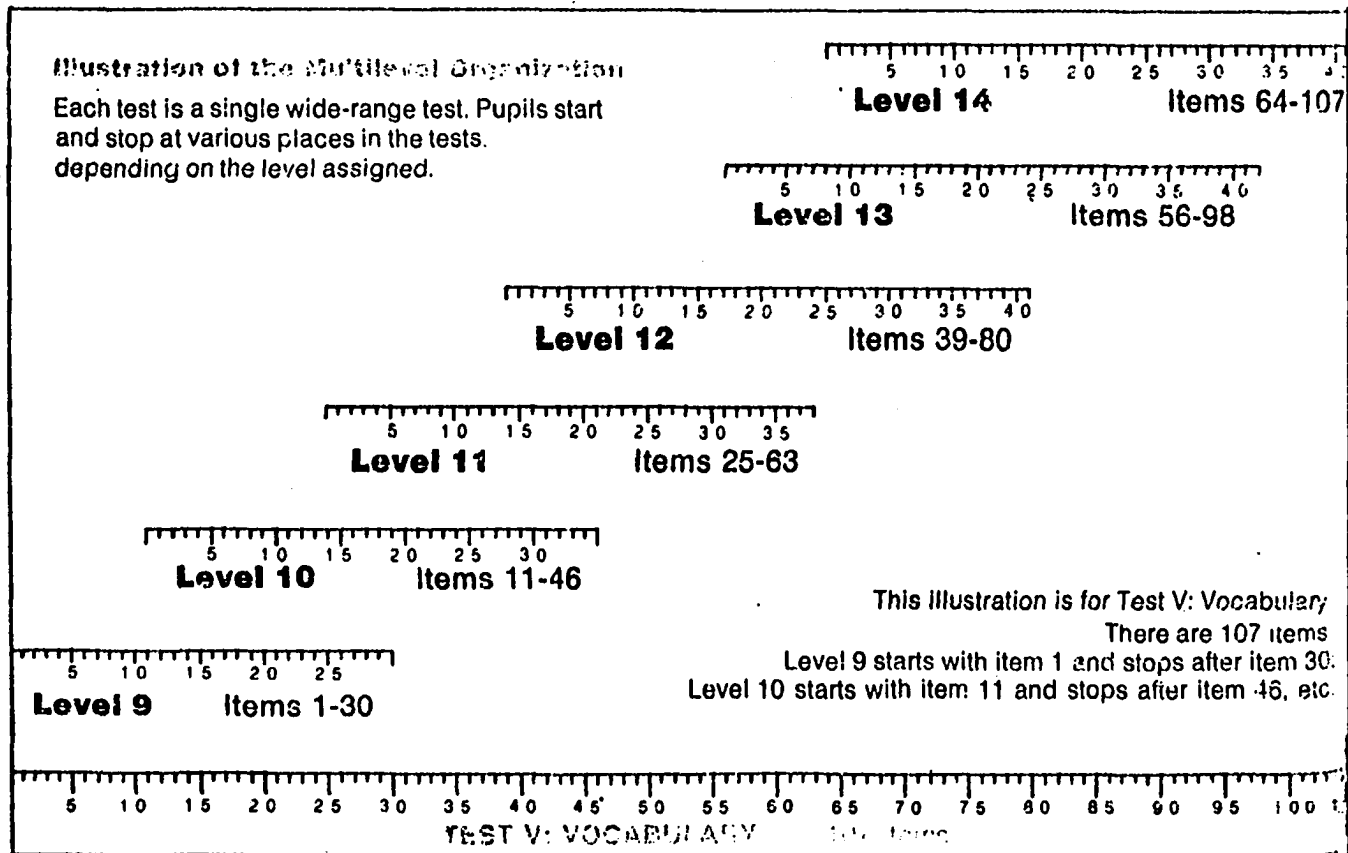


Figure 1. Illustration of the multilevel organization (adapted from Hieronymus et al., 1979)

Social Studies, Natural Sciences, Literature, Vocabulary and Sources of Information. The general and specific directions for administering both the ITBS and ITED were easy to follow; information concerning scoring, the interpretation of scores, reliability and validity, use of test results, and construction and standardization were given in the manuals.

Lindvall (1978) stated that the ITBS was designed to provide information on the status of pupil development in the basic skill areas and tools to be used in the improvement of instruction. The reviewer doubted the claim of the authors that the battery could be used to determine the effectiveness of alternative methods of instruction. The reviewer found the ITBS to be a satisfactory instrument for obtaining information on the status of pupil development in the basic skill areas. Further, the reviewer believed that the test had been thoroughly researched and the test results were useful for making decisions about curriculum emphasis on a district-wide or a school-wide level, but not useful for making decisions at the level of the individual child.

The ITED form Y-7 was a new version of the ITED. The reviewer (1978) believed that one of the major features of the new version was that there was a substantial reduction in testing time. The reviewer and the publishers further pointed out that schools having limited time for testing could make use of the abbreviated battery consisting of only the reading, language arts, and mathematics tests, thus allowing for only half the testing time. The reviewer's (1978) judgment of the overall quality of the ITED was that it was a well-conceived testing

instrument, carefully planned and produced, which had satisfactory reliability and useful norms based on a truly representative standardization sample. It was the reviewer's judgment that the test validity and usefulness in any specific local situation would have to be made on the basis of careful study by local personnel.

District objectives-based test

District objectives-based test results: the reading and mathematics minimum competency were collected for both the experimental and control groups. These data were collected from the students' records for fall 1976, 1977, 1978, and 1979. The reading minimum competency was given to students who were in grade 7 in 1977, 1978, and 1979. The mathematics minimum competency was given to students who were in grade 6 in 1976, 1977, and 1978.

The objectives-based tests were considered as survival skills for students in junior high schools that measured the skills in reading and mathematics necessary for effective citizenry in a society at the time of this study (Des Moines Public School, Interoffice Letter, April 20, 1978). The reading minimum competency was used to provide early identification of students' needs in basic reading skills. The mathematics minimum competency was used to measure students' ability to handle computational problems typically encountered in school, home, and community situations ((Des Moines Objectives-Based Test as reproduced from "ASC" (1978)).

The mathematics minimum competency was a 60-item test. Students were asked to apply basic computational skills to solve problems involving bus schedules, cash purchases, street maps, show times, school

schedules, unit measurement, calendars, and package labels. The reading minimum competency was a 45-item test. It was developed using a two-by-two matrix of printed materials students were most likely to encounter in school, home, and community, and reading skills in the areas of vocabulary, comprehension, and location/study skills. The test was in the form of displays such as warning signs, street maps, card catalogs, encyclopedia entries, telephone directories and bus schedules ((Des Moines Objectives-Based Test as reproduced from "PAIR" (1978)).

According to the Education Commission of the States (1978), minimum competency standards should not be confused with the goals and objectives of education. Further, the commission stated:

There is no common vocabulary for discussing minimum competency testing. The word that caused the greatest confusion was "minimum" itself. While part of the confusion centered on semantic differences between "minimum" and "minimal," several participants felt that a different key word or at least a broader definition of "minimum" was necessary to describe the skills needed to survive in contemporary society (p. 12).

Minimum competency testing was defined by the Education Commission of the States as only minimums and did not specify a theory of learning, school organization, or a process for competency development. Based on evidence that instruction had too little relationship to life role, i.e., producer, consumer, friend, family member, the commission suggested a school structure designed to enhance the ability of students to perform more successfully than those competencies demanded in their life roles.

Coopersmith Self-Esteem Inventory

The Coopersmith Self-Esteem Inventory (CSEI) is a self-report inventory consisting of 58 items designed specifically for children from about 9 to adult level. It asks only whether a certain attitude or characteristic is "like me" or "unlike me" as the student perceives him/herself. The maximum possible score, representing the highest possible self-concept is 100. The national average scores have been in the range of 70-80, with standard deviations of approximately 11-13.

The 58 items are subdivided into a total of five subscales: (1) general self (26 items); (2) social self-peers (8 items); (3) home-parents (8 items); (4) school-academic (8 items); (5) lie scale (8 items). The lie scale was not counted in scoring the test because its purpose was to check on test validity. Each of the remaining 50 items has a weight of two, making the possible total 100.

The eight items which produced the "lie scale" score are fairly absolute statements to which few students would answer "like me," (Appendix C). If more than three of these statements are answered "like me," the validity of the remainder of the test would be in question (Coopersmith, 1968).

The CSEI employed the usual test design of having approximately half of its items answered "like me" for a positive self-concept and the remaining half of the items required an "unlike me" response to be scored in the direction of a positive self-concept. Although no norms have been developed for the CSEI (CSEI, 1968), the instrument has been used widely and was noted for containing a body of normative data (Butcher, 1967; Campbell, 1965; Trowbridge, 1975).

Parents survey

During March 1982, the Des Moines Evaluation and Research Department mailed surveys (Appendix D) to the parents' of both the experimental and control students involved in this study.

In developing the surveys, comments and suggestions were received from selected faculty members in the College of Education and members of the Des Moines Evaluation and Research Department. The Gallup education polls conducted yearly since 1969 were reviewed and several questions were based on these national surveys. Also, several questions were based on a survey conducted in April 1979 (Schoenenberger, 1980) by the Des Moines Evaluation and Research Department.

The instruments covered the goals of education in the district's elementary schools; parent perceptions of their children's progress and treatment by the school staff; effectiveness of the principal and teaching staff; education programs and personnel.

Data Analysis

The period 1976-80 represented the years in which the experimental and control group students progressed from upper elementary to the junior/senior high school level. The students were grouped as indicated on page 28 for data analysis purpose.

Iowa Test of Basic Skills and Iowa Test of Educational Development

In order to determine if the three experimental groups were similar to the three control groups, a univariate analysis of repeated measures

design was used as found in Hull and Nie, Statistical Program for Social Science Update 7-9 (1981, p. 48). This analysis was to determine achievement gained by students in this study from fall of school year 1976 to fall of school year 1980. The model for this analysis was as follows:

$$Y_{ijk} = U + \alpha_i + \tau_{k(i)} + \beta_j + \alpha\beta_{ij} + \beta\tau_{jk(i)} + e_{m(ijk)}$$

where Y_{ijk} = test means for the three time periods

U = overall grand mean,

α_i = effect of group, $i = 1, 2,$

$\tau_{k(i)}$ = effect of K student nested in the i group,

β_j = effect of the repeated measure, $k = 1, 2, 3,$

$\alpha\beta_{ij}$ = interaction of the K repeated measure within the group,

$\beta\tau_{jk(i)}$ = interaction between repeated measures and students in groups, and

$e_{m(ijk)}$ = random error.

The assumption of the model is that there was no carryover effect in the experiment as noted in Winer (1971, p. 519). In the analysis, the null hypothesis stated in general form as follows was tested:

H_0 : There are no significant differences between the means of experimental groups and control groups as measured by the Iowa Test of Basic Skills (ITBS) and Iowa Test of Educational Development (ITED) for each time period under study.

The null hypothesis was tested using the results of each of the five subtests and composite scores of the ITBS or ITED for fall of

of school year 1975, 1976, 1978, and 1980.

This analysis was concerned with the trend of the three means, of which three test results were taken on each student. As found in Edwards (1960), each student corresponded to a block in a randomized block design. The primary objective was to investigate the trend of the means over the three successive test results. It was assumed that any differences found between the test means were the results of differing in the schools' programs, since the test results were standard measures. As found in Edwards (1960), the trends could be a result of random variation, but the question was whether the upward or downward trends could be regarded as meeting statistical significance.

As found in Borg and Gall (1979), two sources of extraneous variables, history and maturation, may confound the findings in this part of the study. That is, since the test results were gathered over a four-year period, factors other than the school program could have caused any differences found.

Objectives-based test data

Comparisons between experimental and control groups were calculated using the t-test routine of the Statistical Program for Social Science Computer Package (Nie et al., 1975). When a comparison between groups was made, the pooled variance estimate was used. Missing data were excluded from the calculations. The group means for the mathematics minimum competency or reading minimum competency served as the unit of analysis. Differences in group means were tested statistically ($P < .05$) to ascertain achievement resulting from the fundamental school program.

Coopersmith Self-Esteem Inventory

In order to compare the self-esteem of students who attended regular and fundamental school programs, the report procedure of the Statistical Program for Social Science Computer Package (Nie et al., 1975) was used. The t-test routine of the package was used to ascertain differences in means for the groups on each subscale. Missing data were excluded from the calculation.

Parent survey

To assess parental attitudes and opinions regarding the goals, nature, and quality of education in both regular and fundamental elementary school programs, a comparison of the percentage of highest to lowest response was tabulated on each of the categorical statements.

FINDINGS

The findings of this study were divided into four major categories:

1. The analysis of norm referenced test mean scores for three time periods of fundamental and regular school students employing a two-factor experiment which used repeated measures.
2. The analysis of objectives-based test mean scores employing a t-test routine for the comparison of achievement differences between fundamental and regular school students.
3. The analysis of the Coopersmith Self-Esteem Inventory total and subscale mean scores employing a t-test routine for the comparison of self-concept differences between fundamental and regular school students.
4. The analysis of parental responses to a survey pertaining to the goals, nature, and quality of education provided by the elementary schools their children attended utilizing frequencies of responses.

Results reported for categories 1, 2, and 3 will be subdivided into three sections. The results reported in these sections will be for groups as follows:

Group I:

Students who attended the fundamental school for one year and were tenth graders in senior high school. These students were the first group of sixth graders enrolled in the fundamental school program. Of the original 27 sixth graders who completed one full year in the fundamental school, 15 (55 percent) were still enrolled in the Des Moines Independent Community School District. Therefore, a total of 30 students were in Group I; 15 former fundamental school students and 15 matched regular school students.

Group II:

Students who attended the fundamental school for two years and were ninth graders in junior or senior high. These students were the first group of fifth graders enrolled in the fundamental school program. Of the original 22 fifth graders who completed two years at the fundamental school, 19 (86 percent) were still enrolled in the Des Moines Independent Community School District. Hence, a total of 38 students were in Group II, 19 former fundamental school students and 19 matched regular school students.

Group III:

Students who were enrolled in the fundamental school and their counterparts in the regular elementary schools. These fundamental school students were the first fourth graders and were still enrolled in the fundamental school as eighth graders. This group consisted of 36 students: 18 fundamental school students and 18 matched regular school students.

The norm referenced test results were extracted from students' cumulative records over a span of years. Because of this fact, history and maturation were considered to be extraneous factors which were uncontrollable in this study. History and maturation are factors because according to Borg and Gall (1979), the time lapse between tests will allow for other events to occur. There is no way to be certain about whether the fundamental school or the extraneous events are causal factors in the changes that occur.

Analysis of the Two-Factor Experiment

A two-factor experiment using repeated measures was used to analyze the Iowa Test of Basic Skills (ITBS) mean composite percentile rank and mean subscales (vocabulary, reading, language arts, workstudy, and mathematics) percentile ranks for fall of school years 1976, 1978, and 1980 of the fundamental (experimental) and regular (control) schools' students in group III. Also, a two-factor experiment using repeated measure was employed to analyze the ITBS mean composite and subscales percentile rank for fall of school years 1975 and 1976 along with the Iowa Test of Educational Development (ITED) for fall 1980 of the fundamental and regular school students in group I and group II. For this analysis, the first null hypothesis stated in the introduction chapter was subdivided into three null hypotheses to be tested. All three null hypotheses were tested on each of the three groups of students. The three null hypotheses were as follows:

1. Ho: There are no differences between the combined mean test percentile ranks in the three time periods of the experimental groups and the combined mean test percentile rank in the three time periods of the control group.
2. Ho: There are no differences between the mean first time period percentile ranks of the experimental and control groups, mean second time period percentile rank of the experimental and control groups, and mean third time period percentile ranks of the experimental and control groups.
3. Ho: There are no differences in the magnitude of change from the mean first time period percentile ranks to the third time period percentile ranks for the experimental groups as compared with the magnitude of change from the mean first time period percentile ranks to the third time period percentile ranks for the control groups.

These null hypotheses were tested utilizing the mean composite and mean

subscale percentile ranks of the fundamental and regular schools' students on the ITBS and ITED for each of the three time periods.

In an analysis of this type, Winer (1971) indicated that the effects tested in the first hypothesis will be completely confounded with differences between the three test means. The corresponding error variance will be large, which greatly reduced the chance for significance when testing this hypothesis. In testing the other two hypotheses, the interaction error term is utilized which is not affected as much by confounding. Hypotheses 2 and 3 are more sensitive tests.

Analysis of the two-factor experiment for group I

Analysis for experimental and control group I tests (ITBS in 1975 and 1976, ITED in 1980), composite percentile ranks using repeated measures of mean is presented in Table 1. The tests' composite mean percentile ranks of experimental and control group I are given in Table 2. A similar reporting was followed using the tests subscales results in Tables 3 through 12.

Each table presenting the two-factor experiment using repeated measures gave results for the three null hypotheses at the beginning of this chapter. In each case, the first hypothesis was not rejected. There were no differences between the combined mean percentile ranks for the three time periods of experimental group I and the combined mean percentile ranks for the three time periods of control group I.

Similar results are shown in Tables 3, 5, 7, and 9 on interpretation of the second hypothesis. In these cases, the null hypothesis was not rejected. The mean composite, vocabulary, reading, language arts, and

Table 1. Analysis of experimental and control group I composite scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	1562.50	0.68
Error 1	28	2306.57	—
Test ^a	2	549.34	1.94
Group x test	2	234.23	0.83
Error 2	<u>56</u>	283.13	—
Total	89		

^aITBS for 1975 and 1976; ITED for 1980.

Table 2. Experimental and control group I composite mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Composite score ^a 1975	Composite score 1976	Composite score 1980	Total
Experimental	38.33	36.67	45.53	40.18
Control	25.53	34.60	35.40	31.84
Total	31.93	35.63	40.47	

^aAverage percentile rank.

Table 3. Analysis of experimental and control group I vocabulary subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	4825.34	2.59
Error 1	28	1862.34	—
Test ^a	2	232.08	0.44
Group x test	2	58.68	0.11
Error 2	<u>56</u>	521.69	—
Total	89		

^aITBS for 1975 and 1976, ITED for 1980.

Table 4. Experimental and control group I vocabulary subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Vocabulary subtest score ^a 1975	Vocabulary subtest score 1976	Vocabulary subtest score 1980	Total
Experimental	47.40	51.67	44.67	47.91
Control	30.67	35.93	33.20	33.27
Total	39.03	43.80	38.93	

^aAverage percentile rank.

Table 5. Analysis of experimental and control group I reading subtest using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	1159.21	0.55
Error 1	28	2094.83	—
Test ^a	2	302.81	0.63
Group x test	2	385.54	0.80
Error 2	<u>56</u>	483.05	—
Total	89		

^aITBS for 1975 and 1976; ITED for 1980.

Table 6. Experimental and control group I reading subtest means of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Reading subtest score ^a 1975	Reading subtest score 1976	Reading subtest score 1980	Total
Experimental	44.00	39.27	46.53	43.27
Control	29.53	39.13	39.60	36.09
Total	36.77	39.20	43.07	

^aAverage percentile rank.

Table 7. Analysis of experimental and control group I language arts subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	2330.71	1.27
Error 1	28	1834.23	—
Test ^a	2	731.03	1.97
Group x test	2	68.68	0.18
Error 2	<u>56</u>	371.25	—
Total	89		

^aITBS for 1975 and 1976; ITED for 1980.

Table 8. Experimental and control group I language arts subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Language arts subtest score ^a 1975	Language arts subtest score 1976	Language arts subtest score 1980	Total
Experimental	39.27	36.20	48.20	41.22
Control	28.40	29.33	35.40	31.04
Total	33.83	32.77	41.80	

^aAverage percentile rank.

Table 9. Analysis of experimental and control group I workstudy subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	240.10	0.11
Error 1	28	2153.30	-
Test ^a	2	736.94	2.01
Group x test	2	480.63	1.31
Error 2	<u>56</u>	366.35	-
Total	89		

^aITBS for 1975 and 1976, ITED for 1980.

Table 10. Experimental and control group I workstudy subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Workstudy subtest score ^a 1975	Workstudy subtest score 1976	Workstudy subtest score 1980	Total
Experimental	41.27	34.87	51.00	42.38
Control	34.67	40.73	41.93	39.11
Total	37.97	37.80	46.47	

^aAverage percentile rank.

Table 11. Analysis of experimental and control group I mathematics subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	122.50	0.06
Error 1	28	1979.33	—
Test ^a	2	1232.84	3.99*
Group x test	2	728.40	2.36
Error 2	<u>56</u>	308.60	—
Total	89		

^aITBS for 1975 and 1976; ITED for 1980.

*Significant beyond the five percent level ($P \leq 0.05$).

Table 12. Experimental and control group I mathematics subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Mathematics subtest score ^a 1975	Mathematics subtest score 1976	Mathematics subtest score 1980	Total
Experimental	32.40	35.80	48.73	38.98
Control	28.87	43.87	37.20	36.64
Total	30.63	39.83	42.97	

^aAverage percentile rank.

workstudy percentile ranks of experimental and control group I were no different. Results are also shown in Table 11 on interpretation of the second hypothesis. In that case, the null hypothesis was rejected. The mean mathematics percentile ranks of the experimental and control groups were found to be different between at least two of the three time periods. There were a significant increase or decrease in percentile ranks from 1975 to 1976 or 1976 to 1980.

Interpretation of the third hypothesis is similar in all tables. In each case, the third hypothesis was not rejected. The increase or decrease in percentile ranks were similar for experimental and control group I.

Summary of the two-factor experiment for group I

Significant differences were found in the magnitude of change on the mathematics subscale percentile ranks for experimental and control group I. Experimental group I average percentile ranks increased from 1975 to 1976 and from 1976 to 1980. Experimental group I average percentile rank in 1975 was 32.40; in 1976, it was 35.80; and in 1981, it was 48.73. The control group average percentile rank increased from 1975 to 1976 and decreased from 1976 to 1980. Control group I average percentile ranks on the mathematics subscale for the three time periods were 28.87, 43.87, and 37.20, respectively.

Analysis of the two-factor experiment for group II

Analysis for experimental and control group II tests (ITBS in 1975 and 1976, ITED in 1980), composite percentile ranks using repeated measures of mean is presented in Table 13. The tests' composite mean

percentile ranks of experimental and control group II are given in Table 14. A similar presentation was followed using the tests' subscale vocabulary results (Tables 15 and 16), tests' reading subscales results (Tables 17 and 18), tests' language arts subscales results (Tables 19 and 20), tests' workstudy subscale results (Tables 21 and 22), and tests' mathematics subscale results (Tables 23 and 24).

Each table presenting the results of the two-factor experiment using repeated measures gave results for the three null hypotheses at the beginning of this chapter. In each case, the first hypothesis was not rejected. There were no differences between the combined mean percentile ranks for the three time periods of experimental group II and the combined mean percentile ranks for the three time periods of control group II.

Similar results are shown in Tables 15, 17, 19, and 23 on interpretation of the second hypothesis. In these cases, the null hypothesis was not rejected. The mean vocabulary, reading, language arts, workstudy, and mathematics percentile ranks of experimental and control group II were no different. Results shown in Table 13 on interpretation of the second hypothesis, indicated a rejection of the null hypothesis. The mean composite percentile ranks of experimental and control group II was found to be different between at least two of the three time periods. There was a significant increase or decrease in percentile ranks from 1975 to 1976 or 1976 to 1980.

Interpretations of the third hypothesis are the same as for the second hypothesis in all Tables 15, 17, 19, 21 and 23 the third hypothesis was not rejected. The magnitude of change in percentile

Table 13. Analysis of experimental and control group II composite percentile ranks using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	100.43	0.04
Error 1	36	2325.28	—
Test ^a	2	1252.43	3.72*
Group x test	2	1146.11	3.40*
Error 2	<u>72</u>	337.11	—
Total	113		

^aITBS for 1975 and 1976; ITED for 1980.

*Significant beyond the five percent level ($P \leq 0.05$).

Table 14. Experimental and control group II composite mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Composite score ^a 1975	Composite score 1976	Composite score 1980	Total
Experimental	42.74	60.00	60.79	54.51
Control	52.11	57.58	48.21	52.63
Total	47.42	58.79	54.50	

^aAverage percentile rank.

Table 15. Analysis of experimental and control group II vocabulary subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	28.50	0.01
Error 1	36	2064.35	—
Test ^a	2	463.17	1.07
Group x test	2	596.87	1.39
Error 2	<u>72</u>	430.91	—
Total	113		

^aITBS for 1975 and 1976; ITED for 1980.

Table 16. Experimental and control group II vocabulary subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Vocabulary subtest score ^a 1975	Vocabulary subtest score 1976	Vocabulary subtest score 1980	Total
Experimental	55.63	58.79	59.68	58.04
Control	57.21	64.11	49.79	57.04
Total	56.42	61.45	54.74	

^aAverage percentile rank.

Table 17. Analysis of experimental and control group II reading subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	611.37	0.31
Error 1	36	1978.60	—
Test ^a	2	204.54	0.55
Group x test	2	801.82	2.14
Error 2	<u>72</u>	374.25	—
Total	113		

^aITBS for 1975 and 1976, ITED for 1980.

Table 18. Experimental and control group II reading subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Reading subtest score ^a 1975	Reading subtest score 1976	Reading subtest score 1980	Total
Experimental	54.58	63.26	63.53	60.46
Control	59.26	58.37	49.84	55.82
Total	56.92	60.82	56.68	

^aAverage percentile rank.

Table 19. Analysis of experimental and control group II language arts subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	1675.17	0.93
Error 1	36	1806.48	—
Test ^a	2	897.18	2.24
Group x test	2	680.64	1.70
Error 2	<u>72</u>	400.26	—
Total	113		

^aITBS for 1975 and 1976; ITED for 1980.

Table 20. Experimental and control group II language arts subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Language arts subtest score ^a 1975	Language arts subtest score 1976	Language arts subtest score 1980	Total
Experimental	49.53	58.42	66.74	58.23
Control	48.26	53.95	49.47	50.56
Total	48.89	56.18	58.11	

^aAverage percentile rank.

Table 21. Analysis of experimental and control group II workstudy subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	0.32	0.00
Error 1	36	2229.26	—
Test ^a	2	598.96	1.71
Group x test	2	706.50	2.02
Error 2	<u>72</u>	350.01	—
Total	113		

^aITBS for 1975 and 1976; ITED for 1980.

Table 22. Experimental and control group II workstudy subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Workstudy subtest score ^a 1975	Workstudy subtest score 1976	Workstudy subtest score 1980	Total
Experimental	46.42	60.32	60.84	55.86
Control	56.32	57.11	54.47	55.96
Total	51.37	58.71	57.66	

^aAverage percentile rank.

Table 23. Analysis of experimental and control group II mathematics subtest scores using repeated measures of mean of the Iowa Test of Basic Skills and the Iowa Test of Educational Development

Source of variation	Degrees of freedom	Mean square	F
Group	1	1130.54	0.52
Error 1	36	2168.53	—
Test ^a	2	854.00	2.32
Group x test	2	549.09	1.49
Error 2	<u>72</u>	368.05	—
Total	113		

^aITBS for 1975 and 1976; ITED for 1980.

Table 24. Experimental and control group II mathematics subtest mean scores of the Iowa Test of Basic Skills for 1975 and 1976 and the Iowa Test of Educational Development for 1980

Group	Mathematics subtest score ^a 1975	Mathematics subtest score 1976	Mathematics subtest score 1980	Total
Experimental	43.42	58.68	56.47	52.86
Control	45.79	49.26	44.63	46.56
Total	44.61	53.97	50.55	

^aAverage percentile rank.

ranks was similar for the two groups. Table 13 revealed the third null hypothesis was rejected on interpretation of the data. Data in Table 14 reveal that experimental group II had a continuous increase in composite percentile ranks, 42.74, 60.00, and 60.79, respectively, in 1975, 1976, and 1980. The data reveal an increase for control group II from 1975 to 1976 and a decrease from 1976 to 1980. Control group II average composite percentile ranks were 52.11, 57.58, and 48.21, respectively.

Summary of the two-factor experiment for group II

There were significant differences found in the magnitude of change in composite tests percentile ranks between experimental and control group II. The experimental group's average percentile rank increased between each time of measurement. The average composite percentile rank for the control group increased from 1975 to 1976 and decreased from 1976 to 1980. There were no significant differences in the magnitude of change on either subscale of the tests for experimental and control group II.

Analysis of the two-factor experiment for group III

Data on experimental and control group III ITBS composite percentile rank using the repeated measures of mean for 1976, 1978, and 1980 are revealed in Table 25. The ITBS composite mean percentile ranks for 1976, 1978 and 1980 of experimental and control group III are given in Table 26. A similar reporting procedure was followed using the ITBS subscale vocabulary test results (Tables 27 and 28). ITBS reading subscale test results (Tables 29 and 30), ITBS language arts subscale test results (Tables 31 and 32), ITBS workstudy subscale test results

(Tables 33 and 34), and ITBS mathematics subscale test results (Tables 35 and 36).

Each table presents the results of the two-factor experiment using repeated measures. From these tables, the conclusion to the three general hypotheses were derived. In each case, the first null hypothesis was retained. There were no significant differences between the combined mean percentile ranks for the three time periods of experimental group III and the combined mean percentile ranks for the three time periods of control group III. To reemphasize Winer's point, this appeared to be a direct result of the confounding effect due to differences in the mean percentile ranks for the three time periods of groups.

Similar results are shown in Tables 27 and 31 on interpretation of the second hypothesis. In these cases, the null hypothesis was also retained. The mean vocabulary and language arts percentile ranks of experimental and control group III were no different. Also, results are presented in Tables 25, 29, 33, and 35 to aid in interpretation of the second hypothesis. In each of these cases, the null hypothesis was rejected. The mean composite, reading, workstudy and mathematics percentile ranks of the experimental and control groups were found to be significantly different between at least two of the three time periods. There was a significant increase or decrease in percentile ranks from 1976 to 1978 or 1978 to 1980.

Interpretations of the third hypothesis are not similar in all the tables. In the composite (Table 25), the language arts (Table 31), and mathematics (Table 35), test results of the third hypothesis was rejected. The magnitude of change of the mean percentile ranks from

Table 25. Analysis of experimental and control group III, Iowa Test of Basic Skills composite percentile ranks using the repeated measures of mean for 1976, 1978, and 1980

Source of variation	Degrees of freedom	Mean square	F
Group	1	1993.48	1.70
Error 1	34	1173.19	—
ITBS	2	2273.68	8.14**
Group x ITBS	2	1227.95	4.40*
Error 2	<u>68</u>	279.32	—
Total	107		

*Significant beyond the five percent level ($P \leq 0.05$).

**Significant beyond the one percent level ($P \leq 0.01$).

Table 26. Experimental and control group III Iowa Test of Basic Skills composite mean scores for 1976, 1978, and 1980

Group	Composite score ^a 1976	Composite score 1978	Composite score 1980	Total
Experimental	53.83	45.17	70.89	56.63
Control	59.89	66.50	69.28	65.22
Total	56.86	55.83	70.08	

^aAverage percentile rank.

Table 27. Analysis of experimental and control group III, Iowa Test of Basic Skills vocabulary subtest percentile ranks using the repeated measures of mean for 1976, 1978, and 1980

Source of variation	Degrees of freedom	Mean square	F
Group	1	2680.04	2.31
Error 1	34	1161.46	—
ITBS	2	899.01	2.00
Group x ITBS	2	1217.90	2.71
Error 2	<u>68</u>	450.12	—
Total	107		

Table 28. Experimental and control group III Iowa Test of Basic Skills vocabulary subtest mean scores for 1976, 1978, and 1980

Group	Vocabulary subtest score ^a 1976	Vocabulary subtest score 1978	Vocabulary subtest score 1980	Total
Experimental	50.61	42.83	63.06	52.17
Control	58.17	65.44	62.78	62.13
Total	54.39	54.14	62.92	

^aAverage percentile rank.

Table 29. Analysis of experimental and control group III, Iowa Test of Basic Skills reading subtest percentile ranks using the repeated measures of mean for 1976, 1978, and 1980

Source of variation	Degrees of freedom	Mean square	F
Group	1	2474.90	2.00
Error 1	34	1234.75	—
ITBS	2	1348.12	3.55*
Group x ITBS	2	761.51	2.01
Error 2	<u>68</u>	379.63	—
Total	107		

*Significant beyond the five percent level ($P \leq 0.05$).

Table 30. Experimental and control group III Iowa Test of Basic Skills reading subtest mean scores for 1976, 1978, and 1980

Group	Reading subtest score ^a 1976	Reading subtest score 1978	Reading subtest score 1980	Total
Experimental	55.89	48.94	65.11	56.65
Control	58.11	68.83	71.72	66.22
Total	57.00	58.89	68.42	

^aAverage percentile rank.

Table 31. Analysis of experimental and control group III, Iowa Test of Basic Skills language arts subtest percentile ranks using the repeated measures of mean for 1976, 1978, and 1980

Source of variation	Degrees of freedom	Mean square	F
Group	1	3093.37	2.28
Error 1	34	1359.53	—
ITBS	2	957.56	3.10
Group x ITBS	2	1234.51	4.00*
Error 2	<u>68</u>	308.84	—
	107		

*Significant beyond the five percent level ($P \leq 0.05$).

Table 32. Experimental and control group III Iowa Test of Basic Skills language arts subtest mean scores for 1976, 1978, and 1980

Group	Language arts subtest score ^a 1976	Language arts subtest score 1978	Language arts subtest score 1980	Total
Experimental	48.83	41.39	60.33	50.19
Control	54.72	65.44	62.50	60.89
Total	51.78	53.42	61.42	

^aAverage percentile rank.

Table 33. Analysis of experimental and control group III, Iowa Test of Basic Skills workstudy subtest percentile ranks using the repeated measures of mean for 1976, 1978, and 1980

Source of variation	Degrees of freedom	Mean square	F
Group	1	63.79	0.05
Error 1	34	1285.72	—
ITBS	2	3902.56	9.41**
Group x ITBS	2	105.34	0.25
Error 2	<u>68</u>	414.79	—
Total	107		

**Significant beyond the one percent level ($P \leq 0.01$).

Table 34. Experimental and control group III Iowa Test of Basic Skills workstudy subtest mean scores for 1976, 1978, and 1980

Group	Workstudy subtest score ^a 1976	Workstudy subtest score 1978	Workstudy subtest score 1980	Total
Experimental	61.94	51.22	75.39	62.85
Control	63.28	56.28	73.61	64.39
Total	62.61	53.75	74.50	

^a Average percentile rank.

Table 35. Analysis of experimental and control group III, Iowa Test of Basic Skills mathematics subtest percentile ranks using the repeated measures of mean for 1976, 1978, and 1980

Source of variation	Degrees of freedom	Mean square	F
Group	1	90.75	0.07
Error 1	34	1292.75	—
ITBS	2	4386.78	11.55**
Group x ITBS	2	1500.33	3.95*
Error 2	<u>68</u>	379.86	—
Total	107		

*Significant beyond the five percent level ($P \leq 0.05$).

**Significant beyond the one percent level ($P \leq 0.01$).

Table 36. Experimental and control group III Iowa Test of Basic Skills mathematics subtest mean scores for 1976, 1978, and 1980

Group	Mathematics subtest score ^a 1976	Mathematics subtest score 1978	Mathematics subtest score 1980	Total
Experimental	56.33	47.39	81.11	61.61
Control	61.06	60.44	68.33	63.44
Total	58.69	53.92	74.97	

^aAverage percentile rank.

1976 to 1980 was not the same for experimental group III and control group III. In two of the cases, inspection of the table of means (Tables 26 and 32) revealed that control group III tended to show an increase in test percentile ranks from 1976 to 1978, while experimental group III presented a decrease in test percentile ranks. Data in Table 26 revealed that control group III progressed from an average percentile rank in 1976 of 59.89 to an average percentile rank of 66.50 in 1978. This was in contrast to experimental group III, which began with a 53.83 average in 1976 and decreased to a 45.17 average in 1978. Similar magnitude of change presented in Table 32 explains the resulting significance shown for hypothesis three in Table 31. However, further inspection of the same tables (Tables 26 and 32), as well as Table 36, of the respective means, indicated that experimental group III tended to show a greater increase in percentile ranks from 1978 to 1980. Data in Table 26 revealed that experimental group III progressed from an average percentile rank of 45.17 in 1978 to a 70.89 average percentile rank in 1980, whereas control group III advanced from an average of 66.50 to an average of only 69.28. A similar magnitude of change shown in Tables 32 and 36 further clarifies the resulting significance presented for hypothesis three in Tables 25, 31, and 35. In the analysis for the other three subscales of the ITBS, the null hypothesis was retained. The increase or decrease in percentile ranks was similar for the two groups.

Summary of the two-factor experiment for group III

The two-factor experiment using repeated measures of ITBS composite and subscale scores was used to provide a test which determined if the magnitude of change in student achievement (percentile rank on ITBS) from 1976 to 1980 was different for the experimental and the control groups. A difference of this kind was found in the ITBS: composite, reading subscale, workstudy subscale, and mathematics subscale average percentile ranks. The ITBS composite percentile rank results for the experimental group changed from an average of 53.83 in 1976 to 45.17 in 1978 and to 70.89 in 1980. The change in percentile ranks for the control groups was from 59.89 to 66.50 and to 69.28. Experimental group III average percentile ranks decreased from 1976 to 1978 and increased considerably from 1978 to 1980. The control group average percentile ranks increased from 1976 to 1978 and from 1978 to 1980. However, the average increase in percentile ranks for control group III was small compared to the average increase in percentile ranks for experimental group III from 1978 to 1980. The percentile ranks were similar for the two groups on the vocabulary and language arts subscales.

Comparison of District Objectives-Based Test Results

The t-test program of the statistical program for social science computer package (Nie et al., 1975) was utilized for comparisons between the experimental and control groups on the reading and mathematics minimum competencies tests. When a comparison between groups was made,

the pooled variance estimate was employed, unless the ratio of the variance produced a significant F value ($P \leq 0.05$) in which case, the separate estimate of t was employed. Missing data were excluded from the calculation.

Comparison between experimental and control group I

Results from the comparison of the reading and mathematics minimum competencies tests for experimental and control group I are presented in Table 37. Results are given for the second and third hypotheses in the introductory chapter. There were no significant differences in the average percentage correct on the reading and mathematics competencies tests between experimental and control group I.

Comparison between experimental and control group II

Results from the comparison of the reading and mathematics minimum competencies tests for experimental and control group II are presented in Table 38. The table gives results for the second and third hypotheses in the introduction chapter. There were no significant differences in the average percentage correct on the reading and mathematics minimum competencies tests between experimental and control group II.

Comparison between experimental and control group III

Results from the comparison of the reading and mathematics minimum competencies tests for experimental and control group III are presented in Table 39. The table presented results for the second and third hypotheses as given in the introduction chapter. There were no significant differences between experimental group III and control group III

Table 37. Objectives-based test means and comparisons between experimental and control group I

Area ^a	Experimental			Control			<u>t</u>
	n	Mean	S.D.	n	Mean	S.D.	
Reading minimum competency	15	75.70 ^a	20.52	15	65.97	22.56	1.24
Mathematics minimum competency	15	60.97	17.64	15	68.15	19.60	-1.05

^aRaw scores converted to percentage correct.

Table 38. Objectives-based test means and comparisons between experimental and control group II

Area ^a	Experimental			Control			<u>t</u>
	n	Mean	S.D.	n	Mean	S.D.	
Reading minimum competency	15	85.98 ^a	9.66	15	86.58	4.31	-0.22
Mathematics minimum competency	19	63.98	18.22	19	68.75	15.48	-0.87

^aRaw scores converted to percentage correct.

Table 39. Objectives-based test means and comparisons between experimental and control group III

Area ^a	Experimental			Control			<u>t</u>
	n	Mean	S.D.	n	Mean	S.D.	
Reading minimum competency	17	91.93 ^a	6.79	17	93.11	6.70	-0.51
Mathematics minimum competency	18	79.43	12.56	18	74.15	19.84	0.95

^aRaw scores converted to percentage correct.

on the reading and mathematics minimum competency. The data in Table 37 indicate that the average percentage of correct answers was 91.63 and 93.11 in reading, respectively, for experimental and control group III, with a t-value of -0.51. The t-value for mathematics was 0.95.

Summary of the objectives-based tests results

There were no significant differences between any of the three experimental and control groups on the reading or mathematics objectives-based test. Control group III and control group II average percentage correct were slightly higher than their matched counterparts in experimental group III and experimental group II on the reading objectives-based test. However, experimental group I average percentage correct in reading was slightly higher than control group I. On the mathematics objectives-based test, control group II and control group I exceeded their counterparts, while experimental group III exceeded control group III.

Comparison of the Coopersmith Self-Esteem Inventory Results

The t-test routine was utilized for the comparison of the Coopersmith Self-Esteem Inventory results. The routine was used for this comparison as illustrated in the previous section.

Comparison between experimental and control group I

Results from the comparison of the Coopersmith Self-Esteem Inventory subscales and overall means and standard deviations are reported in Table 40 for experimental and control group I. Table 40

gives results for the fourth hypothesis referred to in the introduction. There were no significant differences in either of the subscales or the overall means for experimental and control group I. Experimental and control group I self-concept was similar on the average in all respects.

Comparison between experimental and control group II

Results from the comparison of the Coopersmith Self-Esteem Inventory subscales and overall means and standard deviations are presented in Table 41 for experimental and control group II. There were no significant differences between experimental and control group II on either of the subscales or the overall mean. The groups' self-concept were similar in all respects.

Comparison between experimental and control group III

Results from the comparison of the Coopersmith Self-Esteem Inventory subscales (general, self, social self-peers, school-academic, and home-parents) and the overall means and standard deviations are presented in Table 42 for experimental and control group III. Table 42 gives results for the fourth hypothesis referred to in the introduction chapter. There were no significant differences between the groups on the overall means or subscales: general self, social self-peers, and home-parents. Specifically, the groups' total self-concept, also three of the four subscales, those labeled (1) general self, (2) social self-peers, and (3) home-parents were about the same. However, there were significant differences between experimental and control group III on the school-academic subscale. This suggests that control group III

Table 40. Means and comparisons between experimental and control group I on the subscale of the Coopersmith Self-Esteem Inventory

Scale	Experimental			Control			t
	n	Mean	S.D.	n	Mean	S.D.	
General self	13	35.54	12.26	10	39.80	9.45	-0.94
Social self-peers	13	12.46	3.66	10	13.00	3.68	-0.35
School-academic	13	10.30	4.38	10	11.40	5.08	-0.55
Home-parents	13	<u>8.46</u>	3.84	10	<u>9.34</u>	5.00	-0.46
Total	13	66.78	21.54	10	72.60	21.18	-0.65

Table 41. Means and comparisons between experimental and control group II on the subscale of the Coopersmith Self-Esteem Inventory

Scale	Experimental			Control			t
	n	Mean	S.D.	n	Mean	S.D.	
General self	19	41.40	6.70	19	36.80	9.90	1.68
Social self-peers	19	13.26	3.22	19	13.36	2.58	-0.11
School-academic	19	10.22	4.46	19	10.42	5.60	-0.12
Home-parents	19	<u>10.10</u>	4.18	19	<u>8.42</u>	3.74	1.31
Total	19	75.06	12.80	19	68.94	18.76	1.20

Table 42. Means and comparisons between experimental and control group III on the subscale of the Coopersmith Self-Esteem Inventory

Scale	Experimental			Control			t
	n	Mean	S.D.	n	Mean	S.D.	
General self	17	37.76	8.60	18	41.60	8.68	-1.31
Social self-peers	17	12.70	3.16	18	13.56	3.12	-0.81
School-academic	17	10.12	5.12	18	13.12	3.30	-2.05*
Home-parents	17	<u>11.42</u>	2.98	18	<u>10.78</u>	4.12	0.53
Total	17	72.00	15.96	18	79.12	17.46	-1.26

*Significant beyond the five percent level ($P \leq 0.05$).

shows more confidence that they were more able, worthwhile students in school and in the eyes of their teachers than do their experimental counterparts.

Summary of the Coopersmith Self-Esteem Inventory results

This section of the study was conducted specifically to determine whether measurable differences in self-concept existed between students who attended fundamental schools and those who attended regular schools. There were no significant differences found in any of the groups on the overall or any subscale with one exception: control group III scored significantly ($P \leq 0.05$) higher than experimental group III on the school-academic subscale. This difference suggests that the students of control group III regarded themselves as more able and worthwhile both in school and in the eyes of their teachers than did their experimental counterparts.

Parent Survey

A survey was made of the parents of students who were exposed to the fundamental school curriculum and those of students in this study who were exposed to a regular school curriculum. This survey assessed parental attitudes and opinions regarding the goals, nature, and quality of education in both fundamental and regular elementary schools' programs (Appendix D). The responses of the parents were analyzed by groups using frequencies. The chi-square test of independence was used to test for significant ($P \leq 0.10$) differences existing between the two groups. That is, this test was to determine if the way parents

responded to each question depended on whether they were parents of students who were exposed to the fundamental or regular elementary curriculum. If no significant differences existed, the chi-square value was not printed.

Grades for schools

The parents were asked to assign letter grades of A, B, C, D, or F to the Des Moines district's elementary schools and the elementary school their children attended, indicating their opinion of the quality of job the schools were doing. A study of Table 43 reveals that the way in which parents graded Des Moines district's elementary schools depended on the group. There was a significant difference in the responses of the parents. Approximately 38 percent of the parents of fundamental school students assigned district's elementary school A or B grades. In contrast, approximately 65 percent of the parents of regular school students assigned A or B grades to the district's elementary schools. Approximately 19 percent of the fundamental parents gave D or F grades to district's elementary schools compared to 3 percent of the regular elementary school parents. The responses of the parents toward elementary schools of which their children attended revealed no significant differences between the parents. Approximately 71 and 72 percent of the parents, respectively, of fundamental and regular school students gave the elementary school their children attended A or B grades.

Table 43. Grades for Des Moines district's elementary schools given by parents of students exposed to a fundamental elementary curriculum and parents of students exposed to a regular elementary curriculum

Grade	Parents of fundamental ^a school students		Parents of regular ^b school students	
	Percent	Cumulative percent	Percent	Cumulative percent
<u>Elementary schools in the district</u>				
A	14.29	14.29	10.34	10.34
B	23.81	38.10	55.17	65.51
C	28.57	66.67	24.14	89.65
D	19.04	85.71	3.45	93.10
F	-	85.71	-	93.10
No answer	14.29	100.00	6.90	100.00
Chi square = 4.75 with 2 degrees of freedom ($P \leq 0.10$)				
<u>Elementary school their children attended</u>				
A	61.90	61.90	31.03	31.03
B	9.52	71.42	41.38	72.41
C	9.52	80.94	10.34	82.75
D	4.77	85.71	6.90	89.65
F	4.77	90.48	3.45	93.10
No answer	9.52	100.00	6.90	100.00

^a
N=21.

^b
N=29.

Agreement with statement about the elementary schools

The goals, administrative and teaching staffs of a school's program might improve the quality of education provided by the institution. The parents were asked specific questions concerning the curriculum. Emphasis was placed on the basic skills, activities, discipline and the school's staff. The parents responded to the statements with one of five responses, ranging from 1 = strongly agree to 5 = strongly disagree. No significant differences were found between the groups from the data collected (Table 44). The way in which parents responded to these questions was independent of whether they were parents of students exposed to fundamental or regular elementary school curriculum.

Participation in elementary school activities and programs

Presumably, parents' participation in school activities and programs enhances the curriculum. The parents responded to statements regarding whether they were or were not participants in activities and programs of the elementary school their children attended. No significant differences were found between the parents (Table 45). The activities and programs parents were involved in were independent of the group. Approximately 48 and 52 percent of the respective parents of fundamental and regular school students were involved in a parent-teacher association or organization. Approximately 43 and 62 percent of the respective parents of fundamental and regular school students were involved with volunteer work in the elementary schools.

Table 44. Parental agreement with specific statements about the elementary school their children attended

Agreement	Parents of fundamental school students (n=21)		Parents of regular school students (n=29)	
	Percent	Cumulative percent	Percent	Cumulative percent
<u>Emphasis placed on the teaching of reading</u>				
Strongly agree	57.14	57.14	20.69	20.69
Agree	9.52	66.66	44.83	65.52
No opinion	4.77	71.43	10.34	75.86
Disagree	19.05	90.48	17.24	93.10
Strongly disagree	9.52	100.00	6.90	100.00
<u>Emphasis placed on the teaching of writing</u>				
Strongly agree	42.85	42.85	6.90	6.90
Agree	19.05	61.90	62.06	68.96
No opinion	9.52	71.42	3.45	72.41
Disagree	14.29	85.71	24.14	96.55
Strongly disagree	14.29	100.00	3.45	100.00
<u>Emphasis placed on the teaching of arithmetic</u>				
Strongly agree	47.62	47.62	13.79	13.79
Agree	19.05	66.67	58.62	72.41
No opinion	4.76	71.43	20.69	93.10
Disagree	23.81	95.24	—	93.10
Strongly disagree	4.76	100.00	6.90	100.00
<u>Emphasis placed on cocurricular activities, such as music and art</u>				
Strongly agree	33.33	33.33	24.14	24.14
Agree	47.62	80.95	48.28	72.42
No opinion	4.76	85.71	10.34	82.76
Disagree	14.29	100.00	10.34	93.10
Strongly disagree	—	100.00	6.90	100.00
<u>Children had made satisfactory progress in academic subjects</u>				
Strongly agree	52.38	52.38	34.48	34.48
Agree	23.81	76.19	41.38	75.86
No opinion	—	76.19	3.45	79.31
Disagree	14.29	90.48	17.24	96.55
Strongly disagree	9.52	100.00	3.45	100.00

Table 44. Continued

Agreement	Parents of fundamental school students (n=21)		Parents of regular school students (n=29)	
	Percent	Cumulative percent	Percent	Cumulative percent
<u>Quality of their children's total learning experiences</u>				
Strongly agree	52.37	52.37	24.14	24.14
Agree	14.29	66.66	44.83	68.97
No opinion	4.76	71.42	3.45	72.42
Disagree	14.29	85.71	20.68	93.10
Strongly disagree	14.29	100.00	6.90	100.00
<u>Homework required</u>				
Strongly agree	42.86	42.86	13.79	13.79
Agree	19.05	61.91	41.38	55.17
No opinion	9.52	71.43	13.79	68.96
Disagree	23.81	95.24	24.14	93.10
Strongly disagree	4.76	100.00	6.90	100.00
<u>Level of discipline</u>				
Strongly agree	52.37	52.37	17.24	17.24
Agree	23.81	76.18	51.72	68.96
No opinion	4.76	80.94	10.34	79.30
Disagree	9.53	90.47	13.80	93.10
Strongly disagree	9.53	100.00	6.90	100.00
<u>Children should be promoted to next grade only if required standards are met</u>				
Strongly agree	57.15	57.15	44.83	44.83
Agree	28.57	85.72	41.37	86.20
No opinion	4.76	90.48	3.45	89.65
Disagree	-	90.48	-	89.65
Strongly disagree	9.52	100.00	10.35	100.00
<u>Teachers were friendly toward children</u>				
Strongly agree	47.63	47.63	37.93	37.93
Agree	33.33	80.96	51.72	89.65
No opinion	9.52	90.48	3.45	93.10
Disagree	4.76	95.24	6.90	100.00
Strongly disagree	4.76	100.00	-	100.00

Table 44. Continued

Agreement	Parents of fundamental <u>school students (n=21)</u>		Parents of regular <u>school students (n=29)</u>	
	Percent	Cumulative percent	Percent	Cumulative percent
<u>Teachers were effective when working with children</u>				
Strongly agree	52.38	52.38	20.69	20.69
Agree	23.81	76.19	48.28	68.97
No opinion	—	76.19	17.24	86.21
Disagree	9.52	85.71	10.34	96.55
Strongly disagree	14.29	100.00	3.45	100.00
<u>Principal was an effective administrator</u>				
Strongly agree	42.86	42.86	31.03	31.03
Agree	23.81	66.67	48.28	79.31
No opinion	19.05	85.72	10.34	89.65
Disagree	4.76	90.48	6.90	96.55
Strongly disagree	9.52	100.00	3.45	100.00

Table 45. General information about parents' participation in elementary school activities and programs

	Parents of fundamental ^a school students		Parents of regular ^b school students	
	Percent	Cumulative percent	Percent	Cumulative percent
<u>Parent teacher association or organization</u>				
Yes	47.62	47.62	51.72	51.72
No	52.38	100.00	48.28	100.00
<u>Building Advisory Council</u>				
Yes	28.57	28.57	13.79	13.79
No	71.43	100.00	86.21	100.00
<u>Volunteer in school</u>				
Yes	42.86	42.86	62.07	62.07
No	57.14	100.00	37.93	100.00

^aN=21.

^bN=29.

Philosophy of education

Many parents select schools for their children based on philosophy toward education. The parents responded to a question about their philosophy with one of five responses ranging from 1 = very conservative to 5 = very liberal. There were no significant differences between the parents in these categories (Table 46). Approximately 81 and 86 percent of the respective fundamental and regular school students' parents considered themselves as moderate, conservative or very conservative.

Summary of parent survey

Parents of students exposed to both fundamental and regular school curriculum were surveyed on the goals, nature and quality of elementary school curriculum. The responses of the two groups of parents differed significantly on only one question: "What overall grade would you give the elementary schools in the district?" Approximately 38 percent of parents of fundamental school students gave A or B grades to district schools. Approximately 65 percent of parents of regular school students gave district schools A or B grades. Approximately 19 and 3 percent of the respective fundamental and regular school students' parents, gave district elementary schools D or F grades. However, with this exception, the responses of the parents to questions on the survey were independent of what group they were in.

Summary

The analysis of norm referenced tests, district objectives-based test, and Coopersmith Self-Esteem Inventory results revealed few

Table 46. Parental categorization of themselves toward education in general

Category	Parents of fundamental ^a school students		Parents of regular ^b school students	
	Percent	Cumulative percent	Percent	Cumulative percent
Very conservative	14.29	14.29	6.90	6.90
Conservative	38.10	52.39	24.14	31.04
Moderate	28.57	80.96	55.17	86.21
Liberal	9.52	90.48	13.79	100.00
Very liberal	9.52	100.00	—	100.00

^aN=21.^bN=29.

significant differences between students exposed to the fundamental school program and their matched counterparts in the regular schools. Parents of these students differed significantly only on the overall grades given the elementary schools in the district.

SUMMARY

The purpose of this study was to determine how those students who were presented a fundamental elementary curriculum compared with those who were presented a regular curriculum in the areas of basic skills and self-concept. The study also compared the perceptions of the students' parents to determine if there were differences in their attitudes toward elementary schools' curricula. Measures which were used to assess these skills, concepts, and perceptions were: (a) the Iowa Test of Basic Skills (ITBS), (b) the Iowa Test of Educational Development (ITED), (c) the Des Moines District Objectives-Based Reading and Mathematics Tests, (d) the Coopersmith Self-Esteem Inventory, and (e) a survey developed to assess parents' perceptions of the goals, nature, and quality of the elementary school curriculum their children attended.

The sample used in this study consisted of 104 students in the Des Moines Independent Community School District, Des Moines, Iowa, enrolled in eighth, ninth, and tenth grades during the 1980-81 school year. There were two groups, experimental and control: the experimental group consisted of 52 students who enrolled in the Des Moines fundamental school in 1976; the control group consisted of 52 students in the district's regular schools. The students were matched on specified variables and subdivided into three groups for comparison. The three groups were as follows:

Group I:

Students who attended the fundamental school for one year and

were tenth graders in senior high school. These students were the first group of sixth graders enrolled in the fundamental school program. Of the original 27 sixth graders who completed one full year in the fundamental school, 15 (55 percent) were still enrolled in the Des Moines Independent Community School District. Therefore a total of 30 students were in Group I: 15 former fundamental school students and 15 matched regular school students.

Group II:

Students who attended the fundamental school for two years and were ninth graders in junior or senior high. These students were the first group of fifth graders enrolled in the fundamental school program. Of the original 22 fifth graders who completed two years at the fundamental school, 19 (86 percent) were still enrolled in the Des Moines Independent Community School District. Hence, a total of 38 students were in Group II; 19 former fundamental school students and 19 matched regular school students.

Group III:

Students who were enrolled in the fundamental school and their counterparts in the regular elementary schools. These fundamental school students were the first fourth graders and were still enrolled in the fundamental school as eighth graders. This group consisted of 36 students: 18 fundamental school students and 18 matched regular school students.

The regular (control) groups were chosen to match the fundamental (experimental) groups on the following variables: age, grade, sex, race, absenteeism and trait rating, adult with whom student lived,

occupation of father and mother, father's highest grade completed, Iowa Test of Basic Skills scores and subject grade marks.

Once the control group students were identified, collection of data for both fundamental and regular school students was begun. Data were collected for both fundamental and regular school students from the school year 1976-77 through fall of school year 1980-81. Data collected for comparison of the experimental and control groups were: (a) Iowa Test of Basic Skills results for fall of school years 1976, 1978, and 1980, (b) Iowa Test of Educational Development results for fall of school year 1980, (c) District Objectives-Based Test results for fall of school years 1976-79 (Reading and Mathematics Minimum Competency Test), and (d) Coopersmith Self-Esteem Inventory results for fall of school year 1980. The survey for parents was developed by the investigator, with suggestions from various members of the Professional Studies Department, Iowa State University, and members of the Evaluation and Research Department, Des Moines Independent Community School District, Des Moines, Iowa. The Gallup education polls conducted yearly since 1969 were reviewed and several questions on the survey were based on these national surveys.

The experimental and control groups were compared using: a two-factor analysis with repeated measures of means on the ITBS and ITED for three different time periods, the t-test routine on the objectives-based tests, and the Coopersmith Self-Esteem Inventory results. The parental responses were compared using frequencies. The data in each case were subdivided into groups for analysis purposes.

Group I

Few differences were found between experimental and control group I. One result which was obtained from the repeated measures of mean analysis was a comparison of the magnitude of change in achievement on the ITBS and ITED results for the experimental and control groups from 1975 to 1980. The analysis was done on the composite and subscales (vocabulary, reading, language arts, workstudy and mathematics) results of the ITBS and ITED for the groups. No significant differences were found between experimental and control group I on their composite tests (ITBS and ITED) results or any of the subscales with the exception of mathematics. There was a constant increase in average in experimental group I mathematics subscale tests results from fall of school years 1975-76 through fall of school year 1980-81. In contrast, control group I mathematics subscale average tests results compared to the experimental group's average tests results tended to decrease from 1976 to 1980. The ITBS and ITED results revealed that experimental group I achieved on the average as well on the measures as control group I. Also, the experimental group received on the average higher tests results than the control group in mathematics. This suggested that the experimental group was more consistent in achievement over the years on norm referenced mathematics measures.

When the t-test was computed on the reading and mathematics minimum competency tests results for the experimental and control groups, the computed t-value favored the control group in mathematics and favored the experimental group in reading. However, no significant differences

were found between the average tests results of students in group I on the reading and mathematics minimum competency tests. This result might be expected since scores for these measures were posted on a student's record only if the student scored at or above the district's cutoff score for competency in these areas.

The t-test for means comparisons between experimental and control group I on the subscales (general self, social self-peers, school-academic and home-parents) and overall results of the Coopersmith Self-Esteem Inventory revealed no significant differences. There were no measurable differences in self-concept existing between experimental and control group I. The comparison was done on each of the subscales to find the specific areas of self-concept differences. The nonsignificant differences on each subscale were all in the same direction as the overall. The groups' average self-esteem was normal using Coopersmith's (1968) estimate.

Conclusion

The data collected for group I failed to indicate any differences between students who were exposed to a fundamental elementary curriculum and students who were exposed to a regular elementary curriculum in the basic skills area with the exception of norm referenced mathematics subscale results. In this case, students exposed to the fundamental curriculum achieved, on the average, higher and more consistently than those exposed to a regular curriculum. The data indicated no differences in the students' self-concept.

Group II

The repeated measures of mean analysis were used to compare the magnitude of change in achievement on the ITBS and ITED results for experimental and control group II from 1975 to 1980. The analysis was done on the tests composite and subscales results for the groups. No significant differences were found on either of the subscales results, although there were significant differences between the composite tests results. The experimental group composite tests results on the average constantly increased from fall of school years 1975-76 to fall of school year 1980-81. From fall 1976 to 1980, control group II average tests results revealed a decrease compared with experimental group II average tests results. However, no significant differences were indicated on any of the subscales. In each case, the average subscale result favored experimental group II. These indications were the factors contributing to the differences found in the composite test result.

The t-test routine on the reading and mathematics minimum competency tests results for experimental and control group II produced no observable differences in the computed t-values of the two groups. The regular school students in this group scored, on the average, slightly higher than fundamental school students on the district objectives-based test: in reading 0.6 average percentage correct higher and 4.77 average percentage correct higher in mathematics.

Mean comparisons between experimental and control group II on the overall and subscales results of the Coopersmith Self-Esteem Inventory revealed no measurable differences in self-concept existing in the groups.

The nonsignificant differences on subscales, general self and house-parents favored the experimental group, as did the overall average results. The subscales, social self-peers and school-academic favored the control group. The groups' average self-esteem was normal (Cooper-smith, 1968).

Conclusion

On norm referenced and objectives-based tests results, only one significant difference was observed between students who were exposed to a fundamental elementary curriculum and students who were exposed to a regular elementary curriculum in group II. Students exposed to the fundamental elementary curriculum average composite norm referenced (ITBS and ITED) results revealed a more consistent and higher increase from school years 1975-76 through fall of school year 1980-81. The data collected indicated no measurable differences in self-esteem between fundamental and regular school students.

Group III

The repeated measures of mean analysis was used to compare the magnitude of change in achievement on the ITBS results for experimental and control group III from fall of school year 1976-77 to fall of school year 1980-81. The analysis was done on the ITBS composite and subscales results for the groups. There were significant differences existing on the ITBS composite and subscales: reading, workstudy and mathematics results. The trend of means were quite different for experimental and control group III. The average ITBS results in each of the cases tended

upward for control group III from fall of school year 1976-77 to fall of school year 1978-79. In contrast, the average ITBS results in each of the cases tended downward for experimental group III from 1976 to 1978. Also, from 1978 to 1980, experimental group III average ITBS composite, reading, workstudy and mathematics results increased rapidly. Although control group III ITBS results increased, the increase was of a much smaller magnitude than the experimental group's. This could suggest that students who were exposed to a fundamental elementary school curriculum achieved higher on norm referenced measures after being exposed to a fundamental elementary curriculum over a span of years. It might be well to note here that this group of fundamental students entered the fundamental school program in fall of school year 1976-77 and was enrolled in the fundamental program at the time of this study.

When the t-test was computed on the reading and mathematics minimum competency tests results for experimental and control group III, the computed t-value favored the control group in reading and favored the experimental group in mathematics. However, no significant differences were found between the average tests results of students in group III on either of the measures.

On the Coopersmith Self-Esteem Inventory, significant differences were found between experimental and control group III only on the school-academic subscale. This difference suggested that students in the control group showed more confidence that they were more able and worthwhile in the eyes of their teachers than their experimental counterparts. Trowbridge (1975) suggested that students who score low on this scale are rarely appraised by their teachers. The rationale was either the students

were high achievers or tended to always do well in class. Overall, the students in both experimental and control group III self-concept was normal (Coopersmith, 1968).

Conclusion

There were significant differences between the magnitude of changes on the ITBS composite, reading, workstudy and mathematics subscales for experimental and control group III. The trend of means for the experimental group tended downward from fall of school year 1976 to fall of 1978, whereas the trend was upward for the control group. The trends of means were upward for both experimental and control group III from 1978 to 1980. However, the upward trends of means were greater for experimental group III than for control group III. These trends suggest that the fundamental school program enhanced the observed higher achievement of its students over time.

There were no significant differences between students exposed to the fundamental elementary school curriculum and those exposed to regular elementary school curriculum on the mathematics or reading minimum competency tests.

Significant differences were found between students who were exposed to the fundamental and regular elementary schools curriculum on the school-academic subscale of the Coopersmith Self-Esteem Inventory. It appeared that regular school students showed more confidence that they were more able and worthwhile in the eyes of their teacher. However, the overall self-concept of the students in both groups was normal.

Parent Survey

The responses of the parents of students exposed to the fundamental curriculum and parents of students exposed to the regular curriculum differed significantly on only one question - "What overall grade would you give the elementary schools in the district?" Parents of fundamental school students gave district elementary schools approximately as many D or F grades as they gave A or B grades. In contrast, parents of regular school students gave district elementary schools approximately twenty times as many A or B grades as they gave D or F grades. With this exception, the responses of the two groups of parents were independent of the group.

Conclusion

Parental views on the goals, nature, and quality of education provided in the elementary schools their children attended were positive for parents of both fundamental and regular school students. However, parents of fundamental school students viewed regular elementary school negatively. Comments on the returned surveys indicated both groups of parents believed the quality of elementary schools curriculum could be improved by: placing more emphasis on reading, writing and arithmetic; requiring more homework; and providing for stricter discipline and better teachers in the schools.

Conclusion

The primary objectives of this study were to: (1) assess the effectiveness of a fundamental school program through comparison of fundamental and regular school students achievement in reading, writing, and arithmetic, (2) compare the self-esteem of students who attended regular schools with those who attended fundamental schools' program, and (3) assess parental attitudes and opinions regarding the goals, nature, and quality of education in both regular and fundamental elementary school programs.

Few significant differences were found between the fundamental and regular school students in reading, writing, and arithmetic. Students exposed to the fundamental elementary school curriculum achieved on the average norm referenced test results in the basic skills area as high as their counterparts who were exposed to a regular elementary school curriculum. Those exposed to the fundamental elementary school curriculum for one year achieved significantly higher than their regular school counterparts on norm referenced measures in mathematics. Students exposed to the fundamental elementary school curriculum for two years average achievement on norm referenced measures were no different from their regular school counterparts in any specific basic skill area. Students exposed to the fundamental elementary school curriculum for four years achieved significantly higher than their regular school counterparts on norm referenced measures in reading and mathematics after being exposed to the fundamental school curriculum for two years. No observable differences existed between any of the paired fundamental school students

and their regular school counterparts on district objectives-based reading or mathematics test.

Fundamental and regular school students' overall self-concept was average and no overall significant differences existed between any of the matched groups of students. However, findings suggested that students who were exposed to the regular curriculum showed more confidence that they were more able and worthwhile in the eyes of their teachers than their counterparts who were exposed to the fundamental school program for four years.

Parents of both fundamental and regular schools' students views on the goals, nature, and quality of education provided in the elementary schools their children attended were independent. Approximately 60 to 70 percent of the parents gave the elementary schools their children attended grades of A or B. However, parents of students who attended the fundamental school program differed significantly than parents of regular school students in their views toward district regular elementary schools. Parents of fundamental school students viewed the regular elementary schools more negatively than those parents of regular school students. Comments on the returned surveys indicated both groups of parents believed the quality of elementary schools curriculum could be improved by: placing more emphasis on reading, writing, and arithmetic; requiring more home work; and providing for stricter discipline and better teachers in the schools.

Recommendations

Further investigation of students exposed to fundamental schools' programs should involve a larger sample in order to provide for random selection. A study of this nature should be conducted over larger geographical areas, and various school sizes. A comparative study of fundamental and nonfundamental schools in the United States could contribute to the eventual model that should be adopted in order to provide more effective schools and test the claims made by the advocates of fundamental schools.

It would be valuable to find out how the fundamental schools' programs affects the superior, average and low students, and how this program affects the elementary, junior high and senior high school students.

A study should be conducted to determine the relationships between achievement, self-concept and attitude toward school, utilizing experimental and control groups from both fundamental and nonfundamental schools. Also, further investigation should involve teachers' and administrators' attitudes and opinions toward fundamental schools in order to assess the "make-up" of the staff.

REFERENCE NOTES

1. Bowman, J. E. Interoffice memo. Des Moines Independent Community School District, Des Moines, Iowa. October 31, 1978.
2. Bowman, J. E. Interoffice memo. Des Moines Independent Community School District, Des Moines, Iowa. April 20, 1978.

REFERENCES

- Alternative Schools: Why, What, Where and How Much? Education U.S.A. Special Report. Washington, D.C.: National School Public Relations Association, 1977.
- Assessment of Skills in Computation (ASC). Customer Relations Department, California Testing Bureau/McGraw Hill, Del Monte Research Park, Monterey, Calif., Spring 1978.
- Association for Supervision and Curriculum Development. Research Critical of Individualized Instruction, December 1980, 22 (6), 1-6.
- Back to Basics in Values. Newsweek, May 1981, pp. 66-72.
- Borden, Christopher. Back to Basic? Back is here! Educational Horizons, Winter 1979, 56 (2), 85-88.
- Borg, W. R., and Gall, M. D. Educational Research: An Introduction (Third edition). New York: Longman, Inc., 1979.
- Butcher, D. G. A study of the relationship of student self-concept to academic achievement in six high-achieving elementary schools. Unpublished doctoral dissertation, Michigan State University, 1967.
- Campbell, P. B. Self-concept and academic achievement in middle grade public school children. Unpublished doctoral dissertation, Wayne State University, 1965.
- Coopersmith, S. The Antecedents of Self-Esteem. San Francisco: W. H. Freeman and Company, 1968.
- Davidson, H. H., and Lang, G. Children's Perceptions of Their Teachers' Feelings toward Them Related to Self-Perception, School Achievement and Behavior. Journal of Experimental Education, December 1960, 29 (2), 107-118.
- Donmoyer, R. Back to Basics Now and 20 Years Ago: A Comparison of Two Movements. Educational Leadership, May 1979, 38 (8), 555-568.
- Education Commission of the States. Policy Issues in Minimum Competency Standards and Testing. Denver, Colorado, ECS, 1978.
- Education Commission of the States. Minimum Competency Testing, A Report of Four Regional Conferences. Denver, Colorado, ECS, 1978.
- Educational Research Service. Academic Plus, Evaluations of Alternative Schools. Arlington, VA: Educational Research Services, 1977.

- Edwards, A. L. Experimental Design in Psychological Research. New York: Holt, Rinehart and Winston, Inc., 1960.
- Elam, S. M., and Gough, P. B. Comparing Lay and Professional Opinions on Gallup Poll Questions. Phi Delta Kappan, September 1980, 62 (1), 47-48.
- Gallup, G. H. The 12th Annual Gallup Poll of Public's Attitudes toward the Public Schools. Phi Delta Kappan, September 1980, 62 (1), 33-46.
- Gallup, G. H. A Decade of Gallup Polls of Attitudes toward Education, 1969-1978. Bloomington, IN: Phi Delta Kappa, Inc., 1978.
- Garza, B. M. Coordinating Testing, Evaluation, and Decision Making at the Local Level. Washington, D.C.: National Institute of Education, U.S. Department of Education, October 1980.
- Harris, E. C. Can Extremism Undermine Basic Schools' Success? Nation's School Report, July 1977, 3 (13), 6-10.
- Harris, L. A. The Iowa Test of Basic Skills. In Buros, O. K. (Ed.), The Eighth Mental Measurements Yearbook. Vol. I. Highland Park, NJ: Buros Institute of Mental Measurement, 1978.
- Hieronymus, A. N., Lindquist, E. F., and Hoover, H. D. Iowa Test of Basic Skills for Administration Interpretation and Use: Level 9-14. Iowa City, IA: Houghton Mifflin, 1979.
- Hopke, M. E. A comparison of basic skills' achievement level, attitude toward school, academic and global self-concepts of open concept primary grade school students and traditional self-contained classroom primary grade school students. Unpublished doctoral dissertation, University of Washington, 1969.
- Hull, C. H., and Nie, N. H. SPSS Update 7-9: New Procedures and Facilities for Releases 7-9. New York: McGraw-Hill, 1981.
- Iowa Testing Programs. Iowa Tests of Educational Development, Form X-7 and Y-7, Manual for Teachers, Counselors and Examiners. Iowa City, IA: University of Iowa, 1980.
- Iverson, B. K., Brownless, G. D., and Walberg, H. J. Parent-Teacher Contacts and Student Learning. Journal of Educational Research, July/August 1981, 74 (6), 394-396.
- Johnson, L., and Pearson, D. Fundamental Schools in the Minneapolis School System. Minneapolis, MN: Minneapolis Department of Research and Evaluation, 1979.

- Jones, Phillip C. All about Those New "Fundamental" Public Schools, What They're Promising and Why They're Catching On. The American School Board Journal, February 1976, 163 (2), 24-30.
- Lindvall, C. M. Iowa Test of Education Development: SRA Assessment Survey. In Buros, O. K. (Ed.), The Eighth Mental Measurement Yearbook. Vol. I. Highland Park, NJ: Buros Institute of Mental Measurement, 1978.
- Medley, D. Teacher Competence and Teacher Effectiveness. Washington, D.C.: American Association of Colleges for Teacher Education, 1977.
- Myers, H. What Makes a School 'Fundamental?' The American School Board Journal, June 1976, 163 (2), 30-31.
- National Academy of Education. Improving Educational Achievement. Washington, D. C.: NAE, New York University Education Quarterly, Winter, 1979, 10(2), 22-29.
- National Assessment of Educational Progress. Survey Views TV Homework Habits. NAEP News, April 1978, pp. 1; 3.
- National School Public Relations Association. Teachers and Parent Work for the Basics. Washington, D. C.: NSPRA, December 1976.
- National Assessment of Educational Progress. Survey Views TV Homework Habits. NAEP News, April 1978, pp. 1; 3.
- Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., and Bent, D. H. SPSS: Statistical Package for the Social Sciences (Second edition). New York: McGraw-Hill, 1975.
- Oliver, H. M. Report of Evaluation: Des Moines Traditional School, 1976-77. Des Moines, IA: Department of Evaluation, Des Moines Independent Community School District, 1977.
- Performance Assessment in Reading (PAIR). Customer Relations Department, California Testing Bureau/McGraw-Hill, Del Monte Research Park, Monterey, Calif., Spring 1978.
- Port, R. J. The Relationship between the Achievement of Students on the HSTEC and Specific Student Background and School Related Variables. Educational Perspectives, October 1979, 18NS, 18-22.
- Principal's Service. Middle School/Junior High. CROFT (NEI) Publications, Bureau of Business Practice, Inc., 1976.
- Pursell, W. A Conservative Alternative School: The A+ School in Cupertino. Phi Delta Kappa, Fastback No. 67. Bloomington, IN: Educational Foundation, 1976.

- Rubin, L. Educational Achievement and Public Satisfaction. Educational Leadership, Journal of the Association for Supervision and Curriculum Development, May 1979, pp. 537-540.
- Schoenenberger, W. J. An Investigation of the Impact of Assigning an Elementary Principal to Two Buildings in the Des Moines School District. Unpublished master's thesis, Iowa State University, 1980.
- "77: Good News, Bad News for Education." National Assessment of Educational Progress (spotlight), December 1977.
- Shaw, Jane S. The New Conservative Alternative. Nation's Schools and Colleges, February 1975, 2 (2), 31-39.
- Smith, G. R., Gregory, T. B., and Pugh, R. C. Meeting Student Needs: Evidence for the Superiority of Alternative Schools. Phi Delta Kappan, April 1981, 62, 561-564.
- Trowbridge, N. T. Self Concept and Socioeconomic Class. Psychology in the Schools, 1970, 7, 3.
- Trowbridge, N. T. Self Concept and Intelligence. Project IMPACT research report, 1975. Des Moines, IA: Polk County Education Press, 1975.
- Trowbridge, N. T., and Clark, B. Encouraging Creativity through In-service Teacher Education. Journal of Research and Development, 1971, 4, 87-97.
- United States Department of Education. United States Statues at Large. Washington, D.C.: Government Printing Office, November 1978.
- Warren, R. D., and Lagomarcino, V. S. Attitudes and Opinions about Iowa Education. Research Institute for Studies in Education, Report No. 2, 1981.
- Weber, G. Basic Education: What It Is and What It Isn't. Council for Basic Education Bulletin, December 1975, 20 (2), 1-7.
- Wilson, M. Report of Evaluation: Des Moines Traditional School 1977-78. Department of Evaluation, Des Moines Independent Community School District, Des Moines, IA, August 1978.
- Wilson, M. Report of Evaluation: Des Moines Traditional School 1978-79. Department of Evaluation, Des Moines Independent Community School District, Des Moines, IA, August 1979.
- Winer, B. J. Statistical Principles in Experimental Design (Second edition). New York: McGraw-Hill Book Company, 1971.
- Wrightstone, J. W. How Effective Are the 'More Effective Schools?' Journal of Educational Measurement, Winter 1968, 5 (4), 291-295.

ACKNOWLEDGEMENTS

Sincere appreciation and thanks are offered to Dr. Anton J. Netusil, for his kindness and consideration in fulfilling his role as major professor.

I am grateful to the other members of my committee, Drs. Peter Colwell, Trevor Howe, Elaine M. Jarchow, and Rex Thoms who reviewed the individual chapters as well as the entire work and provided constructive advice throughout.

I am indebted to the staff of Des Moines Independent Community School District Department of Evaluation and Research for their assistance and support. Special thanks are given to Dr. Robert Ziomek for inspiring me to investigate the area of fundamental schools; to Dr. Richard Warren for his assistance and encouragement; to Dr. Richard Wright for his accuracy in proofreading and grammatical usage; and to my friends for their encouragement and moral support.

To my daughter, Shrease, I dedicate this dissertation as a token of love and hope it gives her inspiration in future endeavors.

I wish to thank my parents for being the parents they were and for allowing me to be the person I am.

APPENDIX A.

KINDERGARTEN APPLICATION FORM

108
KINDERGARTEN APPLICATION FORM

To enroll your kindergarten child (or children) in the Des Moines Traditional School for the 1977-78 school year, you should complete this form and leave it with the building principal at the time of the kindergarten round-up.

I agree with and will support the philosophy and goals of the Des Moines Traditional School and would like to make application to enroll my kindergarten child (or children) in the Des Moines Traditional School for the 1977-78 school year.

PLEASE PRINT

Name of child (first, middle initial, last)

Elementary school he/she would attend for school year 1977-78

1. _____
2. _____
3. _____
4. _____
5. _____

- _____
- _____
- _____
- _____
- _____

ETHNIC CODE

Am. Ind. or Alaskan Native _____

Asian or Pacific Islander _____

Black not of Hispanic Origin _____

Hispanic (Latino) _____

White not of Hispanic Origin _____

Signature of parent(s) or guardian(s) _____

Address _____

Phone _____

Date _____

APPENDIX B.

PARENT AND STUDENT SURVEY

DES MOINES PUBLIC SCHOOLS
1800 Grand Avenue
Des Moines, Iowa 50307

Dear Parents,

A committee has been formed to study junior high curriculum needs for students completing sixth grade at the traditional school. Would you and your child please help us by answering the following questions?

To Parents:

1 - Are you pleased with the present program at the traditional school?

Yes _____ No _____

Comment:

2 - Would you like to have your child continue in the traditional program for 7th and 8th grades?

Yes _____ No _____

Comment:

3 - Would you want your child to attend a traditional school for 7th and 8th grades if no inter-school athletic activities were offered.

Yes _____ No _____

Comment:

To Students:

1 - Do you like going to the traditional school?

Yes _____ No _____

Comment:

2 - Would you like to go to a traditional school in 7th and 8th grade?

Yes _____ No _____

Comment:

3 - Would you attend a traditional school if it had the same extra curricular activities as other junior high schools?

Yes _____ No _____

Comment:

Please return this letter to Mr. Hook at the Traditional School as soon as possible.

Thank you for your cooperation.

Respectfully yours,

Judith A. Richardson,
Committee Recorder

APPENDIX C.

COOPERSMITH SELF-ESTEEM INVENTORY (CSEI)

PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

113-115

**University
Microfilms
International**

300 N. ZEEB RD., ANN ARBOR, MI 48106 (313) 761-4700

APPENDIX D.
PARENT SURVEY

DES MOINES INDEPENDENT COMMUNITY SCHOOLS DISTRICT SURVEYParental Views on Education
School and School Practices

First, we would like you to think about the Des Moines Independent Community School District.

Students are often given the grades of A, B, C, D, or F to evaluate the quality of their work. Please grade the Des Moines district's elementary schools by answering the following questions.

1. What overall grade would you give the elementary schools in the district: (circle your answer) A B C D F
2. What overall grade would you give the elementary school your child attends(ed): (circle your answer) A B C D F

Now, we would like you to respond to specific questions related to the elementary school your child attends(ed).

Please respond to the following items by circling the response that best reflects your feelings.

	STRONGLY AGREE	AGREE	NO OPINION	DISAGREE	STRONGLY DISAGREE
3. The emphasis placed on the teaching of reading in my child's elementary school is/was about what I want(ed).	1	2	3	4	5
4. The emphasis placed on the teaching of writing in my child's elementary school is/was about what I want(ed).	1	2	3	4	5
5. The emphasis placed on the teaching of arithmetic in my child's elementary school is/was about what I want(ed).	1	2	3	4	5

6. The emphasis placed on co-curricular activities, such as music and art in my child's elementary school is/was about what I want(ed). 1 2 3 4 5
7. My child has made satisfactory progress in academic subjects in his/her elementary school. 1 2 3 4 5
8. The quality of my child's total learning experiences at the elementary school he/she attend(ed) is/was about what I want(ed). 1 2 3 4 5
9. The amount of homework required at my child's elementary school is/was about what I want(ed). 1 2 3 4 5
10. The level of discipline at my child's elementary school is/was about what I want(ed). 1 2 3 4 5
11. My child should be promoted to the next grade only if he/she has passed certain standard requirements. 1 2 3 4 5
12. The teachers at the elementary school my child attends(ed) are/were friendly toward my child. 1 2 3 4 5
13. My child's elementary teacher(s) is/are/were effective when working with my child. 1 2 3 4 5
14. The principal at my child's elementary school is/was an effective school administrator. 1 2 3 4 5

Now, we would like to ask you some general questions about yourself in order for us to group the responses that we receive. (circle your answer)

15. Are/were you active in a parent teacher association or organization in your child's elementary school? YES NO
16. Are/were you active in a building advisory council in your child's elementary school? YES NO
17. Are/were you active as a volunteer in your child's elementary school? YES NO
18. How would you describe your thinking toward education in general? (please circle only one)

Very Conservative Conservative Moderate Liberal Very Liberal