A COMPARISON OF THE EFFECTS OF THREE INSTRUCTIONAL PROCEDURES ON ACHIEVEMENT, SELF-ESTEEM, AND CLASSROOM ADJUSTMENT OF INTERMEDIATE GRADE STUDENTS IN TITLE I SCHOOLS

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PREFACE

This study is a comparison of the effects of three instructional procedures on the achievement, self-esteem, and classroom adjustment of intermediate grade students in Title I schools in Oklahoma City. The study evolved from a need to evaluate the effects of the Learning Resource Center program and the Diagnostically Prescribed System of Instruction that had been developed by the Curriculum Department of the Oklahoma City Public Schools.

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CHAPTER I

INTRODUCTION

Statistical evidence from the United States Department of Health, Education and Welfare establishes a close relationship between the academic achievement of a child and his parents' educational and income level. Data drawn from the 1960 U. S. Census shows that more than 40 percent of the children, whose fathers had less than eight years of school and an annual income of less than $3,000, to be a year or more behind their grade level in school achievements (75).

Studies by Deutsch (26), Davis (24), Sexton (69), Clark (14), Cordasco (21) and Cohen (15) have verified retardation in school achievement among children from marginal and low socio-economic circumstances. Black (6) estimated that in 1968 over thirty million of these children and youth were in need of educational programs which would help compensate for social and economic disadvantages.

In a three year study of fourth, fifth, and sixth graders, Deutsch (27) found that not only were socio-economically disadvantaged children behind grade level expectations in arithmetic and reading, but also that they were falling further behind as they progressed through school. In a summary of the research findings on socio-economically disadvantaged children, Silverman (11) reported that this "cumulative achievement deficit" seemed to reflect some basic weakness in the curriculum and in school practices. This weakness also seemed to

appear most frequently in the tool subjects of reading and arithmetic (11). A number of authors have hypothesized that as socio-economically and educationally disadvantaged children become aware of their increasing failures, they develop attitudes of frustration and hopelessness, lower self-esteems, behavior problems, and alienation from school programs (6) (11). Thus, there appears to be a definite need to correct the effects of a curriculum that has alienated far too many socio-economically disadvantaged children from our nation's schools and a need to discover which methods of instruction can most effect changes in the achievement, self-esteem, and adjustment of educationally disadvantaged children.

The Problem

The purpose of this study was to compare the effects of three selected instructional procedures on changes in the achievement, self-esteem, and adjustment of educationally disadvantaged, intermediate grade students in Oklahoma City. The three selected methods of instruction under study were: the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Thus, the problem to be investigated in this study was:

Will a systematic individualized program of instruction in the Learning Resource Centers (with printed diagnostic tests and prescriptive procedures that include a written guide of sequentially developed instructional objectives) be more effective in improving the achievement, self-esteem, and classroom adjustment of educationally disadvantaged children than either a more-informal diagnostic and

individualized instructional program in the Learning Resource Center, or a more-group directed instructional program in the regular classroom?

Background for the Study

During the 1970-71 school year, the Oklahoma City Public Schools instituted the Learning Resource Center concept to maximize the services provided by Title I funds in meeting the needs of educationally disadvantaged children (64). The Curriculum Department of the Oklahoma City Public Schools hypothesized that because every student was entitled to a learning environment which would enable him to reach his maximum potential and because many students had not experienced success at several grade levels in their schools, that a special program was needed which would satisfy the following needs: (68, p. 1).

A. More individual instruction than was possible in the regular classroom situation

B. An alleviation of lock-step scheduling and program planning which required a uniform learning pace for all students

C. A selection of materials and activities appropriate for facilitating progress in the students' developmental tasks

D. An environment characterized by active student acceptance of responsibility

Thirty-four elementary Learning Centers were established in Title I schools in Oklahoma City for the fiscal year 1970-71. The following were the stated objectives of the Learning Resource Centers (68, p. 2).

A. To provide individualized perscriptive instruction in any subject area

B. To expose children to experiences that will help them to develop socially, psychologically, and cognitively

1. To develop postive self-concept
2. To develop positive attitudes toward learning
3. To extend and enrich their cultural background
4. To encourage positive intergroup understandings
5. To motivate them to raise aspirational levels
6. To provide for development toward self-actualization

C. To meet legitimate needs of students and to enable them to function successfully within the classroom situation

The Research Department of the Oklahoma City Schools assisted the Curriculum Department in a study of the effectiveness of the program. In a comparison with national and local norms, pretest and posttest means were analyzed for statistical significance in five areas: (1) mathematics achievement, (2) reading achievement, (3) spelling achievement, (4) self-esteem improvement, and (5) improved classroom adjustment. One criterion of the effectiveness of the program was the finding of significant gains in two or more of the aforementioned areas. The results indicated that the elementary program was 76 percent effective according to the criterion (68). However, the consultative team which was in frequent contact with the learning center teachers identified a number of problems in the operation of the centers which they felt had limited the effectiveness of the program. Some of these were: (64, p. i)

1. Inadequate procedures for diagnosing pupil strengths and weaknesses
2. Lack of sequential objectives for student growth
3. Ineffective means of evaluating pupil achievement
4. Lack of clear role definitions for Learning Center team members
5. Lack of a system for classifying materials and resources according to diagnosed student needs
6. Lack of a written guide to furnish some direction for the program

Thus, the Learning Center Consultants planned a number of changes to improve the program in the 1971-72 school year. To more effectively operationalize a theory of continuous pupil progress, to help correct some of the problems identified by the Consultative team, and to furnish a more uniform direction for the Learning Resource Center (L.R.C.I.) program, the consultants designed the Diagnostically Prescribed System of Instruction (D.P.S.I.). In order for educators to evaluate the effects of the Learning Resource Center program and more specifically the effects of the Diagnostically Prescribed System of Instruction upon the cognitive, psychological, and social development of educationally disadvantaged children in Title I schools in Oklahoma City, the present study was undertaken.

Significance

A number of authors have supported the idea that elementary education programs alone cannot solve all of the problems of the socio-economically and educationally disadvantaged child. However, educators do have the responsibility to correct the "cumulative effects" of a curriculum that is too demanding of him, one that frustrates and confuses him, one that impairs his self-confidence, one that alienates him from school, and one that does not provide him with the literacy, computational, and problem solving skills that are necessary to gain power in the American culture (1) (15). Thus, if one assumes that every student is entitled to a learning environment which would enable him to reach his maximum potential, then special programs are still needed to meet the needs of socio-economically and educationally disadvantaged children.

Gagne (35) has indicated that complex learning tasks are impossible for any child unless there is a planned sequence of instruction which provides for prerequisite skills and knowledge. Fantini, Weinstein (30), Ausubel (2), Barbe (3), Bloom (11), and Beilin (4) agree that this is particularly important for the socio-economically disadvantaged child who may not have home experiences that fill in the missing links. A number of other authors have stated that the curriculum should be designed on a "continuous progress" instead of a grade level concept (41) (70) (40) (56). This appears to be particularly important in light of research findings that there is considerable variation in the length of time required for individuals to achieve "mastery" over specific learning tasks (38). Thus, there appears to be a testable hypothesis, namely, that a sequentially designed "continuous progress" curriculum could improve the achievement problems of socio-economically and educationally disadvantaged children in the intermediate grades (57).

Goldberg, Passow, et al. (39), Fantini, Weinstein (30) and Harmer (43) have emphasized the importance of individual diagnostic procedures that pinpoint the specific instructional strengths and weaknesses of socio-economically and educationally disadvantaged children and the need for a carefully designed instructional program that "starts where they are" and then proceeds in carefully planned or emerging steps. Linvall and Bolvin (56), p. 229) stated that, "Individual diagnosis of pupil strengths and weaknesses and the subsequent planning of each pupil's study sequence must be an essential element of any individualized curriculum." This is an extremely important statement when one considers the problems that the consultative team identified in the operation of the Learning Resource Centers

in 1970-71 (see p. 4). Thus, one could assume that a series of printed diagnostic tests and a written guide of sequentially developed instructional objectives could improve the effectiveness of an individualized curriculum in the Learning Resource Centers.

Goldberg (39, p. 387) presented a very strong argument for another hypothesis when she stated that:

> Because self-concepts are formed early and tend to be relatively stable, significant changes in a person's view of himself may not be readily amenable to school efforts but such efforts must nevertheless be made. It would seem that improved academic functioning does not, of itself, produce positive changes in self-image since achievement and self-concept to not appear to have a direct causal relation one to the other. However, they are both essential components of the adequately functioning individual and the school needs to explore various channels through which disadvantaged children can recognize and appreciate themselves as worthy people.

Thus, one could assume that if the curriculum were organized into smaller, sequential steps and that if the child's instructional needs were diagnosed so that he received instruction at his prescribed level in that sequence, that the successful mastery of each learning task could enhance his feelings of self-worth in the school setting.

After reviewing the research done on the relation between school achievement and attitudes toward school, Bloom (9) concluded that there was a relationship between inadequacy or adequacy in school achievement and in negative or positive attitudes toward school, especially for students who were extremes in school achievement. He inferred that these attitudes were generalized to the whole institution and if inadequacy were the generalized feeling, that the individual would either withdraw (drop out) or attack (classroom behavior problems) the institution. Thus, one could assume that if the child's feelings of

adequacy in school achievement improved and if his feelings of self-worth in the school setting were enhanced, that the child could have more positive attitudes toward the whole institution (subjects, staff, and students). These attitudes could then be perceived by the classroom teacher as an improvement in the student's relationship with the teacher, an improvement in his study habits, and as an improvement in the student's contributions to a more positive learning environment.

Hypotheses

The hypotheses developed for investigation in this study are:

Hypothesis 1. There will be no significant differences in reading vocabulary among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Hypothesis 2. There will be no significant difference in reading comprehension among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Hypothesis 3. There will be no significant difference in mathematics concepts among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Hypothesis 4. There will be no significant difference in mathematics problem solving among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Hypothesis 5. There will be no significant difference in

self-esteem among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Hypothesis 6. There will be no significant difference in classroom adjustment among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

Definition of Terms

1. Diagnostically Prescribed System of Instruction (DPSI). A sequentially developed, structured, instructional program with diagnostic testing, with specifically and sequentially designed objectives, and with flexibility in teaching methods and materials. This instruction occurs in the Learning Resource Center in each school. The instruction is directed by the Learning Resource Center Teachers. For a more complete description, see Oklahoma City Public Schools, "Diagnostically Prescribed System of Instruction: Program Guidelines." Oklahoma City: Oklahoma City Public Schools, 1971. (Mimeographed.)

2. Learning Resource Center Instruction (LRCI). An instructional procedure that is characterized by individualized, prescriptive instruction that is based upon informal diagnostic procedures. It does not have a uniform development of sequential objectives. This instruction occurs in the Learning Resource Centers and is directed by the Learning Resource Center Teachers.

3. Classroom Instruction (CI). An instructional procedure based upon more-group-directed practices and materials that are designed for a grade level concept. This instruction is directed by the regular

classroom teachers.

4. Reading Vocabulary. Scores on Test V of the Iowa Tests of Basic Skills, Forms 5 and 6.

5. Reading Comprehension. Scores on Test R of the Iowa Tests of Basic Skills, Forms 5 and 6.

6. Mathematics Concepts. Scores on Test M-1 of the Iowa Tests of Basic Skills, Forms 5 and 6.

7. Mathematics Problem-Solving. Scores on Test M-2 of the Iowa Tests of Basic Skills, Forms 5 and 6.

8. Self-Esteem. Scores on the Coopersmith Self-Esteem Inventory.

9. Classroom Adjustment. Scores on the Classroom Behavior Inventory.

10. Title I Schools. Schools that have been declared eligible for Title I funds. (Title I of the Elementary and Secondary Education Act of 1965, provided funds which would support the establishment, expansion, and improvement of special programs which were designed to correct some of the educational problems of socio-economically disadvantaged children.)

11. Socio-economically Disadvantaged Children. Children from marginal and low socio-economic circumstances. This classification is determined primarily by the parents' income and educational level (fathers who have less than eight years of school and an annual income of less than $3,000).

12. Educationally Disadvantaged Children. Children from marginal and low socio-economic circumstances as determined by attendance in Title I schools who are considered by the school staff to have an imbalance between their achievement and ability level as measured by

standardized testing procedures and teachers' professional opinions.

Assumptions

The investigator made the following assumptions:

(a) The experimental period of one semester is a sufficient time to allow for changes in achievement, self-concept, and classroom adjustment.

(b) Any extraneous variables related to the instruction variable will be adequately controlled through random assignment.

(c) Teachers will demonstrate a conscientious effort to follow the instructional procedures described in this study.

(d) The subjects in the study will be representative of educationally disadvantaged, intermediate grade students in the selected Title I schools in Oklahoma City.

Limitations

Certain limitations are inherent in the study. These include:

(a) The findings of this study can be generalized only to the intermediate grade students who attend the selected Title I schools in Oklahoma City and who are achieving below their level of ability in the regular classroom.

(b) The findings of this study can be generalized only to groups who have been pretested on each of the dependent variables and who receive the experimental treatment for one semester.

Summary

The need for further study in determining the most effective of

three selected methods of instruction designed to improve the achievement, self-esteem, and classroom adjustment of intermediate grade educationally disadvantaged students in the Oklahoma City Public Schools has been described in Chapter I. Numerous authors have suggested that an individually designed "continuous progress" curriculum could improve the achievement, personal, and social adjustment problems of educationally disadvantaged students. Other authors have suggested that specific diagnostic procedures that pinpoint an individual's instructional strengths and weaknesses are an essential element of an individualized curriculum designed to improve the achievement, self-esteem, and adjustment of educationally disadvantaged students. Therefore, this study was concerned with the following problem:

Will a systematic, individualized program of instruction in the Learning Resource Centers (with printed diagnostic tests and prescriptive procedures that include a written guide of sequentially developed instructional objectives) be more effective in improving the achievement, self-esteem, and classroom adjustment of educationally disadvantaged children than either a more-informal diagnostic and individualized instructional program in the Learning Resource Center, or a more group directed instructional program in the regular classroom?

CHAPTER II

A REVIEW OF SELECTED LITERATURE

The purpose of this chapter is to present the important literature associated with the variables involved in the development of this study. This review is presented under four subheadings entitled: (a) achievement of socio-economically disadvantaged children; (b) achievement, self-esteem and adjustment; (c) individualized-diagnostic-prescriptive instructional programs; and (d) a final summary.

Achievement of Socio-economically Disadvantaged Children

Skinner (72), Gagne (36), and Ausubel (1) have reported that successful learning is dependent upon the mastery of the sequence of less complex learning tasks. Thus, Ausubel (2) inferred that the cognitive and motivational effects of cultural deprivation could be reversed if teaching strategies considered the child's readiness level and his successful mastery of each learning task in the sequence, before each new task was presented.

Jensen's (46) research on intelligence and scholastic achievement presented an argument against this reversibility by questioning whether environmental factors were as important as genetic factors. Even though Jensen's work has promoted some vigorous rebuttals, his work has led to the conclusion that current compensatory educational programs and their

evaluations have not yet demonstrated conclusive evidence that scholastic achievement can be improved (48). Barbe (3) substantiated the conclusion that compensatory education programs had not demonstrated conclusive evidence that the effects of environmental factors could be corrected by specific instructional programs, when he reported that even though over 100 studies dealing with compensatory education had been summarized at a conference in 1965, the only universal agreements were: (1) that there was definitely a problem and (2) that there was far from a general agreement on how to alleviate the situation.

A number of other authors have supported the idea that if the needs of socio-economically disadvantaged children were met during the critical "early childhood" (birth-4 years) that there would be much less need for middle and upper grade compensatory programs (30). While early childhood programs have been somewhat more successful than other compensatory programs, the results have often been lost when the children have entered conventional school programs (30). Fantini and Weinstein (30) said that this may be because some compensatory programs had become an end in themselves. They proposed that change in the institutional (school) process was also necessary to improve the education of socio-economically disadvantaged children.

After reviewing the literature on educating the socio-economically and educationally disadvantaged, Forbes (33) reported that compensatory education programs in the elementary school could not be viewed as a remedy to the problems. He said that the scope of the problem was too great. According to Forbes (33), community involvement, early childhood programs which emphasize the prevention of problems through parent education, and teacher educational programs that stress the use of the

"cultural positives" of the disadvantaged were all demanded if remediation was to be successful.

Cohen (15) disagreed with this position when he reported that after four years of research in teaching reading to socio-economically educationally disadvantaged children that intensive, individualized instruction appeared to counterbalance the effects of environmental deprivation when reading achievement scores were used as the criterion for growth.

Studies which evaluated the effectiveness of special compensatory education programs in the elementary schools in Buffalo, Chicago (66), Detroit, Milwaukee (61), and in Philadelphia (50) also reported substantial gains in reading achievement when diagnostic and individually prescribed remedial reading techniques were provided. Similar results were reported by Kersh (52), when "mastery learning" techniques were used in a study of arithmetic achievement.

In summary, the literature relating to the achievement of socio-economically disadvantaged children is inconclusive as to whether or not instructional strategies in the elementary school can totally correct the cognitive and motivational effects of cultural deprivation. However, several studies do lend support to the hypothesis that individualized, diagnostic-prescriptive instructional procedures may be effective in correcting reading and arithmetic achievement deficits.

Achievement, Self-Esteem, and Adjustment

Studies by Brookover, Shailer, and Peterson (12), Coopersmith (19), and Hill and Sarason (45), found that self-concept and academic achievement were positively and significantly related. Torshen (74) agreed with this finding when she reported that a number of studies had

shown that the relationship between academic self-concept and academic achievement was very strong among students at the extremes (upper and lower third) in academic achievement and that the self-concept was quite clearly defined by the beginning of the intermediate grades. Frerichs (34) study of intermediate grade, socio-economically disadvantaged students further substantiated this relationship when it was reported that the students' self-esteem scores were closely related to their reading level and to their grade point average. Colter and Palmer (17) disagreed somewhat in their study of intermediate grade children, when their findings indicated that there was a significant and positive relationship between academic achievement and self-concept, sociometric status, and visibility only for the girls.

Palkovitz (65) found that not only did a significant relationship exist between non-achievement and a negative self-concept but also that a significant relationship existed between the academic achievement and the personal and social achievement of self-perceived academic achievers and self-perceived academic non-achievers. Studies by Crandall and Bellugi (22), Mussen and Porter (60), and Dittes (28) also lend support to the idea that self-concept is translated into action and that it is related to adjustment and to social functioning.

Blackham (7) gives further support to the relationship between academic achievement, self-esteem, and personal and social adjustment when he proposed that when a child feels reasonably successful in mastering the formal intellectual tasks prescribed by his school, that his self-concept will be enhanced, which will then enhance his ability to deal with his environment. Keister and Updegraff (49) found that when they instructed a group of children in problem-solving tasks

which were graduated in difficulty that there was a significant change in their posttest behavior. The children in the experimental group were reported to have exhibited more desirable social and emotional behavior.

In a study of the affective consequence of cognitive change, Modu's (59) results suggested that learning strategies which promoted higher levels of achievement among college students might prevent losses in their self-esteem. However, Wylie (77) reported after reviewing the literature of experimentally produced success or failure and self-regard that under certain conditions the subjects did change their self-evaluation ratings, but that these ratings were usually on the experimental task itself and did not appear to change the global self-regard rating. In another study concerned with changing self-esteem, Fitts and Hamner (32) found that the lower self-concept of delinquents was difficult to change in a short term rehabilitation program.

Miller (58) agreed with this finding when he reported that when changes in self-image levels were studied in the Higher Horizon program for disadvantaged youth that the experimental pupils did not exhibit higher self-image levels than pupils in the matched control schools. In addition, Miller (58) found that there was no significant difference in teacher ratings of the classroom adjustment between third grade students in the Higher Horizons program and third grade students in a matched control group. Miller (58) did report, however, that the fifth grade experimental group did have significantly better classroom adjustment than their matched control group.

In summary, a review of the literature on achievement, self-esteem and adjustment reveals that although these variables appear to be

positively and significantly related, that it may be difficult to effect global changes in the self-esteem or in classroom adjustment by improving academic achievement. There is some indication that changes in self-esteem and in classroom adjustment may be particularly difficult to effect after the primary grades or in a short term compensatory educational program.

Individualized-Diagnostic-Prescriptive Instructional Programs

Although the 1970 study by the United States Office of Education, Putting Research into Educational Practice (PREP), (76) reported that there was little objective evidence concerning the impact of individualized-diagnostic-prescriptive instructional programs on school achievement, a review of the literature does reveal some indication that these instructional programs are producing a positive effect on achievement. The PREP study (76) did report that seventeen of the forty-six schools studied had test results which, in most cases, indicated that the students in the individualized-diagnostic-prescriptive instructional programs had shown significant academic progress when compared with national norms. Individualization in Schools: The Challenge and the Options (62) also gave some indication of the positive effects on achievement that one of these individualized instructional programs was having, when it reported that students in Project PLAN (Program for Learning in Accordance with Needs) performed better than non-PLAN students in twenty-five of the thirty-three comparisons on the Iowa Tests of Basic Skills.

Cohen (15) supported the success of individualized-diagnostic-prescriptive procedures when he reported that there was significant growth in the reading achievement of socio-economically and educationally disadvantaged children when he used intensive, individualized instructional procedures. Special compensatory educational programs in Buffalo, Chicago (66), Detroit, Milwaukee(61), and in Philadelphia (50) also found substantial gains in reading achievement when diagnostic and individually prescribed remedial reading techniques were used. The PREP study (76) also reported that diagnostic and individually prescribed instructional procedures were more successful with educationally disadvantaged students when the children continued in the program for several years.

Studies by Collins (16) and Thompson (73) found major differences in mathematics achievement when individualized diagnostic-prescriptive instructional procedures were used. Kersh (52) and Broussard (13), also reported significantly greater mathematics achievement when individualized, diagnostic-prescriptive instructional approaches were used with intermediate grade, socio-economically disadvantaged children.

Gehret (37) reported that at the end of one year that nearly all of the pupils using the Individual Prescribed Instructional Program scored higher in mathematics and reading achievement than control pupils at corresponding IQ levels. In a three year study of the Individually Prescribed Instructional Program's effects on mathematics achievement, Johnson (47) stated that at the end of the second year of the program, the low-income IPI subjects in the study had gained as rapidly on national norms as average-income subjects in non-IPI schools, and more rapidly than low-income subjects in non-IPI schools. Lewy (55)

however, found that subjects in the Individually Prescribed Instructional Program did not achieve as well as matched non-IPI subjects in mathematics achievement after two years. Lewy (55) did find non-significant trends to indicate that the IPI program was most effective in the language arts area.

The PREP study (76) reported that students in the Brittan Acres School in California, who were in the Project PLAN instructional program, made more gains than control students in reading vocabulary, study skills, and in arithmetic fundamentals. The Project PLAN students made their most significant gains in reading comprehension; however, arithmetic reasoning scores were not significantly different than the control students according to California Achievement Test scores. The PREP study (76) also reported opposite findings when it revealed that students in the individualized prescriptive instructional program in the Duluth, Minnesota public schools, (The Duluth Plan for Individualization), had made no significant gains over students in traditional classrooms when the Iowa Tests of Basic Skills were used as the evaluation instruments.

Block (8) summarized extensive research with "mastery learning" (individualized-diagnostic-prescriptive) instructional procedures by reporting that three-fourths of the students using diagnostic-prescriptive conditions had achieved the same standards as the top one-fourth of the students who were using conventional group-directed instructional procedures. He also reported that the "mastery learning" students indicated a greater interest in the subject that was studied. Glaser (38) reported similar results when he stated that almost all of the students using diagnostic-prescriptive instructional procedures had

achieved "mastery" over the learning units; however, he concluded by stating that there was considerable variation in the length of time that was required to achieve the "mastery". Bloom (10) also concluded, after extensive research using individualized-diagnostic-prescriptive instructional procedures, that the best results were achieved when diagnostic procedures were accompanied by a very specific prescription of particular alternative instructional materials and processes that could be used to overcome learning difficulties.

Thus, although the literature does reveal some indication that individualized-diagnostic-prescriptive instructional procedures have had a positive effect on achievement, there appears to be a lack of conclusive statistical evidence as to their effectiveness on either cognitive or affective variables. There also appears to be some question as to their effectiveness in specific achievement areas and as to their effectiveness when the instructional time is held constant. Finally, since the literature has revealed that there is no single individualized-diagnostic-prescriptive model, it appears that each program needs to be evaluated in accordance with its own objectives, diagnostic-prescriptive strategies, and materials.

Summary

The literature that was reported in this chapter lends some support to the hypothesis that individualized-diagnostic-prescriptive instructional procedures may be more effective than traditional group-oriented instructional procedures in correcting the "cumulative achievement deficits" that have been found in a large number of socio-economically disadvantaged children. The literature also lends support

to the theory that changes in achievement may be related to changes in self-esteem and to changes in classroom adjustment; however, there is inconclusive evidence as to whether or not these changes will occur as the result of an achievement-oriented, compensatory education program in the intermediate grades. Finally, the literature indicates that there is a need to evaluate each individualized-diagnostic-prescriptive procedure in accordance with its own objectives, diagnostic-prescriptive strategies, and materials to determine its effectiveness on specific cognitive and affective variables.

CHAPTER III

METHOD AND DESIGN

Population

The population for this study was intermediate grade students in selected Title I schools in Oklahoma City that used both the Learning Resource Center Instruction and the Diagnostically Prescribed System of Instruction who were referred to the Learning Resource Center because there was an imbalance between their achievement and their ability. The students were not enrolled in a class for the mentally retarded.

Sample

Nine Title I schools that were using both the Learning Resource Center Instruction and the Diagnostically Prescribed System of Instruction were selected by the Learning Resource Center Consultants. They were selected upon the basis of availability of space in the Learning Resource Center and because they were representative of the Learning Resource Center in terms of equipment, materials, and personnel. Classroom teachers in grades four, five and six were asked to refer students who were working below their level of ability (as measured by standardized achievement and IQ tests) and who had never been to the Learning Resource Centers.

There were one hundred five students on the referral list for the nine schools. The students on the referral list in each school were

randomly assigned to one of the three treatment groups in their schools. Subjects who left the program before the end of the spring semester or before the posttesting period on each of the dependent variables were not reported in this study.

Experimental Design and Statistical Analysis

In order to test each of the first four hypotheses stated in Chapter I, page 8, a completely randomized, one-way analysis of covariance technique was utilized. Pretest means were used as the covariables and posttest means were used as the criterion variables. The analysis of covariance was selected because it afforded more statistical control by reducing the size of the error term and by adjusting initial differences in the data among the three treatment groups in Reading Vocabulary, Reading Comprehension, Mathematics Concepts, and Mathematics Problem Solving on the Iowa Tests of Basic Skills (51).

In order to test hypothesis five and hypothesis six stated in Chapter I, pages 8 and 9, a completely randomized, one-way analysis of variance technique was utilized. The one-way analysis of variance technique was chosen because it allows one to study three levels of a single independent variable simultaneously to see if there is an indication that the experimental treatments have produced differences among the means of the three groups (42). When statistically significant differences were reported on any of the six dependent variables, a t-ratio was employed as a follow-up technique to test for significant differnces among pairs of the treatment groups (31).

Independent Variable

S-Type of Instruction

Level I - Diagnostically Prescribed System of Instruction (DPSI)

Level II - Learning Resource Center Instruction (LRCI)

Level III - Control or Classroom Instruction (CI)

Dependent Variables

1. Reading Vocabulary (RV)
2. Reading Comprehension (RC)
3. Mathematics Concepts (MC)
4. Mathematics Problem Solving (M-PS)
5. Self-Esteem (SE)
6. Classroom Adjustment (CA)

Treatment

Subjects assigned to the Diagnostically Prescribed System of Instruction (D.P.S.I.) program received instruction in the Learning Resource Centers. The Learning Resource Center Teachers used the diagnostic tests, prescriptive procedures, and materials that were suggested in the D.P.S.I. Curriculum program.

Subjects assigned to the Learning Resource Center Instruction (LRCI) received instruction in the Learning Resource Centers. The Learning Resource Center teachers used informal diagnostic procedures and the instructional materials that were available in the Learning Resource Centers. The instruction was individualized and did not follow a uniform development of sequential objectives.

Subjects assigned to the Classroom Instruction (CI) remained in their regular classrooms. The classroom teachers used the materials and instructional procedures that were normally used.

Controls

1. Pretests were given between January 17, 1972 - January 21, 1972. Posttests were given between May 8, 1972 - May 19, 1972.

2. All subjects received the same tests to measure gains in all of the dependent variables.

3. Testing was conducted by the Learning Resource Center teachers.

4. Evaluations of students leaving the program before the end of the spring semester (posttesting period) were not reported in this study.

5. Referring teachers received a structured introduction to the program so that they understood its objectives, referral procedures, and the need to complete the Classroom Behavior Inventory objectively.

Instruments

1. The Iowa Tests of Basic Skills. Forms 5 and 6 were developed in 1971 to facilitate individualized testing of pupils at different levels of development in the basic skills areas.

The technical manual for the 1971 edition of the Iowa Tests of Basic Skills has not been published. Thus, one must assume that the reliability and validity of this new edition will be comparable to the 1955-56 editions for the Reading Vocabulary and Reading Comprehension subtests and to the 1968 edition for the Mathematics Concepts and Problem-Solving subtests.

2. The Coopersmith Self-Esteem Inventory measures the student's perceptions of himself as a worthy individual, his perception of himself as he relates to his peers, and his perception of himself as he relates to his school. It was worded for use with preadolescents. Coopersmith (20) reported that most of the items in this inventory were based upon items that were selected from the Rogers and Dymond (1959) scale. In an effort to establish predictive validity, Coopersmith had five psychologists sort all of the items into groups that were indicative of either high or low self-esteem. The ambiguous items were then eliminated. The teachers of the 1,748 students who received the test were then asked to rate each child on a fourteen item, five-point scale of behaviors such as "the child's reaction to failure, self-confidence in a new situation, sociability with peers, and the need for encouragement and reassurance" (20, p. 10). These behaviors were assumed to be external examples of one's self-esteem on "theoretical and empirical grounds" (20, p. 10). Coopersmith's findings indicated that extreme divergence between the subjective and the behavioral evaluations occurred in less than ten percent of the cases.

Five weeks after the initial administration of the Coopersmith Self-Esteem Inventory on 87 boys and girls, the test-retest reliability was .88. Then the Coopersmith Self-Esteem Inventory was administered to a total of 1,748 students. The test-retest reliability after a three year interval was .70 with a sample of 56 students from the original population (20). Coopersmith does not state the test-retest reliability after a four-month experimental period.

The subjects in the present study responded to questions on the Coopersmith Self-Esteem Inventory by checking that these items were

Like Me or Unlike Me. The Learning Resource Center teachers administered this instrument.

3. Classroom Behavior Inventory. The Classroom Behavior Inventory was developed by the Research Department of the Oklahoma City Public Schools. This instrument measures the classroom adjustment of the student as it is perceived by the referring teacher. It includes items relating to study habits, the student's contributions to the learning environment, and the student's relationship with the teacher. Over 100 educators (teachers, principals, assistant superintendents, directors of elementary and secondary education, and members of the consultative center at the University of Oklahoma) were requested to evaluate the CBI to help establish the face validity of the instrument (68).

The Classroom Behavior Inventory was administered to 237 students who were randomly selected from all of the learning centers. After one semester, the test-retest reliability was .722 (68).

The Research Department of the Oklahoma City Public Schools also conducted a study to determine whether the Coopersmith Self-Esteem Inventory and the Classroom Behavior Inventory were measuring different things. The results indicated that the two instruments were "factorially pure," i.e., that they were measuring different types of student behavior (68).

Summary

The purpose of this study was to compare the effectiveness of three selected instructional procedures on changes in the achievement, self-esteem, and classroom adjustment of educationally disadvantaged

intermediate grade students.

The one hundred five students from the nine Title I schools were each randomly assigned to one of the three treatment groups. They were pretested on each of the dependent variables in January, 1972. The subjects assigned to the D.P.S.I. program received instruction in the Learning Resource Center. They received diagnostic tests, prescriptive procedures, and the materials suggested in the D.P.S.I. Curriculum program. The subjects who were assigned to the L.R.C.I. received instruction in the Learning Resource Centers. They received informal diagnostic procedures, an individualized instructional program, and the materials that were available in the Learning Resource Centers. The instruction did not follow a uniform development of sequential objectives. The subjects assigned to the C.I. remained in their regular classrooms. They received a more group-directed instructional program and they used the materials that were available in the regular classroom. All of the subjects in each of the three treatment groups were posttested on each of the dependent variables in May, 1972.

The following instruments were selected for each of the dependent variables:

1. Reading Vocabulary - Iowa Tests of Basic Skills, Forms 5 and 6, Test V.

2. Reading Comprehension - Iowa Tests of Basic Skills, Forms 5 and 6, Test R.

3. Mathematics Concepts - Iowa Tests of Basic Skills, Forms 5 and 6, Test M-1.

4. Mathematics Problem-Solving - Iowa Tests of Basic Skills, Forms 5 and 6, Test M-2.

5. Self-Esteem - Coopersmith Self-Esteem Inventory.

6. Classroom Adjustment - Classroom Behavior Inventory.

A completely randomized, one-way analysis of covariance design was employed to test the effects of the instructional procedures on each of the first four dependent variables. A t-ratio was employed when statistical differences among groups were determined.

A completely randomized, one-way analysis of variance design was employed to test the effects of the instructional procedures on self-esteem and classroom adjustment.

CHAPTER IV

RESULTS OF THE STATISTICAL ANALYSIS

The subjects who were randomly assigned to each of the treatment groups were pretested in January, 1972, on each of the dependent variables. The subjects in the D.P.S.I. group and the subjects in the L.R.C.I. each received instruction according to the established criteria and the subjects in the C.I. group received instruction in their regular classroom. The subjects in each of the treatment groups were posttested on each of the dependent variables in May, 1972.

Table I gives the January pretest means, May posttest means, the adjusted means indicating the relative growth in each instructional program, and the grade score gains of each instructional program for reading vocabulary, reading comprehension, mathematics concepts, and mathematics problem-solving.

Table II gives the January pretest means and the May posttest means of each of the instructional groups for self-esteem and for classroom adjustment.

The results of the statistical analysis are presented in this chapter. Each hypothesis is repeated and the result of the analysis of covariance or the analysis of variance follows it. The .05 level of confidence was used for each hypothesis.

Hypothesis 1: There will be no significant difference in reading vocabulary among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction,

TABLE I

COMPARISON OF JANUARY, MAY, AND ADJUSTED GROUP MEANS FOR READING VOCABULARY, READING COMPREHENSION, MATHEMATICS CONCEPTS, AND MATHEMATICS PROBLEM-SOLVING

Instrument	D.P.S.I.	L.R.C.I.	C.I.
Reading Vocabulary			
January (pre)	3.64	3.15	2.69
May (post)	4.56	3.89	3.24
Adjusted	4.11	3.88	3.65
Gains (grade score)	.92	.74	.55
Reading Comprehension			
Pre	3.43	2.75	2.88
Post	4.40	3.72	3.14
Adjusted	4.09	3.91	3.23
Gains (grade score	.97	.97	.26
Mathematics Concepts			
Pre	3.67	3.32	2.87
Post	4.84	4.15	3.19
Adjusted	4.53	4.11	3.50
Gains (grade score)	1.17	.83	.32
Mathematics Problem-Solving			
Pre	3.53	3.44	2.97
Post	4.30	4.17	3.41
Adjusted	4.10	4.05	3.69
Gains (grade score)	.77	.73	.44

TABLE II

COMPARISON OF JANUARY AND MAY MEANS FOR SELF-ESTEEM AND CLASSROOM ADJUSTMENT

Instrument	D.P.S.I.	L.R.C.I.	O.I.
Self-Esteem			
Pre	26.10	25.20	24.90
Post	27.40	26.40	25.40
Gains*	1.30	1.20	.50
Classroom Adjustment			
Pre	58.30	58.90	56.00
Post	61.60	61.40	57.60
Gains*	3.30	2.50	1.60

*No adjusted means are given because analysis of covariance was not used.

the Learning Resource Center Instruction, and the Classroom Instruction.

The computed F ratio for Reading Vocabulary was 2.418, a non-significant statistic (Table III). Therefore, the null hypothesis is accepted and it is concluded that in this study the instructional procedure did not significantly affect the Reading Vocabulary scores on the Iowa Tests of Basic Skills.

Hypothesis 2: There will be no significant difference in reading comprehension among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

The test of Hypothesis Two indicated that a statistically significant difference existed ($F = 7.80$, $p < .001$) in Reading Comprehension scores on the Iowa Tests of Basic Skills among subjects in the three treatment groups (Table IV). The t-ratio between pairs was computed and it was determined that a significant difference ($p < .001$) existed between the D.P.S.I. group and the C.I. group, and between the L.R.C.I. group and the C.I. group ($p < .01$) but a nonsignificant difference existed between the D.P.S.I. group and the L.R.C.I. group (Table V). Therefore, the null hypothesis is rejected and it is concluded that in this study the instructional procedure did significantly affect the Reading Comprehension scores on the Iowa Tests of Basic Skills.

Hypothesis 3: There will be no significant difference in mathematics concepts among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center of Instruction, and the Classroom Instruction.

The test of Hypothesis Three indicated that a statistically significant difference existed ($F - 6.44$, $p < .005$) in Mathematics Concepts scores on the Iowa Tests of Basic Skills among subjects in the three

TABLE III

ANALYSIS OF COVARIANCE OF READING VOCABULARY SCORES ON IOWA TESTS OF BASIC SKILLS AMONG SUBJECTS TAUGHT BY THREE INSTRUCTIONAL PROCEDURES

Source	RSS	DF	$\overline{RSS}$	F Ratio	P
Between	3.41	2	1.705	2.418	N.S.
Within	69.09	98	0.705		

TABLE IV

ANALYSIS OF COVARIANCE OF READING COMPREHENSION SCORES ON IOWA TESTS OF BASIC SKILLS AMONG SUBJECTS TAUGHT BY THREE INSTRUCTIONAL PROCEDURES

Source	RSS	DF	$\overline{RSS}$	F Ratio	P
Between	13.74	2	6.87	7.80^{**}	S
Within	86.36	98	.881		$p < .001$

TABLE V

t RATIO BETWEEN PAIRS OF TREATMENT GROUPS ON READING COMPREHENSION

	D.P.S.I.	L.R.C.I.	C.I.
D.P.S.I.			3.75***
L.R.C.I.	.767		
C.I.		3.01**	

**p < .01
***p < .001

treatment groups (Table VI). The t ratio between pairs was computed and it was determined that a significant difference ($p < .001$) existed between the D.P.S.I. group and the C.I. group and between the L.R.C.I. group and the C.I. group ($p < .05$) but a nonsignificant difference existed between the D.P.S.I. group and the L.R.C.I. group (Table VII). Therefore, the null hypothesis is rejected and it is concluded that in this study the instructional procedure significantly affected the Mathematics Concepts scores on the Iowa Tests of Basic Skills.

> Hypothesis 4: There will be no significant difference in mathematics problem solving among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

The computed F ratio for Mathematics Problem Solving was 1.71, a nonsignificant statistic (Table VIII). Therefore, the null hypothesis is accepted and it is concluded that in this study the instructional procedure did not significantly affect the Mathematics Problem Solving

TABLE VI

ANALYSIS OF COVARIANCE OF MATHEMATICS CONCEPTS SCORES ON IOWA TESTS OF BASIC SKILLS AMONG SUBJECTS TAUGHT BY THREE INSTRUCTIONAL PROCEDURES

Source	RSS	DF	$\overline{RSS}$	F Ratio	P
Between	16.22	2	8.11	6.44*	S
Within	119.9	95	1.26		(p. $\leq$ .005)

TABLE VII

t RATIO BETWEEN PAIRS OF TREATMENT GROUPS ON MATHEMATICS CONCEPTS

	D.P.S.I.	L.R.C.I.	C.I.
D.P.S.I.			3.75***
L.R.C.I.	1.484		
C.I.		2.20*	

*p < .05
***p < .001

scores on the Iowa Tests of Basic Skills.

TABLE VIII

ANALYSIS OF COVARIANCE OF MATHEMATICS PROBLEM SOLVING SCORES ON IOWA TESTS OF BASIC SKILLS AMONG SUBJECTS TAUGHT BY THREE INSTRUCTIONAL PROCEDURES

Source	RSS	DF	$\overline{RSS}$	F Ratio	P
Between	3.35	2	1.675	1.71	N.S.
Within	93.32	95	.982		

Hypothesis 5: There will be no significant differences in self-esteem among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

The computed F ratio for Self-Esteem was 1.33, a nonsignificant statistic (Table IX). Therefore, the null hypothesis is accepted and it is concluded that in this study the instructional procedure did not significantly affect the Self-Esteem scores on the Coopersmith Self-Esteem Inventory.

Hypothesis 6: There will be no significant difference in classroom adjustment among educationally disadvantaged students who receive the Diagnostically Prescribed System of Instruction, the Learning Resource Center Instruction, and the Classroom Instruction.

The computed F ratio for Classroom Adjustment was 1.25, a non-significant statistic (Table X). Therefore, the null hypothesis is

TABLE IX

ANALYSIS OF VARIANCE OF SELF-ESTEEM SCORES ON COOPERSMITH SELF-ESTEEM INVENTORY AMONG SUBJECTS TAUGHT BY THREE INSTRUCTIONAL PROCEDURES

Source	SS	DF	$\overline{SS}$	F Ratio	P
Between	68	2	34	1.33	N.S.
Within	2409	94	25.6		

TABLE X

ANALYSIS OF VARIANCE OF CLASSROOM ADJUSTMENT SCORES ON THE CLASSROOM BEHAVIOR INVENTORY AMONG SUBJECTS TAUGHT BY THREE INSTRUCTIONAL PROCEDURES

Source	SS	DF	$\overline{SS}$	F Ratio	P
Between	350.7	2	175.4	1.25	N.S.
Within	13764	98	140.4		

accepted and it is concluded that in this study the instructional procedure did not significantly affect the Classroom Adjustment scores on the Classroom Behavior Inventory.

Summary

A one-way analysis of covariance design was utilized for analysis of each of the first four hypotheses stated in Chapter I, page 8. Pretest means were used as the covariables and posttest means were used as the criterion variables. The results indicated nonsignificant statistics for Reading Vocabulary scores and for Mathematics Problem Solving Scores on the Iowa Tests of Basic Skills among subjects taught by the three instructional procedures. The statistical analysis did reveal significant differences among subjects taught by the three instructional procedures on Reading Comprehension scores and on Mathematics Concepts scores on the Iowa Tests of Basic Skills. The t ratio was employed in each instance to determine the areas of difference. The results of the first t ratio revealed that a significant difference ($p < .001$) existed between the D.P.S.I. group and the C.I. group and between the L.R.C.I. group and the C.I. group ($p < .01$) on Reading Comprehension scores, but a nonsignificant difference existed between the D.P.S.I. group and the L.R.C.I. group on Reading Comprehension scores. The second t ratio revealed that a significant difference ($p < .001$) existed between the D.P.S.I. group and the C.I. group and between the L.R.C.I. group and the C.I. group ($p < .05$) on Mathematics Concepts scores, but a nonsignificant difference existed between the D.P.S.I. group and the L.R.C.I. group on Mathematics Concepts scores.

A one-way analysis of variance design was utilized to analyze the Self-Esteem and Classroom Adjustment scores. The results indicated that there was a nonsignificant difference on Self-Esteem and on Classroom Adjustment scores among the three treatment groups.

Thus, the results of the statistical analysis of this study revealed that the effects of the three instructional procedures were nonsignificant on the following response variables:

1. Reading Vocabulary
2. Mathematics Problem Solving
3. Self-Esteem
4. Classroom Adjustment

Significant differences in favor of the Diagnostically Prescribed System of Instruction and the Learning Resource Center Instruction were found on the Reading Comprehension and on the Mathematics Concepts variables.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Overview

The intent of this study was to compare the effectiveness of three selected instructional procedures on changes in achievement, self-esteem, and classroom adjustment of intermediate grade, educationally disadvantaged students. The three selected instructional procedures under study were: (a) the Learning Resource Center Instruction which is an individualized instructional program based on informal diagnostic procedures, individual continuous progress, and a lack of uniform sequential objectives; (b) the Diagnostically Prescribed System of Instruction which is an instructional program with a series of diagnostic tests and with uniform, sequentially designed objectives; and (c) the Classroom Instruction which is an instructional procedure based on a group-directed, grade level concept.

The effectiveness of the three selected instructional procedures on changes in achievement were measured by the Iowa Tests of Basic Skills, Forms 5 and 6 developed in 1971 to facilitate individualized testing of pupils at different levels of development in the basic skills areas. The following basic achievement skills were measured: reading vocabulary, reading comprehension, mathematics concepts, and mathematics problem solving. Changes in self-esteem were measured by The Coppersmith Self-Esteem Inventory and changes in classroom

adjustment were measured by the Classroom Behavior Inventory.

The one hundred five subjects in this study, who were from nine Title I schools in Oklahoma City, were randomly assigned to the three treatment groups. They were pretested on each of the dependent variables in January, 1972. The subjects in each of the treatment groups received instruction throughout the second semester according to the established criteria, and they were posttested on each of the dependent variables in May, 1972.

The basic research question that was investigated in this study was:

> Will a systematic individualized program of instruction in the Learning Resource Centers (with printed diagnostic tests and prescriptive procedures that include a written guide of sequentially developed instructional objectives) be more effective in improving the achievement, self-esteem, and classroom adjustment of educationally disadvantaged children from either a more-informal diagnostic and individualized instructional program in the Learning Resource Center, or a more-group-directed instructional program in the regular classroom?

The resulting data on each of the four achievement variables in this study were analyzed by a one-way analysis of covariance technique. Pretest means were used as the covariables and posttest means were used as the criterion variables. The resulting data on the self-esteem and the classroom adjustment variables in this study were analyzed by a one-way analysis of variance technique. When statistically significant differences were reported on any of the six dependent variables, a t ratio was employed as a follow-up technique to test for significant differences among pairs of the treatment groups.

Findings

Utilizing the .05 level of confidence, the results of testing the hypotheses yielded the following:

1. The difference among the three threatment groups on the Reading Vocabulary scores on the Iowa Tests of Basic Skills was nonsignificant.

2. The difference among the three treatment groups on the Reading Comprehension scores on the Iowa Tests of Basic Skills was significant. The t ratio between pairs was computed and it was determined that a significant difference ($p < .001$) existed between the D.P.S.I. group and the C.I. group, and between the L.R.C.I. group and the C.I. group ($p < .01$); but a non significant difference existed between the D.P.S.I. group and the L.R.C.I. group.

3. The difference among the three treatment groups on the Mathematic Concepts scores on the Iowa Tests of Basic Skills was significant. The t ratio between pairs was computed and it was determined that a significant difference ($p < .001$) existed between the D.P.S.I. group and the C.I. group, and between the L.R.C.I. group and the C.I. group ($p < .05$); but a nonsignificant difference existed between the D.P.S.I. group and the L.R.C.I. group.

4. The difference among the three treatment groups on Mathematics Problem Solving scores on the Iowa Tests of Basic Skills was nonsignificant.

5. The difference among the three treatment groups on Self-Esteem scores on the Coopersmith Self-Esteem Inventory was nonsignificant.

6. The difference among the three treatment groups on the Classroom Adjustment scores on the Classroom Behavior Inventory was nonsignificant.

Discussion of the Findings and Conclusions

The conclusions which can be drawn from this study should be considered in light of several factors. Included among these factors to be considered are: (a) The findings of this study can be generalized only to the intermediate grade students who attend the selected Title I schools in Oklahoma City and who are achieving below their level of ability in the regular classroom; (b) The findings of this study can be generalized only to groups who have been pretested on each of the dependent variables and who have been involved in the experimental instructional procedures for only one semester; (c) The findings of this study present some question as to whether or not random assignment occurred since an examination of the pretest scores revealed significant differences among the three treatment groups on four of the six dependent variables. This difference is higher than is generally expected when random assignment is used. Since the researcher was unable to personally supervise the random assignment process, one must consider this factor when drawing conclusions from the study.

The following conclusions may be made based upon the findings:

The statistically significant differences which existed among the three treatment groups (Table IV) in favor of the Diagnostically Prescribed System of Instruction and the Learning Resource Center Instruction over the Classroom Instruction on Reading Comprehension scores (Table V) appear to support the belief of many educators, including Cohen (15), Gehret (37), Lewy (55), and Edling (76), that an individualized diagnostic-prescriptive instructional procedure is more effective in producing changes in reading achievement than a more

traditional group-oriented instructional procedure. The lack of a statistically significant difference between the Diagnostically Prescribed System of Instruction and the Learning Resource Center Instruction (Table V) does not support the learning center staff's belief that printed diagnostic tests and prescriptive procedures that include a written guide of sequentially developed instructional objectives (Chapter I, page 5) would significantly improve the effectiveness of the program.

The statistically significant differences which existed among the three treatment groups (Table VI) in favor of the Diagnostically Prescribed System of Instruction and the Learning Resource Center Instruction over the Classroom Instruction (Table VII) on Mathematics Concepts scores appear to support the belief of many educators including Collins (16), Thompson (73), Gehret (37), and Johnson (47) that an individualized diagnostic-prescriptive instructional procedure is more effective in producing changes in mathematics achievement than a more traditional group directed instructional procedure. The lack of a statistically significant difference between the Diagnostically Prescribed System of Instruction and the Learning Resource Center Instruction (Table VII) again does not support the need for printed diagnostic tests and uniform, sequentially developed instructional objectives (Chapter I, page 5).

The findings of nonsignificant differences between the Diagnostically Prescribed System of Instruction and the Learning Resource Center Instruction on the Reading Comprehension and on the Mathematics Concepts scores may have been influenced by several factors: (1) Since the same learning resource center teachers instructed both the

D.P.S.I. and the L.R.C.I. treatment groups and since the same materials were available to both groups, the two experimental treatments may have influenced each other even though the teachers did demonstrate a conscientious effort to follow the instructional procedures described in this study, (2) Several learning resource center teachers reported that some students had a "personality reaction" to the formal diagnostic testing and to the "prescribed" structure of the D.P.S.I. program. The "personality reaction" described by the learning resource center teachers appears to support Silberman's (71) critical view of some individualized instructional systems. Silberman (71) criticizes individualized instructional systems that do not allow students to make their own prescriptions and those instructional programs that are so structured that they allow for only one route to predetermined answers. Bloom (9) somewhat concurred with this criticism when he reported that alternative instructional materials and processes were needed if diagnostic-prescriptive instructional programs were to produce the best results.

The statistically nonsignificant differences among the three treatment groups on Reading Vocabulary scores (Table III) is supported by some of the findings in the PREP study (76). This finding also appears to lend support to the belief of many educators like Lee and Allen (54), and Dale (23) who propose that vocabulary development occurs best through functional usage of the communication process and not through a "paper and pencil" oriented program.

The results of this study also indicated that there were no significant differences among the three treatment groups on Mathematics Problem Solving (Table VIII). This finding is supported by data drawn

from the PREP study (76) on the Project PLAN instructional program and by Lewy's (55) findings on the IPI program. Apparently, some individualized instructional programs have been unable to effect as much change in this aspect of mathematics achievement as they have in mathematics concepts and in mathematics fundamentals areas.

The lack of statistically significant differences among the three treatment groups in self-esteem (Table IX) and in classroom adjustment (Table X) appear to lend support to Wylie's (77) results which indicated that it was difficult to effect global changes in self-esteem. The nonsignificant differences results on the self-esteem variable also support Goldberg's (39) and Torshen's (74) findings which indicated that self-esteem appears to be relatively well established by the intermediate grades and that improved academic achievement may not be directly and totally responsible for changes in self-esteem or in classroom adjustment. Finally, even though this investigator had to work within the experimental period of one semester because this was the longest period of time that was approved by the Oklahoma City Public Schools, the findings appear to support Fitts and Hamner (32) who reported that lower self-concepts were difficult to change in short term programs.

Implications for Classroom Instruction

The following recommendations are made as a result of this study. Educators should familiarize themselves with individualized-diagnostic-prescriptive instructional programs that have been developed or they should seek to develop instructional materials and processes which will enable teachers to more effectively operationalize the theory of

individual pupil continuous progress. The results of this study indicate that both the more structured individualized instructional procedure (D.P.S.I.) and the more informal individualized instructional procedure (L.R.C.I.) were more effective in producing changes in reading comprehension scores and in mathematics concepts scores than was the more group directed classroom instruction for the intermediate grade educationally disadvantaged subjects in this study.

On the basis of the learning resource center teachers reports, it is also suggested that not all students be limited to a "predetermined" or "prescribed" sequence of objectives or to the same instructional materials and processes. It is suggested that both formal and informal diagnostic procedures be used to suggest alternative goals, materials and processes to individual students.

Recommendations for Further Research

The writer makes the following suggestions to stimulate further research studies:

A study utilizing random assignment and replicating this study.

A study conducted for an entire academic year involving the three instructional procedures used in the present investigation.

A study of primary level educationally disadvantaged students involving the three instructional procedures used in this study.

A study involving the three instructional procedures used in this study with a different standardized achievement test.

A study involving the three instructional procedures used in this study with a different self-esteem measure.

A study involving the three instructional procedures used in this study with a different classroom adjustment inventory.

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APPENDIX A

COOPERSMITH SELF-ESTEEM INVENTORY

(Reprinted with the Permission of the Department of Research, Oklahoma City Public Schools)

SELF-ESTEEM INVENTORY
DEPARTMENT OF RESEARCH AND STATISTICS
OKLAHOMA CITY PUBLIC SCHOOLS

V_____ I_____ L Score_____ SE Score_____

Name_____ School_____

Teacher_____ Grade_____ Date_____

Sex_____ Age_____ Race_____

INSTRUCTIONS: If the statement describes how you usually feel, put a check (✓) in the column "LIKE ME." If the statement does not describe how you usually feel, put a check (✓) in the column "UNLIKE ME." There are no right answers. Words or phrases in parentheses add meaning to the statement.

	LIKE ME	UNLIKE ME
1. I spend a lot of time daydreaming.	____	____
2. I'm pretty sure of myself.	____	____
3. I would rather be myself than anyone else.	____	____
4. I'm easy to like.	____	____
5. I enjoy talking in front of the class.	____	____
6. I worry about everything.	____	____
7. I wish I were younger.	____	____
8. There are many things about myself that I would change if I could.	____	____
9. I can make up my mind without too much trouble.	____	____
10. I'm a lot of fun to be with.	____	____
11. I'm happy with (proud of) my school work.	____	____
12. I always do the right thing.	____	____
13. Someone usually has to tell me what to do.	____	____
14. I can adjust to (get used to) new things easily.	____	____
15. I seldom do things that I am sorry for later.	____	____
16. I have many friends my own age.	____	____
17. I do the best work that I can in class.	____	____
18. I'm always happy.	____	____
19. I don't give in easily when I think I'm right.	____	____

	LIKE ME	UNLIKE ME
20. I can take care of myself.	____	____
21. I'm usually happy.	____	____
22. I would rather play with children younger than I am.	____	____
23. I don't like to be called on in class.	____	____
24. I like everyone I know.	____	____
25. I have reasons for the things that I do.	____	____
26. Things are all mixed up in my life.	____	____
27. I can make up my mind and stick to it.	____	____
28. Kids like my ideas.	____	____
29. I'm not doing as well in school as I'd like.	____	____
30. I never get fussed at (scolded).	____	____
31. I really like being a boy (or girl).	____	____
32. I'm not ashamed of what I am.	____	____
33. I like the way that I look.	____	____
34. I like being with other people.	____	____
35. I seldom feel upset (uneasy) in school.	____	____
36. I'm never bashful.	____	____
37. If I have something to say, I say it.	____	____
38. I don't care what happens to me.	____	____
39. I think I'm doing O.K.	____	____
40. Kids pick on me.	____	____
41. My teacher likes me.	____	____
42. I always tell the truth.	____	____
43. I really get upset when I'm fussed at (scolded).	____	____
44. Things usually don't bother (upset) me for very long.	____	____
45. I can be trusted.	____	____
46. Other people are liked better than I am.	____	____
47. My school work makes me feel discouraged (hopeless).	____	____
48. I always know what to say to people.	____	____

APPENDIX B

CLASSROOM BEHAVIOR INVENTORY

(Reprinted with the Permission of the Department of Research, Oklahoma City Public Schools)

CONFIDENTIAL

Student's Name_____Date_____

Teacher's Name_____Subject_____

SCORE: Individual_____

Group _____ Total_____

INDIVIDUAL BEHAVIOR

1. The student listens to and follows instructions.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

2. The student works independently in the classroom.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

3. The student puts forth consistent effort in classroom activities.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

4. The student's attention span could be described as:

1_____ 2_____ 3_____ 4_____ 5_____
Very Short Short Average Long Very Long

5. The student controls outbursts of temper.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

6. The self-concept of the student could be described as:

1_____2_____3_____4_____5_____
Negative Relatively Negative Satisfactory Relatively Positive Positive

Teachers Remarks_____

_____

_____

(Use Reverse Side If Needed)

BEHAVIOR TOWARD GROUP

7. The student is respectful of the possessions of others.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

8. The student is polite to others in the group.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

9. The student follows acceptable group behavior norms.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

10. The student assumes his share of responsibility in the group.

1_____ 2_____ 3_____ 4_____ 5_____
Never Seldom Sometimes Frequently Always

Classroom Adjustment Survey

11. The student utilizes unacceptable attention seeking behavior in the classroom (e.g., restless or playfull).

1_____ 2_____ 3_____ 4_____ 5_____
Always Frequently Sometimes Seldom Never

12. The student's participation in group experiences could be described as:

1_____2_____3_____4_____5_____
Non-Constructive Seldom Constructive Sometimes Constructive Frequently Constructive Always Constructive

13. The student reacts to adult authority:

1_____2_____3_____4_____5_____
Negative Relatively Negative Satisfactory Relatively Positive Positive

APPENDIX C

LEARNING RESOURCE CENTER MATERIALS

(Reprinted with the Permission of the Department of Research, Oklahoma City Public Schools)

LEARNING RESOURCE CENTER MATERIALS

Reading and Language Arts

1. Games for word analysis
   a. Word Bingo
   b. Phonics Fish
   c. Word Lotto
   d. Scrabble
2. Frostig Program for the Development of Visual Perception
3. Getman and Kane's Program for Accelerated School Success
4. Balance Boards
5. Walking Rails
6. Form Boards
7. Urban Education Studies
8. Chandler Language - Experience Program
9. Picture Albums for Language Development
   a. Encyclopedia Britannica
   b. Behavioral Research Laboratories
10. Sights and Sounds (Random House)
11. Skillstarters (Random House)
12. Bankstreet Readers
13. SRA Lift Off to Reading
14. Merrill Linguistics
15. Structural Reading Series
16. SRA Basic Reading Series and Satellites
17. Programmed Reading (Sullivan)
18. Dorsell Materials
19. Initial Teaching Alphabet (ITA)
20. New Webster Word Wheels
21. Reading with Phonics (Lippincott)
22. Remedial Reading Drills (George Wahr)
23. SRA Word Games Kit
24. The Magic World of Dr. Spello
25. Curriculum Enrichment Series (Lyons and Carnahan)
26. Learning Units from Random House
27. Macmillan Reading Spectrum
28. Readers Digest Skill Builders
29. Reading Attainment System
30. SRA Kit "We Are Black"
31. Speech To Print Phonics
32. Spelling and Writing Patterns (Follett)
33. SRA Spelling Word Power Labs
34. Success in Language (Follett)
35. Sand Trays
36. Ideal Charts
37. Teacher Made Material
38. Mirror Cards (McGraw Hill)

Mathematics

1. SRA Math Kit and Drill Tapes

2. Manipulative Materials
   a. Magnetic Counting Shapes
   b. Cubical Counting Blocks
   c. Felt Counting Disc
   d. Giant Dominos
   e. Felt Numerals
   f. Number Concept Cards
   g. Kinesthetic Numeral Cards
   h. Desk-tape Number Lines
   i. Play money Kit
   j. Clock
   k. Calendar
   l. Scale
   m. Temperature Measurement
   n. Liquid Measurement
   o. Classroom Counting Frame
   p. Ten's-Tens Counting Frame
   q. Wooden Peg Boards and Pegs
   r. Parquertry Design Blocks
   s. Geometric Wire Forms and Patterns

3. Colonial Films

4. Teacher Made Materials

Psycho-Social Development

1. Polaroid Camera and Color Film

2. Mirrors

3. Tape Recorder

4. Home and Family Diorama Set

Equipment

1. 16 MM Film Projector

2. Overhead Projectors

3. Filmstrip Projectors

4. Individual Viewers

5. Film Screens

6. Tape Recorders

7. Record Players

8. Earphones Headsets

9. Jack Boxes

10. Chart Stands

11. Study Carrels

12. Portable Chalkboards

13. Opaque Projector

APPENDIX D

DIAGNOSTICALLY PRESCRIBED SYSTEM OF INSTRUCTION GUIDELINES

(Reprinted with the Permission of the Department of Research, Oklahoma City Public Schools)

DPSI

Learning Centers - Oklahoma City Public Schools

DPSI READING
PLACEMENT PROFILE SHEET

STUDENT		REFERRING TEACHER
GRADE	SCHOOL	LEARNING CENTER TEACHER

SKILL AREA		PLACEMENT TESTS (LEVELS B-J)											INITIAL PLACEMENT LEVEL
		A	B	C	D	E	F	G	H	I	J	K	
01 VISUAL DISCRIMINATION	DATE												
	%												
02 AUDITORY DISCRIMINATION	DATE												
	%												
03 VOCABULARY DEVELOPMENT	DATE												
	%												
04 VISUAL - MOTOR SKILLS	DATE												
	%												
05 PHONIC ANALYSIS	DATE												
	%												
06 STRUCTURAL ANALYSIS	DATE												
	%												
07 LITERAL COMPREHENSION	DATE												
	%												
08 INTERPRETIVE COMPREHENSION	DATE												
	%												
09 EVALUATIVE COMPREHENSION	DATE												
	%												
10 REFERENCE SKILLS	DATE												
	%												
11 LIBRARY SKILLS	DATE												
	%												
12 ORGANIZATIONAL SKILLS	DATE												
	%												

KEY

NO UNIT AT THIS LEVEL

NO PLACEMENT TEST AT THIS LEVEL

SCORES INDICATING FURTHER PLACEMENT TESTING
0 - 20% Test at Next Lower Level
80 - 100% Test at Next Higher Level

SCORES INDICATING PLACEMENT
21 - 79% Place at level of this test
0 - 20% on lowest test in skill area- Place at lowest level of skill area
80 - 100% on highest test in skill area- Place at highest level of skill area

Learning Centers - Oklahoma City Public Schools

DPSI MATHEMATICS
PLACEMENT PROFILE SHEET

STUDENT		REFERRING TEACHER
GRADE	SCHOOL	LEARNING CENTER TEACHER

SKILL AREA	PLACE-MENT TEST	PLACEMENT TESTS (LEVELS B-H)									INITIAL PLACE-MENT LEVEL
		A	B	C	D	E	F	G	H	I	
01 DEVELOPMENTAL NUMBER CONCEPTS	DATE										
	%										
02 NUMERATION/PLACE VALUE	DATE										
	%										
03 ADDITION/SUBTRACTION	DATE										
	%										
04 ADDITION	DATE										
	%										
05 SUBTRACTION	DATE										
	%										
06 MULTIPLICATION	DATE										
	%										
07 DIVISION	DATE										
	%										
08 NUMBER THEORY	DATE										
	%										
09 FRACTIONS	DATE										
	%										
10 DECIMALS/PER CENTS	DATE										
	%										
11 TIME	DATE										
	%										
12 MONEY	DATE										
	%										
13 MEASUREMENT	DATE										
	%										
14 GEOMETRY	DATE										
	%										
15 PROBLEM SOLVING	DATE										
	%										
16 SPECIAL TOPICS	DATE										
	%										

KEY

NO UNIT AT THIS LEVEL

NO PLACEMENT TEST AT THIS LEVEL

SCORES INDICATING FURTHER PLACEMENT TESTING

0 - 20% Test at Next Lower Level

80 - 100% Test at Next Higher Level

SCORES INDICATING PLACEMENT

21 - 79% Place at the level of this test

0 - 20% on lowest test in skill area- Place at lowest level of skill area

80 - 100% on highest test in skill area- Place at highest level of skill area

DPSI

REFERENCE SUMMARY

ADMINISTERING PLACEMENT TESTS

GUIDELINES FOR PLACING STUDENTS IN THE DPSI CONTINUUM

1. 80% or above on any one level indicates that the student has mastery of the level and should be tested on next higher level of that skill area.
   EXAMPLE: 80%+ in D-Phonic Analysis indicates that E-Phonic Analysis should be given.

   EXCEPTION

   If the student scores 80%+ on the next to highest level, in any area, he is automatically placed in the highest level of the skill area.

2. 21% - 79% on any one level indicates that a student does not have mastery of the level and should be placed in the level for diagnostic testing and instruction.
   EXAMPLE: 72% in E-Fractions indicates that the student should be placed in E-Fractions for diagnostic testing and instruction.

3. 0% - 20% on any one level indicates that the student does not have the minimum skills needed to succeed at this level and he should be tested on the next lower level of this skill area.
   EXAMPLE: 17% in F-Library Skills indicates that E-Library Skills should be given.
   a. If the student scores 80% or above in this next lower level of the skill area (indicating mastery of the level), return him to the original level and place him in it.
      EXAMPLE: If 17% in F-Library Skills, then 83% in E-Library Skills, place the student in F-Library Skills.

b. If the student scores 21% - 79% in the next lower level of the skill area, place him in this level for diagnostic testing and instruction.
EXAMPLE: If 17% in F-Library Skills, then 60% in E-Library Skills, place the student in E-Library Skills.

c. If the student scores 0% - 20% in the next lower level of the skill area, continue testing at lower levels of the area until he can be placed (21% - 79%). If there are no lower levels for the skill area, place him on the lowest level in the area.
EXAMPLE: If 10% on F-Multiplication, then 0% on E-Multiplication automatically place the student in D-Multiplication, which is the lowest level in multiplication.

4. When a student continues placement testing on any level, he must take the tests in the assigned skill areas as well as in the skill areas that start on that level.
EXAMPLE: A student is assigned to take additional tests on Level C in Fractions, Time, and Measurement. He must take the C-Geometry Test also, since it starts on Level C. A student is assigned to take additional tests in Level D. He must also take D-Multiplication and D-Division, which start on Level D.

5. There are times when a student does not encounter a skill area in his placement testing. This occurs when the area starts at a level higher than the level of Placement Tests taken. In this case, place the student automatically on the starting level of the skill area.
EXAMPLE: A student has taken B and C Placement Tests and is placed in all areas except multiplication and division. Multiplication and division start on Level D. The student is automatically placed in D-Multiplication and D-Division.

6. Level B-Addition/Subtraction is a special case.
A student takes B-Addition/Subtraction tests as part of B Placement tests:
a. Any student scoring 0% - 20% in B-Addition/Subtraction is placed in A-Addition/Subtraction, C-Addition, and C-Subtraction. These levels are entered simultaneously on the Placement Profile Sheet. (Note that there is no level A & B for addition as a separate operation and no level A & B for subtraction as a separate operation.

Addition/Subtraction (combined) form a separate skill area for levels A and B. They are treated as separate operations beginning with Level C.)

b. Any student scoring 21% - 79% in B-Addition/Subtraction is placed in B-Addition/Subtraction, C-Addition, and C-Subtraction. These three levels are entered simultaneously on the Placement Profile Sheet.

c. Any student scoring 80%+ on B-Addition/Subtraction indicates mastery of the combined skill area of addition/subtraction. Do not make any entry. The student is tested in C-Addition and in C-Subtraction. From this point on the usual placement guidelines are followed.

d. A student takes B-Addition/Subtraction test when he has scored 0% - 20% on either C-Addition or C-Subtraction. This is a case of a student being moved back for additional testing.
   (1) Any student scoring 0% - 20%. (See "a" above.)
   (2) Any student scoring 21% - 79%. (See "b" above.)
   (3) Any student scoring 80%+ in B-Addition/Subtraction is automatically placed in C-Addition and C-Subtraction.

7. Developmental Number Concepts is a special case for placement. There is only one unit (Level A) for developmental number concepts. Students who score 20% or less on B-Numeration/Place Value are automatically placed at A-Developmental Number Concepts and A-Numeration/place Value.

DPSI

DPSI PRESCRIPTION SHEET

Learning Centers - Oklahoma City Public Schools

Student Name	Period	CHECK ONE:		Skill Area	Level
Classroom Teacher		Mathematics			
		Reading			

OBJECTIVES FOR INSTRUCTION Circle those indicated for instruction → in the Diagnostic Pre-Test	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

WEEK NUMBER		Date Prescribed	Activity Period	Instruc. Phase	Instructional Technique Code: Station	Instructional Technique Code: Materials	Activity Prescribed	Remarks
	DAY 1	Objective Number → Minutes	1					
			2					
			3					
			4					
	DAY 2	Objective Number → Minutes	1					
			2					
			3					
			4					
	DAY 3	Objective Number → Minutes	1					
			2					
			3					
			4					
	DAY 4	Objective Number → Minutes	1					
			2					
			3					
			4					
	DAY 5	Objective Number → Minutes	1					
			2					
			3					
			4					

INSTRUCTION TECHNIQUE CODE			
Code	Station	Code	Materials
A	Tutoring Station (Teacher)	1	Manipulative Materials
B	Tutoring Station (Aide)	2	Listening Materials
C	Tutoring Station (Peer)	3	Viewing Materials
D	Tutoring Station (Tutor of Others)	4	Self-Instruction Materials
E	Small Group Station	5	Text Materials
F	Independent Study Station	6	Work Sheets or Workbook
G	Listening Station	7	Research Materials
H	Viewing Station	8	Independent Reading Materials
I	Game Station	9	Learning Game
J	Testing Station	10	Testing Materials
K	Conference Station	11	Conference
L	Other	12	Other

DPSI

DATE:_____

STUDENT WORKSHEET

A. Controlled Reader
   Lesson #_____
   Rate_____
   Comprehension_____
B. Text_____
   Lesson_____
   Comprehension_____
C. Listen and Read_____
   Level_____
   Title_____
   Comprehension_____
D. S.R.A. Lab._____
   Level_____
   Power_____
   Speed_____
   Comprehension_____
E. E.D.L. Lab._____
   Level_____
   Lesson_____
   Comprehension_____
F. Workbook
   Title_____
   Lesson_____
   Comprehension_____
G. Tachistoscope
   Set_____
   Level_____
   Lessons_____
   Score_____
H. R.F.U. Lab._____
   Set_____
   Level_____
   Lesson_____
I. Practice Readers
   Book_____
   Lessons_____
   Comprehension_____
   Rate_____
J. Reader's Digest Skill Builder
   Level_____
   Book_____
   Page_____
   Comprehension_____
   Rate_____
K. Reading Pacer
   Name of Book_____
   Number of Pages_____
   Rate_____
L. Iowa Reading Film
   Title_____
   Rate_____
   Comprehension_____
M. Filmstrip_____
N. Basic Reading Skills
   Pages_____
   Comprehension_____
O. Elementary Word Power
   Lesson_____
P. Overhead Projector
   Set_____

DPSI

INDIVIDUAL PROGRAM FOR_____

A. Controlled Reader
   Set_____
   Lesson/day_____
B. Text_____
   Lessons/day_____
C. Listen and Read
   Level_____
D. S.R.A. Lab_____
   Level_____
   Power_____
   Speed_____
   Lessons/day_____
E. E.D.L. Lab_____
   Level_____
   Lessons/day_____
F. Workbook_____
   Title_____
   Lessons/day_____
G. Tachistoscope
   Set_____
   Level_____
   Lessons_____
H. R.F.U. Lab
   Set_____
   Level_____
   Lessons/day_____
I. Practice Readers
   Book_____
   Lessons/day_____
J. Reader's Digest Skill Builder
   Level_____
   Book_____
   Lessons/day_____
   Time_____
K. Reading Pacer
   Material_____
   Speed_____
L. Iowa Reading Film
   Title_____
M. Filmstrip
   Title_____
N. Basic Reading Skills
   Pages/day_____
O. Elementary Word Power
   Lesson_____
P. Overhead Projector
   Set_____

	Date	Date	Date	Date
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				

DPSI

LEARNING CENTERS
Oklahoma City Public Schools
PERSONALIZED LEARNING CONTRACT

Name_____Age_____Grade_____School_____

Curriculum Area_____Skill Area_____

I agree to learn the following:

objective

_____ _____
Student Signature Date of Contract

LEARNING ACTIVITIES:

Station	Activities and Materials	Date Activity Begun	Date Activity Completed

Teacher Comments:

_____ _____
Teacher Signature Date Contract Completed

APPENDIX E

LETTER FROM DR. RONALD SCHNEE

Oklahoma City Public Schools
900 North Klein
Oklahoma City, Oklahoma 73106

June 25, 1973

Dr. Judy Pusey
Route 1, Box 131
Garber, Oklahoma 73738

Dear Dr. Pusey:

This is to inform you that you have the permission of the Oklahoma City Public Schools to duplicate for your dissertation and for subsequent publications the following:

1. "Elementary Self-Esteem Inventory"
2. "Classroom Behavior Inventory"
3. Diagnostically Prescribal System of Instruction:

   Figures 23 and 24; pages 65, 66, 68, 72, 73, 74, and 75.

Congratulations for having passed your oral examination on your dissertation, and good luck in your new job.

Sincerely,

Ronald G. Schnee, Ed. D.
Research Coordinator

RS/rw

VITA

Judith Kay Pusey

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARISON OF THE EFFECTS OF THREE INSTRUCTIONAL PROCEDURES ON ACHIEVEMENT, SELF-ESTEEM, AND CLASSROOM ADJUSTMENT OF INTERMEDIATE GRADE STUDENTS IN TITLE I SCHOOLS

Major Field: Elementary Education

Biographical:

Personal Data: Born in Indianapolis, Indiana, July 7, 1943, the daughter of Mr. and Mrs. F. R. Burnam.

Education: Graduated from Arsenal Technical High School, in June, 1961; received Bachelor of Science in Education degree in Elementary Education from Ball State University in 1965; received Master of Arts in Education degree in Elementary Education from Ball State University in 1967; completed requirements for the Doctor of Education degree at Oklahoma State University in July, 1973.

Professional Experience: Elementary Teacher, Indianpolis, Indiana, 1965-67; Elementary Teacher, Stevens Point, Wisconsin, 1967-69; Elementary Teacher, Lincoln, Nebraska, 1969-70; graduate teaching assistant, Oklahoma State University, 1970-72; Assistant Professor of Education, Phillips University, 1972-73.