THE EFFECT OF LEARNING PACKAGES ON THE CONTINUOUS PROGRESS EDUCATION PILOT PROGRAM IN THE KANAWHA COUNTY, WEST VIRGINIA, SCHOOLS

by

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Chapter 1

INTRODUCTION

It has again become popular to attack the public schools for the alleged deficiencies of students. Authors critical of the schools receive increasing support in the public forum for their views. In many instances schools have been challenged to demonstrate that they do not in fact thwart students' learning.

This concern encompasses the whole scope of the public school curriculum, including instructional methodologies, administrative functioning, and the responses of the schools, or lack of response, to societal changes. Aggravated by such circumstances as an inflationary economy and many citizens' growing distrust of bureaucracy, the concern has manifested itself in budget decisions, bond referenda, and an increasing reluctance to accept without further substantiation the pronouncements of professional educators.

Almost as a response to this situation, the term accountability came into popular use to symbolize responsible school management. The very mention of the term has roused the emotions of laymen and professional educators alike.

The notion of accountability was initially viewed by many professional educators as little more than a refurbished effort on the part of hostile taxpayers to cut costs. As the program evaluation dimensions of accountability became evident, however, indignation

often turned to panic and defensiveness as it became clear that the public schools were not prepared to report objectively or systematically concerning a district's efforts and stewardship. At least the schools were not equipped to respond in the ways prescribed by Planning-Programming-Budgeting System (PPBS) and similar vehicles for accountability.

In the case of many districts there emerged out of these situations (often conflicts) a more intensive, aggressive, and cooperative effort to achieve "the finest product at the lowest cost" (Callahan, 1962:244) and to document the details of program planning, development, budgeting, implementation, and evaluation. The Kanawha County, West Virginia, school district engaged itself in such an undertaking. An extensive curriculum development and accountability effort was set in motion which was "predicated on the belief that all children can succeed and enjoy school beyond our wildest expectation" (Kanawha County Schools, 1973a:4). A major part of the effort was directed toward the development and implementation of a K-12, district-wide program of continuous progress education.

CONTINUOUS PROGRESS EDUCATION

Continuous progress education is a curricular process concept and an approach to instruction rather than a particular instructional technique, content, or organizational device. The concept is based in part on the tenets that children do not learn at the same rate, with equal ease, or to similar levels of underst anding. Its purpose is to provide for the many and varied situations and learning needs of all

the students in a classroom.

The placement of each student in a program or along an instructional sequence is the result of an individualized diagnosis of that student's learning situation. Then the learning experiences are provided which are appropriate to that student. An important aspect of continuous progress education is that the individual student progresses to the next point in the instructional sequence as he is successful in achieving the established criteria for mastery of the skill(s) to be learned, rather than according to an arbitrary and prescribed allocation of time (e.g., one semester or one year).

The essential elements of a continuous progress education program are:

1. Establishment (identification, determinination, and writing down) of the basic skills which a community desires that all of its children achieve. These basic skills (in the cognitive, affective, and psychomotor domains) are those determined to be needed by the students in order for them to survive and to function adequately in the society during their lifetimes. It is possible to utilize these basic skills as the graduation criteria.
2. Establishment of the other skills and experiences which a community wishes to offer its children through the public school program.
3. Establishment of a sequence of instructional activities for each skill area, when possible and if desirable.
4. Establishment of instructional objectives for all instructional activities.

5. Development of learning activities (materials and other resources) in sufficient variety, scope, and adaptability to be appropriate to the different student motivations, maturities, comprehensions, depths of understanding, and other individual characteristics.
6. Development of staff diagnostic capabilities for the purpose of (a) evaluating individual student learning situations and instructional needs, (b) determining placements and prescribing instructional techniques and resources best suited to individual students, (c) establishing individual student learning expectations, and (d) measuring individual student skill acquisitions.
7. Establishment of performance criteria (behavioral objectives) for each student for each instructional objective.
8. Elimination of grade level designations and Carnegie Unit standards.
9. Establishment of individualized student reporting procedures consistent with the other characteristics of continuous progress education.
10. Establishment of policies, regulations, and practices for the operation of the schools which are consistent with the other characteristics of continuous progress education.
11. Establishment of accountability procedures which will foster community understanding of continuous progress education and its various components, which will monitor the instructional program and process to ensure their

proper functioning, and which will tend to ensure effective expenditures in the sense of "the finest product at the lowest cost."

That continuous progress education demonstrates the desirability of a union between the instructional program and an accountability procedure is the thrust of Brodbelt's (1972:63-64) comments:

> To the degree that accountability leads to a fundamental commitment that every child can and shall learn, the educational system can lead to a rebirth of the role of the teacher and supervisor. The advantages of accountability far outweigh the disadvantages when it is realized that the focus of the schools will be directed toward success rather than failure. Naturally, the best in innovative practices will be more rapidly accepted as the test of achievement will lie in results. In order to ensure that each individual will learn, instruction will be tailored more effectively to the individual. Individualization of instruction has long been mouthed by educationalists but rigidity has prevailed with the teacher-lecture concept and the predominance of the textbook as the mainstay of learning. The advantage to the pupil who is presently failing will be immediate. He will be given hope of success. His learning difficulties will be diagnosed and an individual strategy will be devised to make him a successful learner. . . .

The rationale for continuous progress education was perhaps most succinctly (if unintentionally) expressed in "the most significant conclusion" of a committee of school superintendents after a three-year study: "The school . . . can no longer be content merely with teaching; it must accept the responsibility that every pupil learn" (Institute of Administrative Research, 1962:3).

DECISIONS AND ACTIONS OF THE SCHOOL DISTRICT PRIOR TO THE STUDY

There was considerable activity by Kanawha County school officials and staff with respect to the planning, development, and

implementation of a continuous progress education program prior to October, 1973:

1. The school district submitted a proposal, dated March 31, 1972, under Title III of the Elementary and Secondary Education Act of 1965 (Public Law 89-10) for "the development of basic skills-oriented individualized learning packages to accomodate increased educational achievement and accountability" (Kanawha County Schools, 1972a). The proposal, which was approved and fully funded, requested $400,000. over the three-year period, 1972-73 through 1974-75.
2. A schedule was established for completing the various series of learning packages over a five-year period which would coincide with the West Virginia textbook adoption schedule.
3. The format for the learning packages was developed and a standard introduction to them was prepared (see Appendix A for a copy of the standard introduction to the learning packages). The learning packages were arranged (numbered) in the order of sequence of instruction for each learning area. Each package establishes the specific instructional objectives of the school district for the skill(s) to be taught and includes pre-tests and post-tests, lesson and reinforcement activities (worksheets), and provides a guide to other resource materials. Teachers are not permitted to delete skills from the prescribed instructional program, but they may add skills, and they have the

latitude to rearrange, supplement, or modify the content of the packages (see Appendix B for a sample learning package).

4. Criterion-referenced-type diagnostic tests were developed to aid teachers in determining the initial placement of each student along the sequence of instructional activities in a learning area. The tests were designed to be scored on data processing equipment and can be translated quickly into the numbering system used for the learning packages (see Appendix C for a sample criterion-referenced-type diagnostic placement test).

   The placement tests should not be confused with the pre-tests and post-tests for specific instructional objectives. Generally, on the diagnostic placement tests, only one test item is used to determine mastery of each instructional objective; because they are designed to measure a broad range of skills, the diagnostic placement tests measure competency less precisely. In recognition of the limitations imposed by using only one test item, three consecutive items must be answered incorrectly (or not answered) by the student for a tentative placement determination to be made.

5. Faculty teams from throughout the school district began the development of learning packages and diagnostic placement tests in a number of subject areas during the summer of 1972; additional teams worked during the summer of 1973.

6. The Kanawha County school board approved as policy on March 8, 1973, the "Kanawha County Schools Board of Education Curricular Objectives," a major component of which was a K-12, district-wide program of continuous progress education utilizing the learning packages (see Appendix D for a copy of the policy statement).

7. "Introduction to Continuous Progress Education" was a required in-service course in 1972-73 for all Kanawha County professional personnel who had not previously received such instruction. A brochure (Kanawha County Schools, undated:2) described the offering as a

> . . . foundation course [which] consists of an overview of the philosophy, identification of basic skills, instructional objectives, diagnostic and criterion referenced tests, educational learning packages, etc.

Among the in-service courses offered during the 1973-74 school year were "Social Studies--Continuous Progress K-12," "Continuous Progress in Music Education," "Mathematics--Continuous Progress in Using Educational Learning Packages," and "Clinic for Continuous Progress in Major Sports and Physical Education" (Kanawha County Schools, 1973b).

8. Each Kanawha County public school was designated to be a pilot, non-pilot, or undesignated school with respect to the continuous progress education program. In the Spring of 1973, twenty-eight elementary schools were designated as pilot schools for the continuous progress education program in reading, at the request of the schools.

(Ostensibly guided by the desires of the majority of each school's faculty, the request was made by the principal of the school.) An additional thirteen elementary schools who had initially indicated interest in becoming pilot schools but then, for various reasons (such as expecting too high teacher turn-over), had not asked for that designation, were designated as non-pilot schools. The remaining elementary schools received no special designation. (See Appendix E for the listing of pilot and non-pilot elementary schools.)

9. A two-day program of in-service education for pilot school teachers was conducted prior to the opening of school, during August, 1973. The sessions were available to the teachers on a voluntary and unpaid basis, but the attendance was reported to be excellent. (Three graduate credits were to be granted for participation in the pilot school in-service training <u>and</u> implementation programs.) The two-day program included a presentation on the resources available to pilot schools, an examination of the learning packages and tests, and procedures for the implementation of the continuous progress education program.

10. Of the numerous areas in which the Kanawha County faculty teams were working, the K-6 reading program was the first in which both the recommended sequence of instructional activities and the materials and resources (the diagnostic placement tests, the pre-tests and post-tests, and the

learning packages) for a continuous progress education program were completed in pilot form. This was accomplished during the summer of 1973 with the program being implemented in the pilot schools at the beginning of the 1973-74 school year. (Programs in other subject areas were also implemented although they had not been completed in pilot form.)

Involvement or non-involvement in the pilot program in reading was determined to be on a total school basis.

11. All of the elementary schools in the district received the list and recommended sequence of instructional activities comprising the continuous progress education program in reading, but only the teachers in the pilot schools received the learning packages.

12. Both the pilot and non-pilot schools administered the diagnostic placement tests in reading during September, 1973, which the school district's central office furnished and machine-scored. Each of the undesignated elementary schools received a copy of the tests; if a school's staff desired to administer the tests, the staff had to produce sufficient copies for the students and then hand-score the answer sheets.

CHARACTERISTICS OF THE SCHOOL DISTRICT

Kanawha County comprises an area of 914 square miles, had a population of nearly 230,000 at the time of the 1970 census, and had an October 1, 1973, enrollment of about 50,000 students in its public

schools, K-12. The county, one of fifty-five in the state, has approximately 4 percent of the area of West Virginia, 13 percent of its population, and 13 percent of its public school students. The state's capital city, Charleston, is situated near the geographic center of the county and comprises about 3 percent of its area, 31 percent of its population, and contributes about 28 percent of the public school enrollment.

Some regions of the county are relatively desolate and wild, with settlements located near the occasional coal mines, while other regions are urban and highly industrialized.[1] The considerable salt and fuel deposits in the area make the county a very desirable location for chemical and related industries. In addition to these natural benefits, the Kanawha River has been made a navigable waterway flowing into the Ohio, then Mississippi, Rivers; three interstate highways running through the center of the county are in various stages of construction; the county has scheduled airline service; and several railroads operate within its boundaries.

A study in contrasts, the county's Appalachia character is quite evident in the rural areas at the same time that one of the urban communities is said to have the highest concentration of doctorates in the nation. School district statistics (Kanawha County Schools, 1972b:3) indicate that 25 percent of the county's population was "rural non-farm" in 1972, with less than 0.5 percent categorized

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[1]Among the industries located in Kanawha County are Monsanto Company, American Viscose Division of FMC Corporation, Union Carbide Chemicals Company, Industrial Chemicals Division of Allied Chemical Corporation, E. I. duPont De Nemours, and Libby-Owens-Ford.

as "rural farm." The remaining three-quarters of the county's population was distributed as 17 percent in "central city, low socio-economic" areas, 23 percent in "other central city" areas, and 35 percent in "other urban" settings.

Of the 50,000 students, K-12, enrolled in the Kanawha County public schools, 49 percent were in grades 7-12, 44 percent were in grades 1-6, and 6 percent were in Kindergarten. (An additional 1,200 students were enrolled in non-public schools in the county.)

There were eleven senior high schools in the district, with enrollments ranging from 703 to 1,611 students. Average enrollment was 1,054 and average daily attendance (A.D.A.) ranged from 89.4 percent to 95.7 percent. There were twenty-two junior high schools with enrollments ranging from 247 to 950 students. The average enrollment was 599 and A.D.A. ranged from 92.1 to 96.9 percent.

There were eighty-seven elementary schools (at ninety-one locations, and not including three special education centers) with the enrollments in grades 1-6 ranging from 90 to 514 students. Average enrollment was 257 and A.D.A. ranged from 93.3 to 98.6 percent. The average number of elementary school professional staff for grades 1-6, including administrators, was 10.1 and ranged from 4 to 22. Of the ninety-one locations, 22 (24 percent) had 6 or fewer professional staff and 81 (89 percent) had 12 or fewer professional staff.

With respect to transportation, 62 percent of the secondary school students were transported (60.5 percent of the senior high school students and 63.3 percent of the junior high school students) and 50 percent of the students in grades 1-6.

The 1973-74 budget of the school district was presented in several sections:

1. General Operating Budget: $40,778,840. or $809.18 per enrolled student.
2. Debt Service Budget: $3,251,635. or $64.52 per student.
3. Expenditures for federal and state funded programs: approximately $3,000,000. or $59.53 per student.
4. Various holding and sinking fund accounts.

Excluding the latter category, the total budget for the Kanawha County Schools was reported to be about $47,030,475. or $933.24 per enrolled student.

The 1973-74 salary schedule for a teacher with a bachelor's degree ranged from $7,686. (for no prior experience) to $10,016. (for thirteen or more years' experience). For a teacher with a doctorate, the salary schedule ranged from $9,096. (for no prior experience) to $12,860. (for nineteen or more years' experience). The salary schedule provided academic training salary increment levels for the bachelor's degree plus fifteen credits, master's degree, master's degree plus fifteen credits, and master's degree plus thirty credits.

STATEMENT OF THE PROBLEM

The problem of this study was to evaluate the effectiveness of the pilot implementation of a locally-developed continuous progress education program in reading upon the achievement of selected fourth-grade students in the Kanawha County Schools.

The questions to be answered were:

1. Did the students in the continuous progress education

pilot program achieve better in reading than the students in the non-pilot schools?

2. Did socio-economic status affect the achievement of the students in reading?

3. Was student achievement in reading related to teacher attitudes regarding continuous progress education or to operational characteristics of the continuous progress education program?

PURPOSE OF THE STUDY

The purpose of the study was to obtain information about the continuous progress education programs in reading in the pilot and non-pilot elementary schools in Kanawha County in order to provide a basis for judgments about the assumption of the Kanawha County school officials that the "achievement of children in classrooms where these learning packages are used will be significantly greater than the educational attainment of children in . . . classrooms" in which the learning packages are not utilized (Kanawha County Schools, 1972b:28-29).

LIMITATIONS OF THE STUDY

The study was limited to an evaluation of the pilot K-6 reading program since it was the only continuous progress education program for which, at the beginning of the 1973-74 school year, the learning packages and diagnostic placement tests had been completed. Furthermore, for reasons detailed in Chapter 3, the study involved only selected fourth-grade students and their reading teachers.

The study was not intended to be an evaluation of the learning packages themselves, but only of the effect of their utilization.

ORGANIZATION OF THE STUDY

Chapter 1 identified the background of circumstances leading to the initiation of the study and gave a brief description of the continuous progress education concept.

The second chapter provides an overview of the historical and philosophical background of continuous progress education and reviews the research relevant to the study.

The design of the study is presented in Chapter 3. The research model and sample are described, as are the data gathering procedures.

In Chapter 4, the data are presented in grouped form. Data on class size differences between the 1972-73 and 1973-74 school years are also presented.

The analysis of the data, together with a discussion and summary, comprise Chapter 5. The questions to be answered are considered, as are the data on class size.

Finally, in Chapter 6, the conclusions of the study are stated and appropriate recommendations made.

Chapter 2

REVIEW OF THE LITERATURE

A review of the literature often consists only of a review of the previous research relevant to the specifics of the study being undertaken. However, it was crucial to understanding the philosophical position (and its implications) taken by the Kanawha County school board, as expressed in its policy statement on continuous progress education, to also review pertinent aspects of the American educational scene from pre-graded schools, circa 1840, through the present.

THE HISTORICAL - PHILOSOPHICAL BACKGROUND

Meeting the educational needs of individual students is a goal to which most, if not all, schools philosophically aspire. Yet, in practice, it has been an elusive goal. While it seems to be rather universally accepted now that children learn at different rates, with different degrees of ease, and to different levels of understanding, there has been considerable difficulty in replacing those educational practices which are no longer appropriate and were perhaps never valid.

The "Graded" School

One of the more firmly established and ingrained parts of the American culture is the "graded" school, although the graded school was only first implemented in the United States in Quincy, Massachu-

setts, in 1848. Prior to that time, instruction in the schools was generally highly individualized.

The graded school was modeled after the Prussian schools and was introduced primarily as an organizational device intended to reduce disciplinary problems in the schools without increasing costs. Horace Mann (1965:66) described the situation in his Fourth Annual Report to the Massachusetts Board of Education:

> In regard to management and discipline, a more trying situation, to a person of judgment and good feelings, cannot well be conceived, than that of having the sole charge of a school of sixty, seventy, or eighty scholars of all ages . . . it appeared, that, in very many places, the schools were attended by scholars of all ages, between four years and twenty, and, in some places, by those between two years and a half and twenty-five; and thus the general regulations of the school, as to order, stillness, and the observance of a code of fixed laws, were the same for infants but just out of their cradles, and for men who had been enrolled seven years in the militia. . . .

While instruction was highly individualized, its quality was rather questionable. Goodlad and Anderson (1963:44-45) write that "these early institutions of learning must have been dreary and boring beyond belief." The first requirement of a teacher was that he have the physical ability to control the students. As a result of this recruiting priority, "the teachers were poorly prepared and so the curriculum consisted of whatever reading and ciphering they were able to teach."

Mann (1965:67-68) noted "how keenly the children watch" the teacher and, when he is not looking, "seize upon the occasion to whisper, laugh, chaffer, make grimaces, or do some other thing against the known laws of school." He described this kind of situation as "a practical lesson in artiface and strategem, set by the teacher; and the consequence is, that to entrap on the one side and elude on the

other soon becomes a matter of rivalry and competition" between the teacher and his pupils.[1]

A basic problem, declared Mann (1965:67), was the long periods of time which passed while students waited for the teacher to hear their lessons:

> . . . To command a child whose mind is furnished with no occupation to sit for a long time silent in regard to speech, and dead in regard to motion, when every limb and organ aches for activity; to set a child down in the midst of others, whose very presence acts upon his social nature as irresistibly as gravitation acts upon his body, and then to prohibit all recognition of or communication with his fellows,--is subjecting him to a temptation to disobedience, which it is alike physically and morally impossible he should wholly resist. . . .

Under such conditions, then, the establishment of "graded" schools was viewed as extremely beneficial. The strong male teacher ordinarily employed for the schools could now be replaced in most of the "grades" by the weaker, better educated, and much cheaper female (Mann, 1965:107-08). With more teachers in a school, graded classes could be organized and the pupils taught as a class unit, thereby increasing the amount of instruction which each student received, and hopefully the quality, and greatly reducing the idle time available to students.

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[1]Then, as now, school problems were widely discussed and, as now, criticisms prompted defensive responses from school people. An example is the statement made in 1843 by R. B. Hubbard, Principal of the Worcester, Massachusetts, High School:

"The meed of praise has been very liberally and justly awarded to Washington Irving for his valuable contributions to our scanty stock of polite literature; yet it may well be questioned, whether the injury done to the cause of common education in the character of Ichabod Crane has not more than cancelled the whole debt" (Mann, 1965:19).

Considering the circumstances of the previous situation, the graded schools tended to result in both more and better instruction. Yet, in retrospect, recognizing that it was more than anything else the cheapest solution to a problem caused largely by insufficient funding, and that it probably served more to impede good educational practices during the next century than to enhance them, one must lament the inauguration of the graded school concept in American education and its later fusion with the principles of "scientific management."

Few persons would today call on elementary teachers to "work up the raw material into that finished product for which it is best adapted," as did Bobbitt (1912:260), one of the main forces in curriculum in the early part of the twentieth century. Nor is it likely that many parents would accept the statement by Cubberly (1916:338) regarding the purpose of public education: "Our schools are, in a sense, factories in which the raw materials (children) are to be shaped and fashioned into products to meet the various demands" of society and life. Yet these statements reflect the prevailing views and practices of the late nineteenth and early twentieth century urban industrial society and the prevalent notions about "scientific management," built on the foundation of the graded school structure.

Bobbitt's statement, "work up the raw material . . . ," is followed by the sentence, "Applied to education this means: Educate the individual according to his capabilities." In a research paper on bureaucracy and curriculum theory, Kliebard (1971:80-81) discusses the statement:

> "Educate the individual according to his capabilities" has an innocent and plausible ring; but what this meant in practice was that dubious judgments about the innate capacities of children became the basis for differentiating the curriculum along the lines of probable destination for the child. Dominated by the criterion of social utility, these judgments became self-fulfilling prophecies in the sense that they predetermined which slots in the social order would be filled by which "class of individuals." . . . it was the schools that now were to determine (scientifically, of course) what biographical, psychological, or social factors in human beings fit them to be the hewers of wood and the drawers of water in our society. . . . this conception of the work of the school in relation to the child and his studies became a central element in Bobbitt's influential curriculum research and theory . . . The ramifications . . . are now widely felt.

Vocational programs were considered to be especially appropriate for certain social and economic classes in the society, report Brookover and Nosow (1963:30-31). "In part," writes Krug (1964:228), "this was a twentieth-century extension of Horace Mann's ideal of social uplift through education, calculated to improve the economic conditions of the poor." There was also the feeling that "it was necessary to find some kind of education the masses would appreciate and understand."

Quality control concepts and practices that remain today were also introduced by the disciples of scientific management. Each rail in the railroad industry "must be thirty feet in length, and weigh eighty pounds to the yard," wrote Bobbitt (1913:11, 21-22), for example. "It must be seven and three-eighths inches in height, with a head two and one-sixty-fourth of an inch in thickness and five inches deep, and a base five inches wide." Applying the principle to educational matters, and utilizing the results of various statistical studies, Bobbitt proceeded to this conclusion:

> The third-grade teacher should bring her pupils up to an average of 26 correct [arithmetic] combinations per minute. The fourth-grade teacher has the task, during the year that the same

> pupils are under her care, of increasing their addition speed from an average of 26 combinations per minute to an average of 34 combinations per minute. If she does not bring them up to the standard 34, she has failed to perform her duty in proportion to the deficit; and there is no responsibility upon her for carrying them beyond the standard 34.

One of the major capitulations to bureaucratic efficiency was in the area of cost accounting. Callahan (1962:244) calls the results "tragic:"

> It is possible that if educators had sought "the finest product at the lowest cost" . . . the results would not have been unfortunate. But the record shows that the emphasis was not at all on "producing the finest product" but on the "lowest cost." In all of the efforts which were made to demonstrate efficiency, it was not evidence of the excellence of the "product" which was presented, but data on per-pupil costs.

Whether consciously so or not, writes Lewis (1969:52-53), this system of education, the graded system--graded children, graded texts, graded teachers, graded tests, graded norms, etc.--tends to operate on the basis of certain asumptions about children and learning:

1. It assumes that all children of the same age are alike and, consequently, should be able to master a certain amount of material within a certain specified time.

2. It assumes that each child who enters the public schools has been socialized in the white, middle-class tradition.

3. It assumes that children who do not achieve within its rigidly prescribed limitations are incapable of achieving.

4. It assumes that children who demonstrate an ability to successfully cope with its limitations, and seek to acquire more knowledge than the grade prescribes, are over-achievers and must be stifled.

5. It assumes that all children will benefit from a system of "rewards and punishment" evidenced by an abstract "grade" of "A" for implied perfection which, of course, is never present in any student who is in the process of learning; or the equally abstract "F" grade which implies that a student is a total failure and must repeat everything in the course.

6. It assumes that in the learning process repetition is as

important as arousal of interest and curiosity.

7. It assumes that although it is obviously not effectively educating a portion of its students, the failure is to be attributed to some innate flaw in the students and no radical change need be made in its processes.

Certainly part of the appeal to the practitioner of the graded system (and therefore part of the professional reluctance to change it) lies in its relative ease of administration and teaching, according to Faber and Shearron (1970:59):

1. It offers a way of categorizing children into instructional groups at the beginning of the school year and leaving them until the end without interuption.

2. It simplifies record keeping and scheduling.

3. A classroom can be supplied with materials and media that can remain there indefinitely with periodic supplements.

4. The task of the teacher is sppcifically defined in terms of content to be covered and goals to be reached.

5. The public is grade-school oriented. It has become a part of the culture in which we live.

6. It does not require as much initiative, planning, and time on the part of administrators and teachers as do alternative patterns.

7. The majority of teacher-training institutions train teachers for the graded school.

Attempts have been made to compensate for the restrictive uniformity of the graded system through mechanisms such as remedial and enrichment classes, tracking, bussing, and compensatory education programs, and through the enactment of policies such as social promotion, rapid advancement, and criteria-less diplomas. But these efforts to relax the rigidity of the schools only served to emphasize the underlying and inherent problems of the graded system without correcting them. In practice, the basic nature and characteristics

of the graded school remain unchanged. The "different" child, whether different intellectually, socially, or culturally, suffered a tremendous disadvantage in the graded school.

The "Traditional" School

Criticism of the schools has increased during the past several decades. "There is an overwhelming amount of evidence concerning the failures of [traditional] programs to achieve the best possible education for all children," write Hillson and Bongo (1971:ix). Moreover, states Anderson (1971:xi), there is increasing "evidence that conventional procedures and arrangements are unsuitable and even dangerous." Toffler (1970:354) declares that "what passes for education today . . . is a hopeless anachronism," and that despite "all the rhetoric about the future, our schools face backward toward a dying system."

Macdonald (1971:235-37) calls the school "a 'double' agent," and says that the schools are "ridden with unspoken assumptions . . . which are in conflict with the rhetoric and idealism of American school values."[2] He asserts that:

> The vast majority of schools, teachers, and other concerned persons do not trust students. The basic assumption of the schools' orientation to students is that students will do the wrong thing (what you do not want them to do) unless you make them do the right thing. . . .
>
> Institutional facilitation of the individual's uniqueness and potential is easily refuted when we examine curricula and teaching practices. . . .

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[2]A tragic example, in print, is presented in Appendix F. The appendix section is comprised of excerpts from the student handbook of a suburban senior high school, from the section titled, "Cafeteria Regulations."

> The interpersonal conditions of living in schools are perhaps the final blow to our ideal of schooling. . . .

"No one who looks at schooling with a critical eye," says Macdonald (1971:236), "would allege that the democratic ideal and individual development are the primary determiners of programs and practices in any but a small minority of cases," and McLuhan (Macdonald, 1971:244) asserts that educators and schools "simply impose upon [students] the patterns that we find convenient to ourselves."

A number of events occurred during the nineteen-fifties and sixties which caused or helped to bring about significant changes in school operations, although actual implementation was often reluctantly accomplished. Court decisions, perhaps more than anything else, were responsible for beginning and accelerating the changes. One of these was the Supreme Court decision in 1954 in Brown vs. Board of Education (347U.S.483) prohibiting de jure segregation. Other court rulings discontinued prayer and Bible-reading in schools. Dress codes were modified, as was the requirement that every student participate in the Pledge of Allegiance. The concept of in loco parentis was weakened. Students were declared to have a constitutional right to freedom of speech, to uncensored student publications, to due process, and the like. More recently, a number of states have granted the full privileges and responsibilities of adulthood to eighteen-year olds.

The impact of the mass communications media was great both in terms of changing patterns of leisure activities and, during the last decade, of giving encouragement and credence to the questioning of

"traditional" norms and values. The solidarity and influence of the family unit was often lessened by the increased mobility, frequency of moving, divorce rates, use of "the pill," and nursing homes for the elderly. Many clergymen were concerned that the churches were less effective in guiding the youth. The decade was characterized by change and uncertainty.

The predominant attitude of many adults was exemplified in the observations of Tevye, the milkman in Fiddler on the Roof: "Because of our traditions we've kept our balance for many, many years. And because of our traditions every one of us knows who he is and what God expects of him." Administrators, teachers, parents, and others often insisted on maintaining the traditional policies and practices but were unable to give satisfactory reasons to the youth. Too often another of Tevye's observations was appropriate: "You may ask, 'How did this tradition get started?' I'll tell you--I don't know."

Two phenomena became evident: dread fear of the unfathomable, often unforecastable, new; and ignorance of the whys of the past, but comfort and security in its ways. The school, as a major social institution engaged in transmitting the culture, and as a major force in shaping the future, was situated close to the heart of the conflict.

Concern for Individual Differences

The possibility of contradiction between a school's philosophy and practices was pointed out by the Educational Policies Commission (1952:59) in its dated but still very applicable statement, Education

For ALL American Youth: A Further Look:

> It will avail the student but little to work out an individual plan for education unless he is in a school in which that plan can be carried out. It will profit the counselor and teacher little to define the needs of individual boys and girls unless they are able to provide education to meet those needs.

A concern for providing for individual differences under the graded system can be observed as early as 1860, before the transition to graded schools had been completed. The New Haven, Connecticut, authorities noted in that year's School Report (Faber and Shearron, 1970:35) that their "only objection to the graded system was that the progress required of each class could not exceed the average capacity of the class." (Their concern was for the brighter students, not all students.)

Many attempts have been made in the intervening years to modify and ease the graded system's lack of provision for individual differences. Some educators have labored to eliminate the graded system. One of the early and ill-fated efforts took place in Pueblo, Colorado, during the tenure of Preston Search as Superintendent of Schools (1888-94). Faber and Shearron (1970:37) report:

> . . . Search apparently determined that each child should progress at his own rate . . . Search described the plan as being both graded and ungraded; graded in so far as it applies to its plan of work, but ungraded in its accomodation of the individual. The pupil was placed purely with reference to where he could get the most for himself. The fundamental characteristic of the plan was the conservation of the individual.
>
> . . . he held that the school must fit the child; that it must eliminate uniformity in requirements, passive waiting, dead time, repetition of lessons because of others' faults, premature skipping, half way performance of important exercises, non-promotion, and unjust rivalry. There must be recognition of heredity, environment and conditioning factors. There must also be continuous progress, daily promotion . . .

There were differnet expectations made of each child; grades

were not given. The goal was complete individual progress for each student. Interestingly, the Pueblo Plan was introduced at the secondary level. The literature reveals, however, that Search was fired for his efforts to individualize (Grittner, 1971:50), evidently a prophet before his time.

Charles Eliot (1905:192-93) noted that people were equal before the law but needed schools that would do something constructive about their differences.

The Burk Individual System, named after its prime mover, Frederic L. Burk, was implemented at the elementary school of the San Francisco State (then) Normal School in 1912. Ward, et al. (1925:60), describe the program:

> [Each child] was given a copy of the course of study for each subject on his program of studies. Provision was made for testing and promoting pupils as soon as the work outlined for any grade in any subject was completed. Class recitations were abandoned. No daily assignment was given in any subject. . . .
>
> . . . . . .
>
> The interest and enthusiasm manifested by the pupils working under the system exceeded the expectations of the faculty. Problems of discipline and inertia in regard to progress in school work rapidly disappeared.
>
> The need was soon felt for printed material which would permit a pupil to make progress in his own work with little or no assistance from his teacher. . . . After much experimenting and revision, a series of self-instructive bulletins was published. . . .

The printing and wide distribution of the self-instructive bulletins caused the Burk Individual System to receive nationwide attention, though a California court ruling prohibiting distribution of the materials put an end to the dissemination efforts. Among the districts who adopted the plan (or a modification thereof) were

Redondo Beach, California; Bronxville, New York; Dunkirk, New York; Miami, Florida; Peru, Indiana; and Racine, Wisconsin.

The Winnetka (Illinois) Plan was also a modification of the Burk Individual System. It was initiated when a faculty member at the San Francisco State Normal School under the Burk plan, Carleton Washburne (1925:80-81), became Superintendent of Schools at Winnetka. Under the Winnetka Plan, a child could take as much time as he needed to master a unit of work, but he was expected to master it:

> There are no recitations. Each child prepares a unit of work, checks his results with an answer sheet, and goes on to the next unit. When he has done a small group of units--an amount of work which may have taken him three days or two weeks--he tests himself on this group; if he finds that he has mastered it, that his practice test is 100 percent right, he asks the teacher for a real test. This test the teacher corrects. If it is not 100 percent, the child practices again on the weak points shown by it, then asks for a retest. When he shows the teacher that the group of units (called a "goal" in Winnetka) is mastered, he works on toward the next goal.
>
> The teacher, under this plan, spends her whole time teaching, not listening to recitations. She helps an individual here or a group there; she encourages and supervises. She is about among the children as they work, not at her desk.
>
> No child ever "fails." Nor does one ever "skip a grade." If in June a child has not finished his grade's work, in September he goes on from where he left off. If a child can do more than a grade's work a year, he does so . . .

The program was discontinued when Sidney P. Marland, Jr. succeeded Washburne in the early nineteen-forties.

Another temporarily widespread and influential thrust was the Dalton Plan, introduced at the high school in Dalton, Massachusetts, at about the same time as the Winnetka Plan, circa 1919. Helen Parkhurst (1925:83), who was responsible for its implementation, viewed the plan as a sociological effort which could serve as a natural vehicle for curricular efforts of differing emphases. A major

characteristic of the Dalton Plan was its focus on interaction and the development of interdependent relationships.

Despite these efforts, and due to various contrary influences, such as the court ruling in California prohibiting dissemination of information, the growth of the "scientific management" movement, the reaction against the professionally-distorted and publicly-misunderstood "progressive education" movement, budget costs, and the socio-economic conditions of the time, most schools utilized graded, ability-grouped classes as the means of providing for individual differences. Over the years, however, a number of plans were implemented which evolved to continuous progress education.

1. The Detroit X-Y-Z Plan. The middle 60 percent of children constituted the Y group and the "superior" 20 percent and the "inferior" 20 percent constituted the X and Z groups, respectively. Placements were made as children entered the first grade (Faber and Shearron, 1970:50-51).
2. The Cooperative Plan. Initiated in 1930, the Plan was an early team-teaching plan. Five teachers were assigned to a group of two hundred students, with each teacher responsible for one-fifth of the instructional program (Faber and Shearron, 1970:51-52).
3. The Joplin Plan. An important development in the movement toward nongraded programs, the Joplin (Missouri) Plan placed children from across several grade levels in homogeneous groups for reading instruction. The Plan was implemented in 1952, but interclass groupings were reported as early as 1940 (Faber and Shearron, 1970:53-54).

4. Team teaching. This concept received considerable renewed attention beginning in the early nineteen-fifties, largely because of efforts made by the National Association of Secondary School Principals, the Ford Foundation, and Harvard University, among others. The thrust was gradually weakened, however, by the confusion created by the countless numbers of different teaching situations and practices which were referred to as "team teaching" (Faber and Shearron, 1970:54).
5. Multigrade grouping. Implemented in Torrance, California, in the mid-nineteen-fifties, the plan was designed to encourage individual differences through multigrade, interage groupings (Faber and Shearron, 1970:54).
6. The nongraded alternative school. New and increased interest in Montessori, British Infant, "free," and other nongraded alternative schools became evident throughout the nation during the nineteen-sixties. Often this interest occurred primarily as a reaction against the traditional programs and inflexible operational styles of the public schools. Because most onlookers saw or heard about only the "freedom" and the lack of normative standards of these schools, the public view toward these efforts were generally negative.
7. The nongraded public school. Nongradedness usually occurs in one of three forms (or modifications thereof):
   a. The multiple phase form. Initiated in 1958 in Melbourne, Florida, this form is the one implemented

by most nongraded high schools. It involves usually five "phases" (related to past achievement and levels of difficulty) of offerings in each subject area. The student self-selects a particular "phase" in each of his courses as that matches his needs, interests, and achievement, without reference to grade level (Lewis, 1969:95-102).

b. The individual study unit form. While some confusion is caused by the many descriptive titles used in different situations (e.g., contract, learning activity package, computer instruction unit), the purpose of individual study units is to offer an individualized instructional program to students. The form has been implemented at both the elementary and secondary levels. The Nova school in Fort Lauderdale, Florida, received national recognition for its work with learning activity packages; the Duluth, Minnesota, schools have worked extensively with contracts; and the Hicksville, New York, schools offer computerized instructional units (Lewis, 1969: 86-95).

c. The skill or concept sequence form. Utilizing "levels" to indicate achievement, rather than grade level (a "level" represents a given group of skills to be learned) the student can progress through the levels in each subject area as rapidly as he masters the requisite skills and content. This form was utilized

in the Grand Forks, North Dakota, schools, among others (Lewis, 1969:82-86).

8. The individualized learning style model. Based on the tenet that each student has a unique way of learning, the model allows options in the style of acquiring knowledge. "This model does not assume that all students can learn all things better through self-paced independent study," but provides a variety of instructional styles to match the various learning styles of students (Grittner, 1971: 56-57).

It is evident that the distinctions between some of these programs are not sharp and clear-cut. However, the advocates of continuous progress education believe that it is a more complete description of the intended concept (see pages 2-5).

RESEARCH RELEVANT TO THE STUDY

The notion of continuous progress education suggests many questions for research:

Is individual instruction more or is it less effective than class instruction in teaching school subjects?

Does individual instruction place too heavy a burden on the teacher?

How does individual work in the elementary school affect pupils' efficiency in the high school?

Does individual work increase or decrease socialized and self-expressive activities?

Does individual work decrease retardation?

How does the school individualize the curriculum, utilize textbooks and tests with the individual method, schedule the daily program, determine class size, train teachers for working with individuals, supervise the work of individual children, determine promotion qualifications, and the like?

The questions are not new. Indeed, the above list is taken from the Table of Contents of Part II of the Twenty-Fourth Yearbook of the National Society for the Study of Education (1925). Titled Adapting The Schools To Individual Differences, it is both an exposition of individualized instruction and a (then current) summary of relevant research. The popularity in 1925 of individualized instruction is indicated to some extent by the nearly five hundred books and articles on the subject which are listed in the Yearbook's bibliography. It was therefore particularly disturbing to observe the demise of programs such as the Burk, Dalton, and Winnetka plans.

The question is, of course: why did the concept of individualized instruction fail after having been implemented in hundreds of schools throughout the nation? There apparently was no single reason, but rather a combination of circumstances and influences. First, the social and economic conditions of the time, the "Great Depression" followed by World War II, were not conducive to the further development and wider implementation of more expensive programs. Second, two major groups of educators were extremely critical of the individualized programs: the disciples of "scientific management" were appalled at the inefficiencies, while the program was condemned by the "progressives" for being "just as dehumanizing as traditional instruction in their approach to subject matter"

(Grittner, 1971a:51-52).[3] Nevertheless, and perhaps much as the Phoenix was said to rise out of its ashes, individualized instruction programs have again come to the forefront of educational thought and the public interest. Some observers see little cause for optimism, however.

For one thing, "individualizing instruction" apparently has fallen into some disrepute (as happened earlier with "team teaching, for example) because of general confusion as to the definition and parameters of the generic term. The literature gives much evidence of the hundreds, perhaps thousands, of efforts by school districts across the nation to develop and implement individualized instruction programs. The amount of information available, particularly since the advent of the Educational Resources Information Center (ERIC), is staggering to confront. The myriad of names is almost beyond imagination too: learning packages (LPs), learning activity packages (LAPs), reading instructional packets (RIPs), reading activities packets (RAPs), individually prescribed instruction (IPI), program for learning in accordance with needs (PLAN), personalizing educational prescriptions (PEP), individualized reading approach (IRA), and individual reading personalized (IRP), to mention some of the more well-known designations. In the minds of many, it appears, the generic term has become associated with the worst aspects of specific

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[3]Grittner explains that "progressive" educators viewed individualized instruction programs as being a "factory-like process in which students moved along a 'production line,' checking off certain 'skills' as having been mastered, certain concepts as having been grasped, and certain positive attitudes as having been demonstrated." Moreover, it was felt that in these programs the opportunities were lacking "for building social relationships and _esprit de corps_ . . ."

programs. Unfortunately, the confusion seems to be shared by both laymen and professional educators.

A second problem is that many (some writers say "most") comparative studies have failed to demonstrate that individualized instruction programs actually do result in better learning by students, the excellent rationale for individualized instruction notwithstanding. The problem appears to have three roots:

1. Inadequate financial support for the program. Grittner (1971b:1-2), for example, states that:

> . . . The evidence indicates that it is sheer fantasy to expect an unaided teacher to set up some elaborate kind of individualized program in the regular classroom situation without first making such changes as providing teacher aides, increasing the budget for equipment and materials, and greatly reducing the pupil-teacher ratio. Unless such changes are made, there isn't much honest advice that one can give.
>
> . . . . . .
>
> . . . When do you do it? When do you treat students as unique individuals? Obviously, whenever conditions make it possible . . .

2. The goal of individualized instruction, "better learning," has often not been well enough defined, or well enough enunciated, for everyone concerned to have the same understanding of the goal. This is a critical matter because individualized instruction may be viewed simply as the means to better "traditional" learning, on the one hand, or as the vehicle for a particular philosophy of education, on the other.

3. The instruments utilized to measure "better learning" have often not been adequate or proper. This problem is

probably unavoidable if the definition is lacking (see item 2 above), but the problem may also stem from a lack of understanding of the differences between norm-referenced and criterion-referenced tests. Furthermore, there have been indications of difficulties in locating standardized tests which are compatible with specific curricular programs.

A third major aspect of the problem concerns the capabilities and inclinations of the professional staff, administrative and teaching personnel, with respect to individualized instruction programs (see the previous discussion on page 22). The fear has been expressed that many professional educators are neither professionally trained nor emotionally prepared to be "facilitators of learning:"

1. The need for further training has been recognized in most instances of implementation although the adequacy of the usually locally-developed in-service training programs obviously varies with each program and situation.
2. There are suggestions in the literature that because the teacher, too, is an individual, the teacher will resist an instructional program based on the needs of students rather than upon his own. Grittner (1971b:21-22) speaks with some fervor regarding this matter:

> . . . Has it never occurred to the planner of individualized instruction that the teacher, too, is an individual? In fact, because teachers have lived longer and have had a wider range of experiences, it would seem logical to assume that more--not less--diversity exists between individual teachers than between individual students? What process of logic, then, leads to the conclusion that, while the students need a wide range of options to fit diverse

> personality types, teachers on the other hand can be uniformly placed in some stereotyped role with the blank designation of "learning facilitator?" I reject that concept from the standpoint of the parent, the student, and the teacher. I want my children to be confronted by a variety of unique human types, not by a series of carbon-copy "facilitators" who conform to a single organizational pattern. And, as a student, I want a teacher who is stimulating. I don't see how he can be all those things if he is stuck with a bunch of behavioral objectives and with someone else's pre-planned curriculum for reaching those objectives.

With respect to a proper understanding of individualized instruction programs, Grittner appears to be either a victim of the confusion referred to previously or one of its instigators. His position, a subject-matter specialist in the Wisconsin Department of Public Instruction, and his scholarship, however, do not seem to support the former contention.

3. Teachers may rebel against individualized instruction programs without being opposed philosophically to such programs. The rebellion may be an indirect, but often quite effective, method of reacting to an increased work load caused by implementation of the individualized program; Grittner's previously cited comments (see page 35) regarding the "unaided" teacher states the case well. It is important in this context to note with Sartain (1968a:10) that "school organization plans contribute nothing to individualization; they merely impede or facilitate the efforts of the teacher."

A review of the literature prompts the conclusion that the research studies which have been conducted are not especially helpful

in determining in a scientific manner the "best" method of instruction. Indeed, Reinhold (1974:9) reports that, after much acrimonious debate, "many reading authorities have decided to avoid the big debate over method," and Holloway, Director of the "National Right to Read" campaign, is quoted as declaring that "teachers who have a high level of expectation for the children will succeed, regardless of method."

There appears to be general agreement, however, that the establishment of sequences of instruction and performance criteria are basic to continuous progress education programs. The rationale is given by Cassell (1972:80):

> . . . Only by teaching by objectives can one expect to have an effective educational thrust that will lead to meaningful impact on the learner. Thrust without carefully planned direction or without precise expected student outcomes is chance impact. Only by chance could such an impact be expected to be articulated into any semblance of an integrated educational growth or development pattern.

Basic, too, are the staff capabilities of correct diagnosis and proper prescription. Mursell (1952:6) writes:

> . . . the question of what is a good classroom method is meaningless if it is considered in isolation. The real question is what is likely to happen to human beings under such and such [an instructional style]. What impulses and desires are touched off? What trends of development are helped or hindered? What differences are likely to be produced in the personalities concerned? . . .

Mager (1972:5) also comments regarding this matter:

> Like medication, instruction can be given when none is needed. It is also possible, as in prescribing medication, to instruct when some other remedy would be more to the point. Therefore, it is as appropriate for those who would solve problems of human performance to perform an analysis before selecting a remedy as it is for a physician to make a diagnosis before prescribing a cure.

It was not expected that Kanawha County teachers would become skillful diagnosticians and prescribers simply as a result of involvement in

the continuous progress education program. But those capabilities are probably essential to the long-term success of the program.

A major study, The National Search for Exemplary Reading Programs, was commissioned to determine what constitutes effective teaching of reading. Four factors were tentatively identified as being of importance: quality of instruction, school leadership, in-service teacher training, and parental involvement (Reinhold, 1974:9).

In an earlier review of "The Research Base for Individualizing Reading Instruction," Sartain (1968a:2) stated:

> It comes as no great surprise to those who have observed teaching for a long time that the experimental evidence points to two prime factors in the attainment of excellence in education: (1) an excellent teacher, and (2) a situation that makes highly differentiated, or individualized, instruction possible.
>
> . . . While it is not yet possible to describe the excellent teacher with scientific accuracy, we are learning more about the characteristics that can most often be attributed in various degrees to him or her. Because of research and careful observation we are reasonably sure that the outstanding teacher has a good knowledge of his field of instruction, thinks creatively, structures work in a meaningful manner, inspires and motivates children, expresses a sincere interest in their progress and problems, and communicates effectively with them. He works unstintingly on instructional preparation and teaching, assesses progress, diagnoses difficulties, differentiates instruction, and helps pupils develop increasing independence and self-direction.

At best, then, experimental research, liberally assisted by observation, has been able to identify aspects of the instructional/learning situation which <u>seem</u> to be critical, either by their presence or absence, to successful learning.

The Kanawha County school officials declared the learning packages to be the critical element of the district's continuous progress education program, giving the classroom teacher increased capability to individualize instruction: first, to provide more time

for the purpose of knowing each student better, and then to have available a greater variety of instructional activities and resources as different learning styles and needs were identified. However, specific references in the literature to research on continuous progress education programs which utilized learning packages as planned in the Kanawha County school district were not found. References were found concerning programs which were similar in many respects, but the differences seemed substantial enough that the conclusions were not necessarily applicable to the Kanawha County situation.[4] Furthermore, in most of the instances, as discussed previously, statistical data regarding achievement was generally inconclusive. Questionnaire responses were usually the source of the "conclusive" findings in the studies.

One project (IPI) which had many of the same objectives as the Kanawha County project was implemented in 1964-65 in the Baldwin-Whitehall School District in Pennsylvania in a cooperative effort with the University of Pittsburgh. According to Bolvin (1968), though, teacher aides were utilized to supplement the staff to the extent that 35 percent of the adults in the classrooms were teacher aides; it was also planned to utilize a computer so that teachers would be able to

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[4]Among the ways in which the Kanawha County effort differed from other projects reported in the literature were that the Kanawha County program (a) did not utilize computer-assisted instruction, (b) did not utilize programmed materials, (c) did not utilize teacher aides, (d) did not reduce class size, (e) did not provide special services, other than scoring the original diagnostic placement tests, (f) did not provide teachers with additional planning time, (g) provided the teachers with little special training, and (h) operated in a variety of instructional situations concurrently (graded and nongraded, heterogeneous and homogeneous groupings, team teaching and self-contained classrooms, etc.).

obtain more quickly needed relevant information on individual students. Among the findings, as later reported by DeRenzis (1971):

1. IPI students achieved as well as or better than non-IPI students on standardized (norm-referenced) tests; IPI students achieved higher than non-IPI students on IPI (criterion-referenced) tests; and IPI students were found to have a more positive attitude toward school and learning than non-IPI students.
2. Teachers were found to have a more positive attitude toward teaching under IPI; IPI teachers were found to make more use of available data when making decisions about students than did non-IPI teachers; and IPI teachers were found to have made favorable changes in their behavior when working with students.

In a Provo, Utah, project which emphasized individualization through the use of programmed materials, but which was also similar to the Kanawha County effort in many respects, the control groups did better than the experimental in two of the four fourth-grade science areas (topics), and there were no significant differences in the other two areas (Brimley, 1968). Nevertheless, data gathered in a teacher survey indicated that the discipline, climate, and tone in the classroom improved considerably, due in part, according to the report, to an improved student-teacher ratio and the fact that children with special problems were removed from the classroom. Students were also reported to have demonstrated more enthusiasm in class, to have a greater feeling of achievement, and to exhibit an overall better attitude. Teachers were reported to have felt a greater sense of

accomplishment because they were able to spend more time in individual instruction with each child and because problem children in their classrooms were helped by specialists. "The enthusiasm of the teachers working in the project is undoubtably the most noticeable area where results have exceeded expectations," reported Brimley. "This has been demonstrated by the comments from teachers such as 'I'm seeing my children and learning about them like I've never been able to before.'"

SUMMARY

In Chapter 2 the literature and relevant research was reviewed. Special attention was given to the historical-philosophical background of individualized instruction because such was deemed crucial to understanding the goals of the Kanawha County Schools Board of Education, as expressed in its policy statement on continuous progress education.

Note was made of various influences affecting the somewhat cyclic evolution of American education toward individualized instruction programs designed to meet the educational needs of individual students.

Note was made also that individualized instruction programs have again come to the forefront of educational though, although some observers are less than optimistic concerning the future of such programs.

Finally, it was concluded that statistical data regarding the relative achievement of students in individualized instruction programs versus more traditional programs has generally been inconclusive.

Chapter 3

DESIGN OF THE STUDY

The Kanawha County school district adopted the concept of continuous progress edu-ation both as a tool for an accountability system and for the purpose of increasing student achievement. The purpose of the study was to test the assumption of the school district that teacher utilization of the continuous progress education materials and resources which had been developed, namely, the learning packages, would increase student achievement and to make any appropriate recommendations concerning the further development and implementation of continuous progress education programs in the district.

QUESTIONS TO BE ANSWERED

To provide evidence related to the major purpose, several questions were formulated. These questions were designed to permit a comparison of student achievement under the two treatments, both continuous progress education reading programs: one, the pilot group, utilizing locally-developed learning packages and the other, the non-pilot group, not utilizing the learning packages. Specifically, the questions were:

1. Was the achievement in phonology,[1] as measured by a

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[1]Phonology is the science of the sound structure of language.

locally-developed criterion-referenced-type test, of fourth-grade students in the pilot schools greater than that of fourth-grade students in the non-pilot schools?

2. Was the achievement in morphology,[2] as measured by a locally-developed criterion-referenced-type test, of fourth-grade students in the pilot schools greater than that of fourth-grade students in the non-pilot schools?
3. Was the achievement in reading comprehension, as measured by a locally-developed criterion-referenced-type test, of fourth-grade students in the pilot schools greater than that of fourth-grade students in the non-pilot schools?
4. Was the overall achievement in reading skills,[3] as measured by a locally-developed criterion-referenced-type test, of fourth-grade students in the pilot schools greater than that of fourth-grade students in the non-pilot schools?
5. Was the achievement in reading comprehension, as measured by a standardized norm-referenced-type test, of fourth-grade students in the pilot schools greater than that of fourth-grade students in the non-pilot schools?

Several questions were also formulated which were designed to permit an assessment of other characteristics of the instructional situation which might have an impact on the success of the program and

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[2]Morphology is the science of word structure and word formation.

[3]Based on the curriculum of the Kanawha County reading program, the skills include phonology, morphology, reading comprehension, syntax (the science of grammatical structure), semantics, rhetoric, and study skills.

on student learning. Specifically, the questions were:

1. Was there evidence that socio-economic status affected the relative achievement in reading skills of students in the pilot and non-pilot schools?
2. Was there evidence that school practices and teacher attitudes and practices were related to the achievement in reading skills of students in the pilot and non-pilot schools?
3. Was there evidence of school practices and teacher attitudes and practices supportive of the continuous progress concept and program?

DESCRIPTION OF THE RESEARCH MODEL AND SAMPLE

Knowledge of the prior decisions and actions of the school district (see pages 5-10) and an understanding of the research relevant to the study (see Chapter 2) permitted decisions to be made regarding the procedures utilized in the study.

An Evaluation Design

The situation provided a number of indications that an evaluation design would be most appropriate for the study. Because of the procedures by which the schools, and thereby the students and teachers, were designated as pilot, non-pilot, or undesignated, it was not possible to obtain random samples of the total school, student, or teacher populations for the purpose of establishing the experimental and control groups essential to an experimental design.

The ansence of the option to randomize the total population

was not considered to be a negative factor, however, because, as pointed out by Stufflebeam, et al. (1971:22-26, 40-44):

> Evaluations are designed not to establish universal laws but to make possible judgments about some phenomenon. . . . the problem is not to establish highly controlled conditions in which possible sources of confounding are filtered out, but to set up conditions of invited interference from all factors that might ever influence a learning transaction. . . .

Whereas experimental designs are primarily of the "go-no go" type (e.g., the null hypothesis can be rejected or not rejected), "educational evaluation is the process of delineating, obtaining, and providing useful information for judging decision alternatives."[4] The latter process of inquiry was determined to be more appropriate to the needs of this situation. Moreover, an evaluation design was deemed the most appropriate also because it was intended that the study should facilitate the continuous improvement of the program. "Experimental designs prevent rather than promote changes in the treatments," write Stufflebeam, et al., an unrealistic restriction upon most school instructional programs and efforts, and perhaps even unethical or immoral in some instances.

Whether or not an experimental design was possible, it was judged not to be the preferred type of design in this instance. The motivation for developing and implementing the program of continuous progress education was not simply intellectual curiosity but the professionally considered opinion of school officials (and the policy of the school board) that the new program was superior to the old. This study then could not be viewed as an experiment, but rather an

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[4]In the original, the entire quotation is italicized and all key words are enclosed in parentheses.

effort to determine whether the new program operated as had been predicted and desired (Wick and Beggs, 1971:28-30). As Stufflebeam, et al. (1971:3-4), wrote, "When a choice has been made, how can one know whether the selected response mode works? And . . . how can one make the selected response work even better? . . . Through evaluation."

The major distinction between an evaluation design and an experimental design, then, appears to lie in the relative need of each for external validity:

> External validity is certainly a less important criterion in evaluation inquiry than in [experimental] research inquiry, for in many cases the question to be answered by the evaluation is germane only for the particular group(s) or issues being studied. . . . there is usually no concern with generalizing these findings, only in determining what they are. . . .
>
> . . . The idea of invited interference is very powerful--evaluation takes place in the real world and not a laboratory. Hence the outcomes of evaluation are more likely to have wide applicability. . . . (Stufflebeam, et al., 1971:317-18)

There is no distinction between the two designs in the need of each for internal validity, reliability, and objectivity. However, evaluation may permit greater latitude in the utilization of information collection devices and techniques:

> . . . When existing techniques do not encompass the information needs, it is time to revise or extend the techniques rather than to dismiss the information as unimportant. If that requirement also means admitting somewhat less reliable data sources, so be it. (Stufflebeam, et al., 1971:318-19)

Fourth Grade Selected

The study was limited to fourth-grade students, and their teachers, in the Kanawha County Schools. Fourth-grade students were determined to be the best subjects for the study for several reasons:

1. These students had had several years' exposure to school

instruction and yet were not too near the end of the (traditionally K-6) instructional sequence in reading.

2. Differences in achievement because of sex are generally considered to be at a minimum during this age/grade level.
3. Standardized norm-referenced test scores were available for most students from a state-wide administration of the Educational Development Series, described later in this chapter, in March of the third grade.

Identification of Teachers

The study sought to determine relationships between student achievement and teacher attitudes and practices. In order that the teachers in the pilot and non-pilot schools selected for the study sample would be comparable to each other, a survey was made of the elementary school principals to provide an initial indication of (1) the attitudes of the fourth-grade reading teachers toward the continuous progress education program and (2) the extent to which the teachers were individualizing instruction (see Appendix G for a copy of the survey form).

The results of the survey are provided in Table 1. The data indicated that fourth-grade teachers were generally viewed by their principals to be in agreement with the staff majorities as to whether or not to request the "pilot school" designation. Excluding the teachers who had not indicated a preference, over 90 percent of the pilot sch-ols' teachers had wanted to request that designation and nearly 80 percent of the non-pilot schools' teachers had not wanted to make the request.

The data did not indicate massive turn-over of teachers in the non-pilot schools. It is not known whether the expected turn-over of teachers occurred in the other grades or whether the initial expressions of interest in becoming a pilot school had just not been representative of the views of the school's staff.

It was observed that more than three-fourths of all the teachers in the survey group were judged by their principal to individualize instruction "most of the time" and only 3 percent to "almost never" individualize. Fully 89 percent of both the pilot and non-pilot schools' teachers were judged to individualize instruction "most of the time" in reading and 78 percent of both groups to individualize mathematics instruction; no one in these two groups were judged to "almost never" individualize instruction. Three-fourths of the teachers in the undesignated schools were considered to individualize instruction "most of the time" in reading (68 percent in mathematics) and 5 percent to "almost never" individualize their instruction (7 percent in mathematics).

Establishing the Crossbreak Model

The major purpose of this study was to evaluate the relative effectiveness of the two treatments. Both treatments (T_1 in the non-pilot schools and T_2 in the pilot schools) involved utilization of the continuous progress education program in reading and both utilized the diagnostic placement tests (criterion-referenced-type tests) at the beginning of the program in September, 1973. Neither continuous progress education program was standard in its presentation to students; however, it was not intended that the programs be

Table 1

Fourth-Grade Reading Teachers' Desire to be in a Pilot School
And Extent of Their Individualization,
as Judged by their Principals

Category	Type of school			
	Pilot	Non-pilot	Undesignated	Total
(1) Number of schools reporting	27	11	43	81
(2) Number of new fourth-grade teachers	5	4	9	18
(3) Number of other fourth-grade reading teachers	52	18	75	145
Percentage of (3) wanting to be in a pilot school	79 %	17 %	15 %	38 %
Percentage of (3) not wanting to be in a pilot school	8 %	56 %	53 %	37 %
Percentage of (3) not indicating preference	13 %	28 %	32 %	25 %
Percentage of (3) who individualize reading most of the time	88 %	89 %	71 %	79 %
sometimes	12 %	11 %	20 %	16 %
almost never	0 %	0 %	5 %	3 %
Percentage of (3) who individualize math (if applicable) most of the time	79 %	78 %	65 %	72 %
sometimes	21 %	22 %	24 %	23 %
almost never	0 %	0 %	7 %	3 %

standardized. Teachers were expected to differentiate instruction in terms of individual student needs. The major intended difference between the two treatments was the provision of learning packages for the teachers in the pilot schools (T_2).

It was possible to provide a reasonable basis for comparison of the two treatments by selecting for the study only those fourth-grade teachers in the pilot and non-pilot schools who had individualized reading instruction "most of the time."[5]

Two other factors were considered to be important variables for the purposes of a comparative study: (1) norm-referenced test scores on a standardized reading test and (2) socio-economic status.

Stanine groupings. In the first instance, students were categorized into one of three groups, high, middle, or low, based on the local stanines for the scores on the Educational Development Series (EDS) Reading Test taken by the students in the third grade, in March, 1973. Stanines 1-4 were categorized "low," stanines 5-6 were categorized "middle," and stanines 7-9 were labelled "high."[6]

All students in the school district are tested in March of

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[5]The in-service education course in the foundations of continuous progress education had been required of all teachers in 1972-73, so that there was no difference between the groups in that respect. The special in-service program in August , 1973, was mainly an effort to familiarize the pilot school teachers with the new materials in advance of the opening of school. Finally, all of the teachers involved, by virtue of their reemployment, had been judged to be competent by the school officials.

Teachers in the undesignated schools were not selected because of the lack of data available. Few records were kept in those scattered instances in which these schools administered diagnostic placement tests (criterion-referenced-type, locally developed).

[6]The "low" group included stanine 4 to provide sample size.

the third, sixth, and ninth grades. The testing program, the Scholastic Testing Service's Educational Development Series (EDS), is mandated by the state education department. North (1972:42-43) declares that "the broad coverage of this relatively new series is unique." Available for primary (grades 2-3), elementary (grades 4-6), advanced (grades 6-9), and senior (grades 9-12) levels, "the reading . . . achievement parts of all four levels . . . provide a broad coverage of the typical, general curriculum in grades 2-12." In his review, North states that the tests have "a relatively high ceiling of difficulty . . . [and that] In the main, the quality of the item writing is good." The reviewer notes that "the within-grade K-R 20 reliabilities fall between .79 and .94 for the ability, achievement, and Everyday Problems parts, and .97 to .98 for the composite score." North adds that "these coefficients compare favorably with those of well-established tests of similar types and lengths."

Socio-economic status. In the second case, a determination was made of the school socio-economic status (SES) for the schools in the study. The very small (enrollments ranging from 146 to 467 for grades 1-6) neighborhood schools of Kanawha County were deemed to be especially appropriate for making such generalizations. Utilizing the guidelines established by Goolsby and Frary (1971:20-21, 79-80; see Appendix H for a copy of Goolsby and Frary's form) for SES based on parent occupation, the researcher requested a jury, composed of the Assistant Superintendent of Schools for Curriculum and Instruction and the Director of Testing and Guidance Services, to rank the pilot and non-pilot schools, separately, from highest school SES to lowest school SES.

These rankings, presented in Table 2, were compared with the SES group into which each school was placed and were further validated by reviewing information regarding percentage of economically disadvantaged children in each school.

As utilized, school SES was a sub-treatment. As a less sensitive measure, it was determined to create only two categories for purposes of the crossbreak and analysis: higher school SES and lower school SES. The literature supports the utilization of school SES in this manner. Herriott and St. John (1966:204), for example, state that "achievement in reading dramatically differentiates pupils in schools of different SES levels."

The crossbreak model is presented graphically in Figure 1.

Selection of the Sample

The student sample was selected from a list of all the fourth-grade students in the Kanawha County Schools who:

1. were in the reading classes of the teachers in the pilot and non-pilot schools who had been judged to individualize reading "most of the time" and who were not beginning teacherw and
2. for whom there were records of the reading scores achieved on the March, 1973, administration of the EDS test.

It was determined that twenty students woul- constitute a satisfactory sample size for each cell and that, because of the computer programs available, the cells could be of uneven size if necessary. The specific students included in the sample were then selected using a table of random numbers (Runyon and Haber, 1971:318-21). Several

Table 2

Ranking of the Pilot and Non-Pilot Elementary Schools with respect to School Socio-Economic Status

Pilot Schools	Rank	SES Group	Percentage of Disadvantaged Students	Ranking Based on the Percentage Disadvantaged
P-1 *	1	1	4.15 %	9
P-2 *	2	1	1.44	4
P-3 *	3	1	0.00	1
P-4 *	4	1	2.76	6
P-5 *	5	2	0.70	2
P-6	6	2	6.44	11
P-7	7	2	n/a	7
P-8	8	2	5.69	10
P-9	9	2	2.32	5
P-10	10	2	7.70	12
P-11	11	2	8.93	13
P-12	12	2	1.20	3
P-13	13	2	18.59	19
P-14 **	14	2	10.53	14
P-15 **	15	3	15.09	18
P-16	16	2	4.10	8
P-17 **	17	3	13.38	17
P-18 **	18	2	12.26	16
P-19 **	19	3	10.83	15
P-20 ***	20	3	43.14	20
P-21 **	21	3	69.03	21
Non-Pilot Schools				
NP-1 *	1	1	0.00 %	1
NP-2 ***	2	1	1.32	3
NP-3 *	3	1	0.00	1
NP-4 *	4	2	5.60	6
NP-5	5	2	5.52	5
NP-6 **	6	2	2.59	4
NP-7 **	7	2	10.14	8
NP-8 **	8	3	10.86	9
NP-9 **	9	2	8.67	7

* Schools selected as "higher school SES" schools
** Schools selected as "lower school SES" schools
*** Schools selected for the sample, but the teachers selected did not complete the questionnaire; therefore student substitutions were made as had been provided for

	T_1		T_2	
	S_1	S_2	S_1	S_2
R_1				
R_2				
R_3				

Figure 1

Crossbreak Model

T_1 = continuous progress education program without learning packages (non-pilot schools)

T_2 = continuous progress education program with learning packages (pilot schools)

S_1 = higher school SES schools

S_2 = lower school SES schools

R_1 = high stanine group (stanines 7-9 on EDS reading test)

R_2 = middle stanine group (stanines 5-6 on EDS reading test)

R_3 = low stanine group (stanines 1-4 on EDS reading test)

additional students beyond the first twenty were selected whenever possible for purposes of substitution, should such be necessary.

DATA GATHERING PROCEDURES

The data gathering procedures were divided into two parts, student achievement and characteristics of the instructional situation.

Student Achievement

The data concerning student achievement obtained for each student in the sample were: a pre-test score, a post-test score, and the difference in scores for five measurements:

1. The raw scores representing achievement in phonology as measured by the diagnostic placement tests (criterion-referenced-type tests). The pre-test was administered in September, 1973, and the post-test was administered in May, 1974.
2. The raw scores representing achievement in morphology as measured by the diagnostic placement tests on a similar timetable.
3. The raw scores representing achievement in comprehension as measured by the diagnostic placement tests on a similar timetable.
4. The raw scores representing overall achievement on the entire scope of the diagnostic placement tests (all items included) on a similar timetable.
5. The Scholastic Testing Service (STS) Grade Scores for the

EDS reading test. The pre-test was administered in March, 1973, and the post-test was administered in May, 1974. Five versions of the crossbreak model were constructed, then, each based on one of the above groups.

Characteristics of the Instructional Situation

The review of the literature suggested that an attempt be made to gain some insight into school practices and teacher attitudes and practices relevant to the implementation of the continuous progress education concept, in order to be able to offer recommendations for the further development of such programs and related operations. Hillson and Bongo (1971:342), for example, cite ten benefits which are attributable to the implementation of continuous progress education programs:

1. Contributes to teacher enthusiasm
2. Creates greater faculty-administration cooperation
3. Reduces pressure on teachers in regard to end-of-term goals
4. Evidences more teamwork on the part of faculty members
5. Decreases teacher tension
6. Allows fairer sharing of pupil load and better deployment
7. Reduces discipline problems
8. Diminishes boredom among students
9. Allows for better adaptation to individual differences because of administrative framework for adjustment of curriculum and general overall flexibility
10. Lessens friction between teachers caused by encroachments on material reserved for the next grade

A questionnaire was prepared which was designed to assess, through the use of structured and unstructured items, the extent to

which these benefits occurred in the schools utilizing the continuous progress education concept and to obtain other, hopefully relevant, information regarding the training and experience of the teacher (see Appendix I for a copy of the questionnaire and accompanying letters).

A second purpose was to determine the presence of substantial relationships, if any, between school practices and teacher attitudes and practices, on the one hand, and student achievement, on the other. In order to make a comparison of the teacher responses with the achievement of the students in that teacher's class, it was necessary to know the identity of the teacher completing the quqstionnaire; anonymity was not possible. To provide more assurance of strict confidentiality, the return envelopes were addressed to the researcher's Blacksburg, Virginia, address rather than to an office in the school system.

The questionnaire items were designed to make possible both a comparison between pilot and non-pilot schools' teachers and a comparison between the 1972-73 school year, when there was no con tinuous progress education program in reading, and the 1973-74 school year, when the program was implemented on a pilot basis.

An attempt was made to prepare a questionnaire which had a high degree of content validity by insuring that all characteristics of continuous progress education identified in the literature which were relevant to the study were included. As an additional measure, independent evaluations were received from Kanawha County school officials and faculty members in the College of Education, Virginia Polytechnic Institute and State University. These evaluations were assessed and appropriate recommendations were incorporated into the

final draft of the questionnaire.

SUMMARY

In Chapter 3 the specific questions to be answered were formulated. The questions were listed in two categories:

1. questions designed to permit a comparison of the two treatments with respect to student achievement and
2. questions designed to permit an assessment of other characteristics of the instructional situation which might have an impact on the success of the program and on student learning.

An evaluation design was determined to be most appropriate to the purposes of the study and a crossbreak model was established utilizing twelve cells.

The criteria were established for the study sample and the method of selection determined.

Data gathering procedures were described in Chapter 3, including the preparation of the teacher questionnaire.

Chapter 4

DATA COLLECTION AND SUMMARY

Following the determination of the design of the study and the specifics of the data gathering procedures, as described in Chapter 3, the collection of data was begun.

COLLECTION PROCEDURES

The staff of the Kanawha County school district's central office was most helpful during the entire process of obtaining the data needed in the study. The student rosters from which the sample was selected, the EDS reading and the diagnostic placement pre-test scores, enrollments, attendance, and similar information were obtained at the central office with the help and under the supervision of school district officials.

The staff was equally helpful during the second phase of the study, in which the post-test data were obtained in the schools during the third week in May, 1974.

In the third phase of the study, in which the teacher questionnaires were distributed and returned, the school district assisted in the initial distribution of the questionnaire and the letter of introduction and explanation. This took place during the fourth week in May, 1974, and the teachers were requested to complete and return the questionnaires no later than June 7, 1974. A stamped, addressed envelope was provided for this purpose. Two follow-ups

were made, as necessary, the first one in writing and the second by a personal telephone call. Only one of the teachers in the sample failed to return the questionnaire. (Two other teachers to whom questionnaires were sent did not return them either, but their students were not included in the sample.)

As indicated in Table 3, the sample consisted of a total of 221 students, with the sizes of the twelve cells varying from 16 to 20 students. The cells representing pilot schools contained 115 students and the cells representing the non-pilot schools contained 106 students. Higher school SES cells contained 111 students and lower school SES cells contained 110 students. For the stanine groups, 73 students were in the high stanine group cells, 77 students were in the middle stanine group cells, and 71 were in the low stanine group cells.

The data consisted of thirty-nine variables, as listed in Figure 2. Sixteen of the variables (numbers 1-13 and 37-39) were measures of achievement in reading, including stanine group, pre-test, post-test, and difference scores. Variables 2-13 concerned the results of the diagnostic placement test (criterion-referenced-type) and were stated as raw scores. Variables 37-39 concerned the results of the EDS reading test and were stated as STS Grade Scores.[1] Variable 15 was "treatment" and variable 16 was the sub-treatment, school SES. Variable 14 indicated the student's sex. The remaining twenty variables (numbers 17-36) represented various school and

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[1]A detailed explanation of STS Grade Scores is given in Appendix J. STS Grade Scores are different than grade-equivalent scores.

Table 3

NUMBER OF STUDENTS IN EACH CELL OF THE CROSSBREAK

	Non-pilot		Pilot		Totals
	Higher school SES	Lower school SES	Higher school SES	Lower school SES	
High stanine group	18	17	20	18	73
Middle stanine group	18	20	19	20	77
Low stanine group	17	16	19	19	71
Totals	53	53	58	57	221

No. 1: Stanine group (1=high, 3=low)
No. 2: Phonology; raw score on pre-test
No. 3: Phonology; raw score on post-test
No. 4: Phonology; difference in raw scores (gain)
No. 5: Morphology; raw score on pre-test
No. 6: Morphology; raw score on post-test
No. 7: Morphology; difference in raw scores (gain)
No. 8: Comprehension; raw score on pre-test
No. 9: Comprehension; raw score on post-test
No. 10: Comprehension; difference in raw scores (gain)
No. 11: Entire diagnostic placement test; raw score on pre-test
No. 12: Entire diagnostic placement test; raw score on post-test
No. 13: Entire diagnostic placement test; difference in raw scores
No. 14: Sex (1=male, 2=female)
No. 15: Treatment (1=non-pilot, 2=pilot)
No. 16: School SES (1=high, 2=low)
No. 17: Experience of teacher (1=10+ years, 3=1-3 years)
No. 18: Teacher training (1=M.S. + 30, 3=B.S.)
No. 19: Teacher background in reading (1=above average, 3=below)
No. 20: Teacher advocacy of continuous progress education (1=very pro, 4=con)
No. 21: Parental understanding of continuous progress education (1=very good, 4=very poor)
No. 22: Student interest (1=more than last year, 3=less than last)
No. 23: Student achievement (1=better than expected, 3=not as well)
No. 24: Teacher changes in sequence (1=few, 3=many)
No. 25: Teacher awareness of student differences (1=more, 4=less)
No. 26: Possibilities for individualization (1=much more, 4=less)
No. 27: Extent of actual individualization (1=most of time, 3=never)
No. 28: Extent of discipline problems in class (1=few, 3=many)
No. 29: Teacher tension (1=very little, 3=considerable)
No. 30: Utilization of behavioral objectives (1=very much, 3=seldom)
No. 31: Hours of preparation for class
No. 32: Grading arrangement (1=ungraded, 2=graded)
No. 33: Teaching arrangement (=team teaching, 2=self-contained)
No. 34: Grouping arrangement (1=heterogeneous, 2=homogeneous)
No. 35: Teacher enthusiasm (1=very much, 3=not too)
No. 36: Pressure on teacher (1=very little, 3=considerable)
No. 37: EDS reading test; STS Grade Score on pre-test
No. 38: EDS reading test; STS Grade Score on post-test
No. 39: EDS reading test; difference in STS Grade Scores (gain)

Figure 2

Key to Variables Utilized in the Study

teacher characteristics, attitudes, and operational practices, as expressed by the teachers on the questionnaires, and which the literature had indicated were relevant to the implementation of a continuous progress education program.

PRESENTATION OF THE DATA

The data collected in the study was sorted into five categories for ease in understanding and analysis:

1. Achievement measures: criterion-referenced-type
2. Achievement measures: norm-referenced-type
3. Teacher questionnaire responses: structured items
4. Teacher questionnaire responses: unstructured items
5. Class size

Achievement Measures: Criterion-Referenced-Type

Achievement score means, as measured on the three major parts and on the entire diagnostic placement test, have been presented in Tables 4-7. Each table used the crossbreak model to provide the pre-test and post-test raw score means and the difference between the two means (the gain) for each cell. A graphic presentation of these data has been made in Figure 3. (A visual inspection of the data presented in Tables 4-7 will confirm the great similarities in the relative results shown in the four tables. For this reason, Figure 3, based on the data for the entire diagnostic placement test provided in Table 7, was considered to be representative of all the criterion-referenced-type measures.)

Table 4

Pre-Test and Post-Test Raw Score Means and Their Differences for the Phonology Section of the Diagnostic Placement Test

		Non-pilot		Pilot	
		Higher school SES	Lower school SES	Higher school SES	Lower school SES
High stanine group	Pre-test	144.2	143.8	145.1	145.3
	Post-test	165.1	163.0	166.6	170.2
	Gain	20.9	19.2	21.5	24.9
Middle stanine group	Pre-test	142.5	140.3	140.3	140.2
	Post-test	161.7	161.5	159.4	161.3
	Gain	19.2	21.2	19.1	21.1
Low stanine group	Pre-test	136.2	135.5	136.4	133.2
	Post-test	148.6	139.6	147.2	155.1
	Gain	12.4	4.1	10.8	21.9

Table 5

Pre-Test and Post-Test Raw Score Means and Their Differences for the Morphology Section of the Diagnostic Placement Test

		Non-pilot		Pilot	
		Higher school SES	Lower school SES	Higher school SES	Lower school SES
High stanine group	Pre-test	35.1	35.2	35.1	34.3
	Post-test	45.4	44.2	45.1	45.4
	Gain	10.3	9.0	10.0	11.1
Middle stanine group	Pre-test	33.2	32.5	33.2	33.6
	Post-test	43.3	42.8	42.5	43.1
	Gain	10.1	10.3	9.3	9.5
Low stanine group	Pre-test	30.9	30.5	30.5	28.4
	Post-test	36.5	33.3	36.7	40.2
	Gain	5.6	2.8	6.2	11.8

Table 6

Pre-Test and Post-Test Raw Score Means and Their Differences for the Reading Comprehension Section of the Diagnostic Placement Test

		Non-pilot		Pilot	
		Higher school SES	Lower school SES	Higher school SES	Lower school SES
High stanine group	Pre-test	16.3	16.1	16.4	15.4
	Post-test	27.8	26.8	27.7	28.4
	Gain	11.5	10.7	11.3	13.0
Middle stanine group	Pre-test	15.8	16.0	15.5	15.4
	Post-test	24.6	24.7	23.7	24.1
	Gain	8.8	8.7	8.2	8.7
Low stanine group	Pre-test	15.1	15.2	14.8	14.5
	Post-test	19.1	16.9	19.2	21.9
	Gain	4.0	1.7	4.4	7.4

Table 7

Pre-Test and Post-Test Raw Score Means and Their Differences for the Diagnostic Placement Test (All Sections Included)

		Non-pilot		Pilot	
		Higher school SES	Lower school SES	Higher school SES	Lower school SES
High stanine group	Pre-test	221.3	219.9	221.6	220.2
	Post-test	277.9	271.1	278.4	279.3
	Gain	56.6	51.2	56.8	59.1
Middle stanine group	Pre-test	214.1	212.8	213.2	213.5
	Post-test	264.3	262.7	259.2	263.5
	Gain	50.2	49.9	46.0	50.0
Low stanine group	Pre-test	205.4	204.7	204.9	208.9
	Post-test	232.6	215.5	231.3	249.0
	Gain	27.2	10.8	26.4	40.1

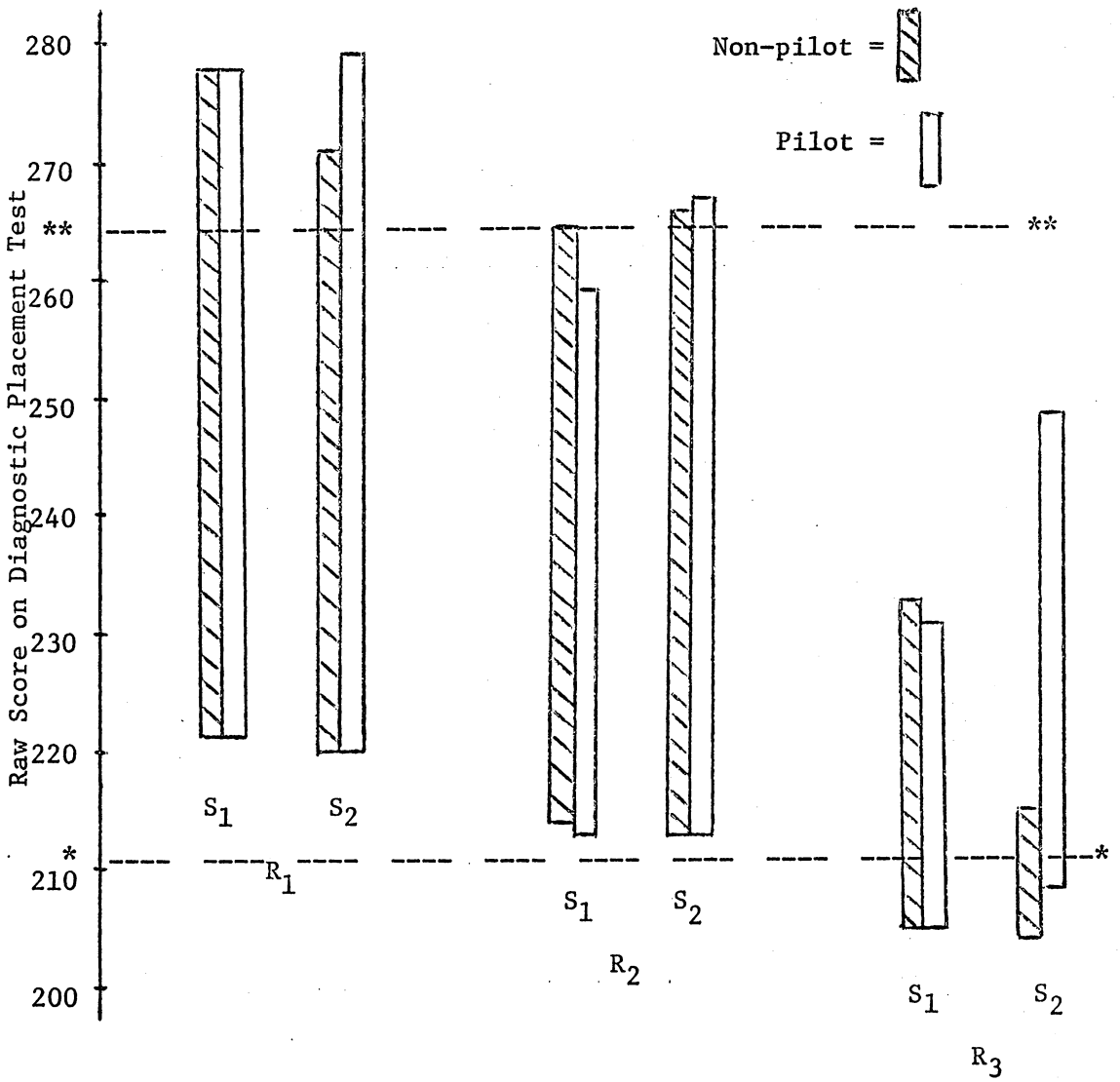

Figure 3

Pre-Test and Post-Test Raw Score Means for the Diagnostic Placement Test (All Sections Included), Comparing Treatments

S_1 = higher school SES

S_2 = lower school SES

R_1 = high stanine group

R_2 = middle stanine group

R_3 = low stanine group

* line represents expected 4.0 grade level in reading

** line represents expected 5.0 grade level in reading

Achievement Measures: Norm-Referenced-Type

The pre-test and post-test Grade Score means and their differences (gains) were obtained from administrations of the Scholastic Testing Service's Educational Development Series reading tests. The data for each cell of the crossbreak has been presented in Table 8 and more graphically displayed in Figure 4.

These are Grade Score, not raw score, means and gains. Note should also be taken of the differences between STS Grade Scores and grade-equivalent scores. (See Appendix J for an explanation of the STS Grade Scores.)

Teacher Questionnaire Responses: Structured Items

The teacher responses to the structured, or forced-choice, items on the questionnaire have been presented in Table 9. To facilitate visual comparisons of the data for each item and category of response, the data have been displayed in percentages.

Eighteen pilot school teachers and ten non-pilot school teachers constituted the sample. The number of teachers in each group occurred in about the same proportion as the number of pilot and non-pilot schools and as their respective fourth-grade enrollments. One teacher, in the non-pilot, higher school SES category, did not return the questionnaire.

Among the observations made regarding the teacher responses were (1) that 88 percent of the teachers were advocates, to some extent, of continuous progress education, with 7 percent "still trying to decide" and one teacher not responding, but none stating that they preferred another concept; (2) that 81 percent of the teachers who

Table 8

Pre-Test and Post-Test STS Grade Score Means and Their Differences for the EDS Reading Test

		Non-pilot		Pilot	
		Higher school SES	Lower school SES	Higher school SES	Lower school SES
High stanine group	Pre-test	5.38	5.56	5.38	5.21
	Post-test	5.60	5.68	6.10	5.60
	Gain	0.22	0.12	0.72	0.39
Middle stanine group	Pre-test	4.13	4.14	3.93	3.96
	Post-test	5.21	5.10	5.31	5.09
	Gain	1.08	0.96	1.38	1.13
Low stanine group	Pre-test	2.95	2.38	2.87	2.91
	Post-test	4.58	3.95	4.49	4.39
	Gain	1.63	1.57	1.62	1.48

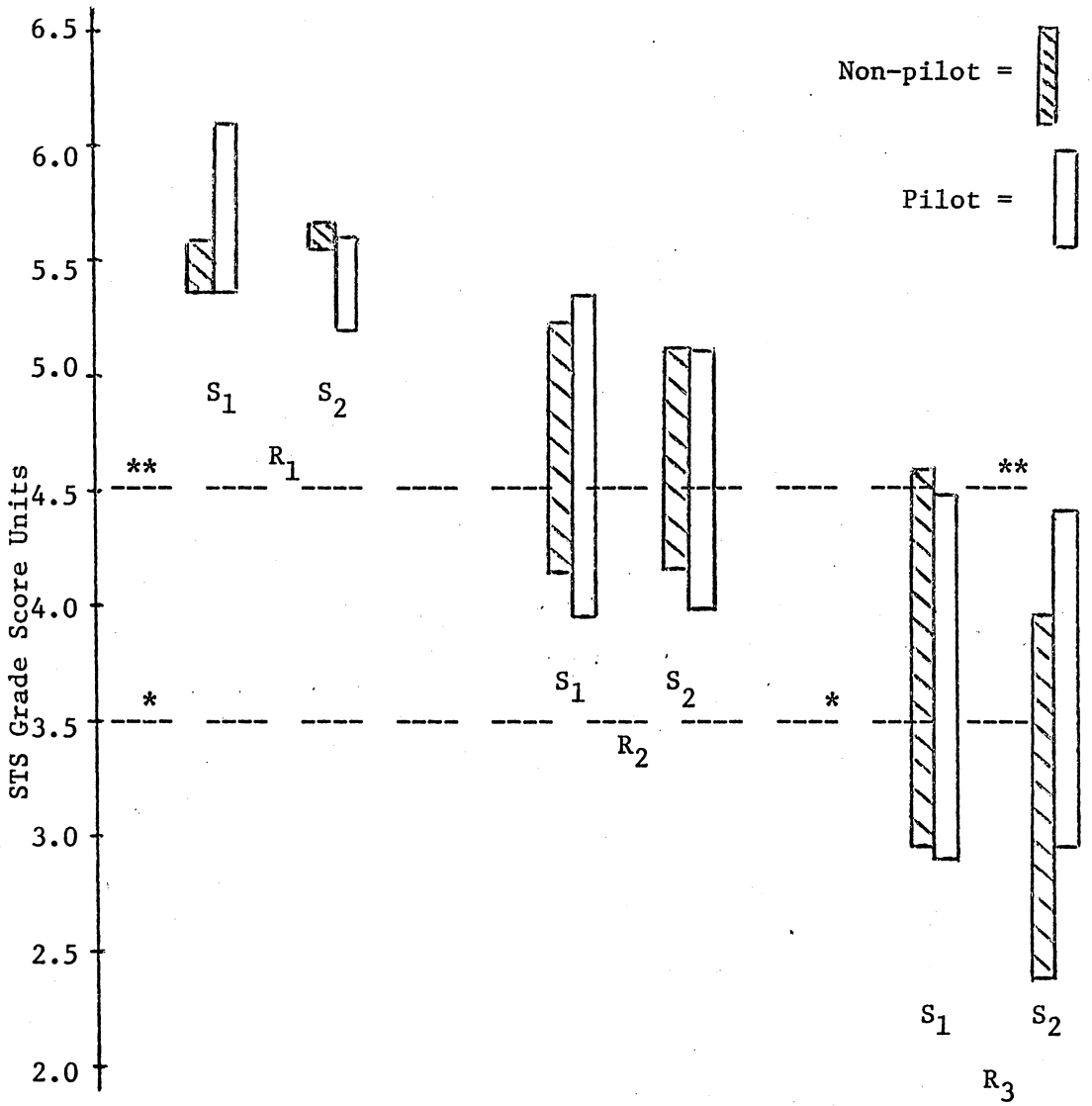

Figure 4

Pre-Test and Post-Test STS Grade Score Means for the EDS Reading Test, Comparing Treatments

S_1 = higher school SES
S_2 = lower school SES

R_1 = high stanine group
R_2 = middle stanine group
R_3 = low stanine group

* line represents national median for pre-test grade level (3.5)

** line represents national median for post-test grade level (4.5)

responded said that they were in multigraded or ungraded classrooms; and (3) that 67 percent of the teachers indicated that they taught in self-contained classrooms.

Teacher Questionnaire Responses: Unstructured Items

A substantial difference was noted in the responses to the item concerning teacher preparation time. Individual teacher responses ranged from 1 to 12 hours per week.

The purpose of the unstructured, or open-ended, items was to obtain insights into the teachers' understandings of continuous progress education and to elicit their comments concerning its implementation. The tabulation of the teacher responses has been presented in Table 10.

In item 19, in which the teachers were asked to define the elements of continuous progress education, more than three-fourths of the teachers mentioned that the student can progress as he is able, 54 percent cited the matter of pre-testing and diagnosis and of picking up the student where he is, 46 percent noted the non-failure aspects of continuous progress education and its emphasis on success and continuous learning, and 36 percent mentioned the flexible grouping of students

Non-pilot school teachers appeared to be better able to define the elements of continuous progress education. Two respondents, both pilot school teachers, wrote somewhat surprising "definitions:" (1) "Teacher is busy running off worksheets," and (2) "To help students achieve to a level commensurate with national norms." Many teachers expressed their hopes for the program as well as their

frustrations during the first year of implementation. A non-pilot school teacher wrote:

> I have spent many sleepless nights during my teaching career worrying about retaining pupils in the same level or grade another year. I only retained them with parents' consent. It really bothered me to see the expression on a child's face when he or she read the verdict on the last day. I've seen tears and I've shed a few myself. I'm thankful for continuous progress for each child. It's wonderful for the little child who is slow and challenging as well for the bright child. . . . We'll do better each year as we experiment with continuous progress education. We learn by doing.

The same teacher also wrote of frustrations:

> Also, the students have complained to me about their reading groups. They seemed to be generally unhappy, <u>this year that is</u>. This may be partly due to the new reading program introduced this year. There were too many new materials and books introduced at one time. We just couldn't digest it. It should have been gradual. Each teacher had <u>3</u> reading groups, all new material. We finally had to reduce it to <u>2</u> groups per teacher in order to keep our sanity. It was <u>much</u> better.

When asked, in item 20, what else needed to be done in order to fully implement continuous progress education, half of the teachers indicated, some in rather strong terms, the need for aides and/or smaller classes. A majority of the lower school SES schools' teachers mentioned this need.

In item 21, teachers were queried about the worst aspect, biggest problem, or greatest concern of the teacher in regard to the continuous progress education program. Of the teachers responding, 39 percent stated that there was insufficient time for planning and in the classroom to permit individualization and almost one-third declared that they had insufficient resources (in number, variety, and/or quality) to permit individualization.

Finally, in item 22, teachers were asked to state the best aspect, biggest "plus," or greatest advantage of continuous progress

Table 9

Responses to Structured Items on Teacher Questionnaire, in Percentages

Item description		Non-pilot			Pilot			Grand total
		Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	n= 28
Teacher experience	1-3 years	0 %	20 %	11 %	57 %	0 %	22%	18 %
	4-9 years	25	0	11	14	27	22	19
	10 or more years	75	80	78	29	73	56	63
Teacher training	B.S.	75	100	89	71	82	78	81
	M.S.	25	0	11	29	9	17	15
	M.S. + 30	0	0	0	0	9	6	4
Teacher reading background	below average	0	0	0	0	0	0	0
	average	100	80	89	57	18	33	52
	above average	0	20	11	43	32	67	48
Teacher advocacy of continuous progress education	prefer other	0	0	0	0	0	0	0
	undecided	0	0	0	0	18	11	7
	moderately pro	75	40	56	14	55	39	44
	very pro	25	60	44	71	27	45	44

Table 9 (continued)

Item description		Non-pilot			Pilot			Grand total
		Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	n= 28
Parent understanding of continuous progress education concept	very few do	0	0	0	0	18	11	7
	some do	50	60	56	29	45	39	44
	many do	50	40	44	71	18	39	41
	most do	0	0	0	0	18	11	7
Student interest and enthusiasm for reading program	less than '72-'73	0	0	0	0	9	6	4
	same as '72-'73	50	80	67	43	64	56	59
	more than '72-'73	50	20	33	57	27	39	37
Student achievement in reading	less than expected	25	0	11	0	0	0	4
	about what expected	75	100	89	43	55	50	63
	more than expected	0	0	0	57	36	45	30
Teacher changes in recommended sequence	many	0	40	22	43	27	33	30
	some	25	40	33	29	36	33	33
	few	75	20	44	29	36	33	37

Table 9 (continued)

Item description		Non-pilot			Pilot			Grand total
		Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	n= 28
Teacher awareness of student differences	less than '72-'73	0	0	0	14	0	6	4
	same as '72-'73	25	60	44	43	55	50	48
	more than '72-'73	75	40	56	43	27	33	41
	much more than 72-73	0	0	0	0	18	11	7
Possibilities for individualization of instruction by teacher	less than '72-'73	25	0	11	0	9	6	7
	same as '72-'73	25	60	44	29	55	45	44
	more than '72-'73	50	40	44	71	27	45	44
	much more than 72-73	0	0	0	0	9	6	4
Extent of actual individualization by teacher	almost never	0	0	0	0	0	0	0
	sometimes	0	20	11	57	18	33	26
	most of the time	100	80	89	43	82	67	74
Extent of discipline problems	considerable	0	0	0	0	0	0	0
	moderate	0	0	0	43	27	33	22
	very few	100	100	100	57	73	67	78

Table 9 (continued)

Item description		Non-pilot			Pilot			Grand total
		Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	n= 28
Teacher tension as a result of the program	considerable	50	0	22	14	36	28	26
	moderate	50	40	44	57	64	61	56
	very little	0	60	33	29	0	11	19
Teacher use of behavioral objectives	seldom	0	0	0	0	0	0	0
	sometimes	0	60	33	71	45	56	48
	much	100	40	67	29	55	45	52
Grading arrangement	multi/ungraded	50	0	22	14	0	6	11
	graded	50	100	78	86	82	83	81
Teaching arrangement	team teachning	50	60	56	57	82	72	67
	self-contained	50	20	33	29	18	22	26
Grouping arrangement	heterogeneous	25	40	33	57	36	45	41
	homogeneous	75	40	56	29	45	39	44

Table 9 (continued)

Item description		Non-pilot			Pilot			Grand total
		Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	n= 28
Enthusiasm as reading teacher	very little	0	0	0	0	0	0	0
	moderate	100	20	56	86	27	50	52
	considerable	0	80	44	14	73	50	48
End-of-year pressures on teacher	considerable	0	0	0	14	0	6	4
	moderate	50	20	33	71	64	67	56
	very little	50	80	67	0	36	22	37

Table 10

Responses to Unstructured Items on Teacher Questionnaire, in Percentages

Item description	Non-pilot			Pilot			Grand Total
	Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	n= 28
Hours spent in preparation for class (mean)	5.8	3.6	4.6	3.3	6.1	5.0	4.9
Item 19:							
Student can progress as he is capable	100 %	80 %	89 %	100 %	73 %	83 %	79 %
Aspect of pre-testing and diagnosis, of picking up student where he is	75	60	67	43	55	50	54
Non-failure and success aspects	50	100	78	29	36	33	46
Flexible grouping of students	75	60	67	29	18	22	36
Item 20:							
Need for aides and/or smaller classes	50	60	56	29	64	50	50
Need for more. better, and/or more varied instructional resource materials	0	60	33	29	18	22	25

Table 10 (continued)

Item description	Non-pilot			Pilot			Grand
	Higher school SES n = 5	Lower school SES n = 5	Total n= 10	Higher school SES n = 7	Lower school SES n = 11	Total n= 18	Total n= 28
Item 21:							
Insufficient time for planning and in the classroom to permit individualization	25 %	60 %	44 %	57 %	27 %	39 %	39 %
Insufficient resources in number, variety, and/or quality to permit individualization	0	40	22	57	18	33	29
Students grouped too heterogeneously	50	40	44	0	36	22	29
Item 22:							
Less pressure, tension, and frustration for student	0	100	56	71	55	61	57
Individual progress	50	20	33	71	55	61	50
Student learns more, better	75	20	44	43	18	28	32

education. Fifty-seven percent mentioned that there was less pressure on the student and/or that the student experienced less tension and frustration as a learner; 70 percent of the lower school SES schools' teachers made this comment. Half of the teachers noted the opportunity for students to progress on an individual basis and 32 percent stated that students can learn better and more in a continuous progress education program.

Class Size

Data were also compiled concerning class size; these data have been presented in Table 11. Based on school district statistics (Kanawha County Schools, 1972c, and Kanawha County Schools, 1973c) the data presented indicate an increase in mean class size for the district elementary schools (grades 1-6) from the 1972-73 to the 1973-74 school year.

Districtwide, at the elementary level level, the increase amounted to an average of 3.7 students, from 24.7 to 28.4, a rate of increase in m ean class size of 15 percent. At the same time, the mean class size decreased 6 percent in both the junior and senior high schools.

For all the schools included in the study sample, the increase in mean class size was an average of 3.6 students, or 14.2 percent. In terms of school SES, however, mean class size for the higher school SES schools increased by 1.5 students, or 5.6 percent, to 28.4, while mean class size for the lower school SES schools increased by 5.2 students, or 21.6 percent, to 29.6.

Table 11

Comparison of Mean Class Size for
1972-73 and 1973-74

Category of school		Mean class size		Difference in mean class size	
		1972-73	1973-74	Actual	Percent
All elementary (1-6)	*	24.7	28.4	3.7	15.0 %
Non-pilot	*	25.2	29.0	3.8	15.2
Pilot	*	25.6	29.0	3.5	13.6
Higher school SES	*	26.9	28.4	1.5	5.6
Lower school SES	*	24.3	29.6	5.2	21.6
All elementary (1-6)	**	22.5	25.4	2.9	12.8
All junior high	**	20.8	19.6	-1.3	-6.0
All senior high	**	20.0	18.7	-1.3	-6.5
Total district (except central office personnel)	**	21.8	22.2	0.4	1.9

* Corrected so that the administrators and counselors in a building were not included in the computations of mean class size.

** All building professional staff included in computations.

When these data were adjusted so as to be based only on average daily attendance, mean class size for the various categories were: non-pilot schools, 28.1; pilot schools, 28.0; higher school SES schools, 27.5; and lower school SES schools, 28.4.

This study has not attempted to assess the impact of these mean class size changes on the continuous progress education pilot and non-pilot programs. The literature leaves little doubt, however, that a substantial increase in class size, particularly when implementing a new program, and especially when that program is implemented for the purpose of increasing individualization, and in the absence of any other forms of assistance for the classroom teacher (such as teacher aides, for example), is not likely to contribute to better or increased learning on the part of students or to teacher attitudes and practices which are more supportive of individualized instruction. It was probably no accident that all but two of the teachers responding alluded to the problems of class size or its consequences.

SUMMARY

The data collected in the study was presented in Chapter 4. The cell sizes were given and the thirty-nine variables listed and described. Based on the 221 students and 28 teachers in the sample, grouped data was presented in the several tables and figures. The data was presented in several sections to facilitate understanding.

Chapter 5

DATA ANALYSIS AND SUMMARY

An analysis of the data presented in Chapter 4 was undertaken for the purpose of answering the three questions posed in the Statement of the Problem.

Analysis of the data was greatly facilitated by the utilization of three computer programs: (1) BMD03D, correlation with item deletion (Dixon, 1973:85-90), (2) BMD08M, factor analysis (Dixon, 1973:225-68), and (3) multivariate analysis of variance (Clyde, 1969).

CRITERION-REFERENCED-TYPE MEASURES

The four criterion-referenced-type measures utilized, namely, phonology, morphology, reading comprehension, and all sections combined on the diagnostic placement tests, were quite similar to each other in results in nearly all respects (see the discussion on page 64 and Tables 4-7 on pages 65-68).

To aid in answering the first two questions, two three-way analyses were performed. The first was a multivariate analysis of covariance using pre-test and post-test scores on the phonology, morphology, and reading comprehension sections of the diagnostic placement tests. The independent variables were: treatment (two levels: the continuous progress education program without learning packages and the continuous progress education program with learning

packages, also referred to as the non-pilot schools program and the pilot schools program, respectively), stanine group (three levels: stanines 1-4, 5-6, and 7-9, also referred to as the low, middle, and high stanine groups, respectively), and school SES category (two levels: higher and lower school SES). The crossbreak design therefore contained 2 x 3 x 2 cells, each of which contained approximately 20 students. The F ratios resulting from this analysis have been displayed in Table 12.

The outcomes of interest in the multivariate analysis were:

1. Treatment effect: the highly significant F ratio (p less than .014) suggested substantial differences in favor of the continuous progress education program utilizing the learning packages (the pilot schools) as previously indicated in Tables 4-6 on pages 65-67.
2. Interaction between treatment and stanine level: the observed F ratio (p less than .011) reflected the much higher achievement of low stanine students in the pilot program as compared with similar students in the non-pilot program as previously indicated in Tables 4-6.
3. Interaction between treatment and school SES level: the very significant F ratio (p less than .003) reflected the considerably higher achievement of lower school SES students in the pilot program as compared with similar students in the non-pilot program as previously indicated in Tables 4-6.
4. Interaction between treatment, stanine level, and school SES level: the highly significant F ratio (p less than

Table 12

Analysis of Covariance for Diagnostic Placement Test Scores

Description of analysis		df	F	p less than
Multivariate analysis of phonology, morphology, and comprehension				
Main effects:	Treatment (T)	3, 207	3.626	.014
	School SES (S)	3, 207	0.787	.502
	Stanine group (R)	6, 414	20.651	.001
First order interactions:	T x R	6, 414	2.818	.011
	T x S	3, 207	4.683	.003
	R x S	6, 414	0.692	.657
Second order interaction:				
	T x R x S	6, 414	2.694	.014
Univariate analysis of total scores				
Main effects:	Treatment (T)	1, 209	4.592	.033
	School SES (S)	1, 209	0.016	.899
	Stanine group (R)	2, 209	51.314	.001
First order interactions:	T x R	2, 209	3.845	.023
	T x S	1, 209	8.263	.004
	R x S	2, 209	0.166	.847
Second order interaction:				
	T x R x S	2, 209	2.893	.058

.014) reflected the especially superior performance of the low stanine, lower school SES, pilot school students as compared with their counterparts in the non-pilot schools as previously indicated in Tables 4-6.

All of the foregoing were reflected in the univariate analysis of covariance performed using total scores on the diagnostic placement tests, also shown in Table 12. (This separate analysis has been presented because, as explained more fully on page 44, "total" scores were based on all the items on the diagnostic placement tests, representing all the skills included in the curriculum of the Kanawha County Schools' reading program.)

The outcomes of interest in the univariate analysis were:

1. Treatment effect: the significant F ratio (p less than .033) indicated substantial differences in favor of the pilot program as presented in Table 13.
2. Interaction between treatment and stanine level: the observed F ratio (p less than .023) reflected the higher achievement of low stanine students in the pilot schools as compared with similar students in the non-pilot schools as presented in Table 14.
3. Interaction between treatment and school SES level: the significant F ratio (p less than .004) reflected the much higher achievement of lower school SES students in the pilot schools as compared with their counterparts in the non-pilot schools as presented in Table 15.
4. Interaction between treatment, stanine level, and school SES level: the significant F ratio (p less than .058)

Table 13

Comparison of Total Treatment Scores
on Entire Diagnostic Placement Tests

	Non-pilot schools	Pilot schools
Pre-test raw score mean	213.2	213.7
Post-test raw score mean	254.9	260.1
Difference in means, or gain	41.7	46.4

Table 14

Comparison of Interactions between Treatment and Stanine Levels on Entire Diagnostic Placement Tests

		Non-pilot schools	Pilot schools
High stanine group	Pre-test raw score mean	220.6	220.9
	Post-test raw score mean	274.6	278.8
	Difference in means, or gain	54.0	57.9
Middle stanine group	Pre-test raw score mean	213.4	213.4
	Post-test raw score mean	263.5	261.4
	Difference in means, or gain	50.1	48.0
Low stanine group	Pre-test raw score mean	205.1	206.9
	Post-test raw score mean	224.3	240.2
	Difference in means, or gain	19.2	33.3

Table 15

Comparison of Interactions between Treatment and School SES Levels on Entire Diagnostic Placement Tests

		Non-pilot schools	Pilot schools
Higher school SES	Pre-test raw score mean	213.8	213.4
	Post-test raw score mean	258.8	256.7
	Difference in means, or gain	45.0	43.3
Lower school SES	Pre-test raw score mean	212.6	214.1
	Post-test raw score mean	251.1	263.7
	Difference in means, or gain	38.5	49.6

reflected the superior performance of the low stanine, lower school SES, pilot school students as compared with their counterparts in the non-pilot schools as previously indicated in Table 7 on page 68 and Figure 3 on page 69.

In both the multivariate and univariate analyses, the general consistency of the trend of the scores with respect to the stanine group levels (see Table 16) was reflected in the highly significant F ratios (p less than .001) for this main effect in the design.

It was also evident in both analyses that the several significant F ratios (other than the two describing the stanine group level main effect) reflected the same single phenomenon, namely, the very superior performance of the low stanine, lower school SES, students in the pilot schools as compared with their counterparts in the non-pilot schools.

NORM-REFERENCED-TYPE MEASURES

Difference scores of the Scholastic Testing Service's Educational Development Series' reading tests were analyzed separately in a three-way analysis of variance performed using the same cross-break model as above. The results have been reported in Table 17. The outcomes of interest in the univariate analysis were:

1. Treatment effect: the substantial F ratio (p less than .069) suggested substantial differences in favor of the continuous progress education program which utilized the learning packages (the pilot schools) as presented more graphically in Table 18.

Table 16

Comparison of Stanine Group Level Scores
on Entire Diagnostic Placement Tests

	High stanine group	Middle stanine group	Low stanine group
Pre-test raw score mean	220.8	213.4	206.0
Post-test raw score mean	276.8	262.4	232.8
Difference in means, or gain	56.0	49.0	26.8

Table 17

Analysis of Variance for EDS Reading Test Scores

Description of analysis		df	F	P less than
Univariate analysis of EDS Grade Score Means Differences, or Gains				
Main effects:	Treatment (T)	1, 209	3.347	.069
	School SES (S)	1, 209	2.559	.111
	Stanine group (R)	2, 209	43.316	.001
First order interactions:	T x S	1, 209	0.426	.515
	T x R	2, 209	1.404	.248
	R x S	2, 209	0.108	.897
Second order interactions:				
	T x R x S	2, 209	0.046	.955

Table 18

Comparison of Treatment Scores
on the EDS Reading Tests

	Non-pilot schools	Pilot schools
Pre-test STS Grade Score mean	4.12	4.04
Post-test STS Grade Score mean	5.04	5.17
Difference in means, or gain	0.92	1.13

2. Stanine level effect: the highly significant F ratio (p less than .001) reflected the general consistency of the trend of the scores with respect to the stanine group levels (see Table 19).

Unlike the results discussed in the section on criterion-referenced-type measures, attention in this section centers on the high stanine level students.

The absence of significant F ratios for the several possible interactions reflected the lack of substantial differences in the comparative performances of students in the various cells of the crossbreak. This result, together with the weak F ratio for the treatment effect, despite the apparent superior performance of pilot school students in the high stanine level (see Table 8 on page 71 and Figure 4 on page 72), is likely due to the lesser magnitude of the gains in the mean scores of the high stanine level students as compared to the magnitude of the gains in the mean scores of the middle and low stanine level students.

FACTOR ANALYSIS OF THE VARIABLES

An initial analysis produced twelve factors which proved to be of poor interpretative quality. As shown in Figure 5, the eigenvalues (twelve of which were greater than 1.000) were distributed in several somewhat distinct groups. Two additional factor analysis procedures were therefore employed, one to limit the analysis to three factors, the other to limit the analysis to seven factors.

The two sets of factors have been presented in Table 20 (the three factors) and Table 21 (the seven factors). The key to the

Table 19

Comparison of Stanine Level Scores
on the EDS Reading Tests

	High stanine group	Middle stanine group	Low stanine group
Pre-test STS Grade Score mean	5.38	4.04	2.79
Post-test STS Grade Score mean	5.76	5.17	4.36
Difference in means, or gain	0.38	1.13	1.57

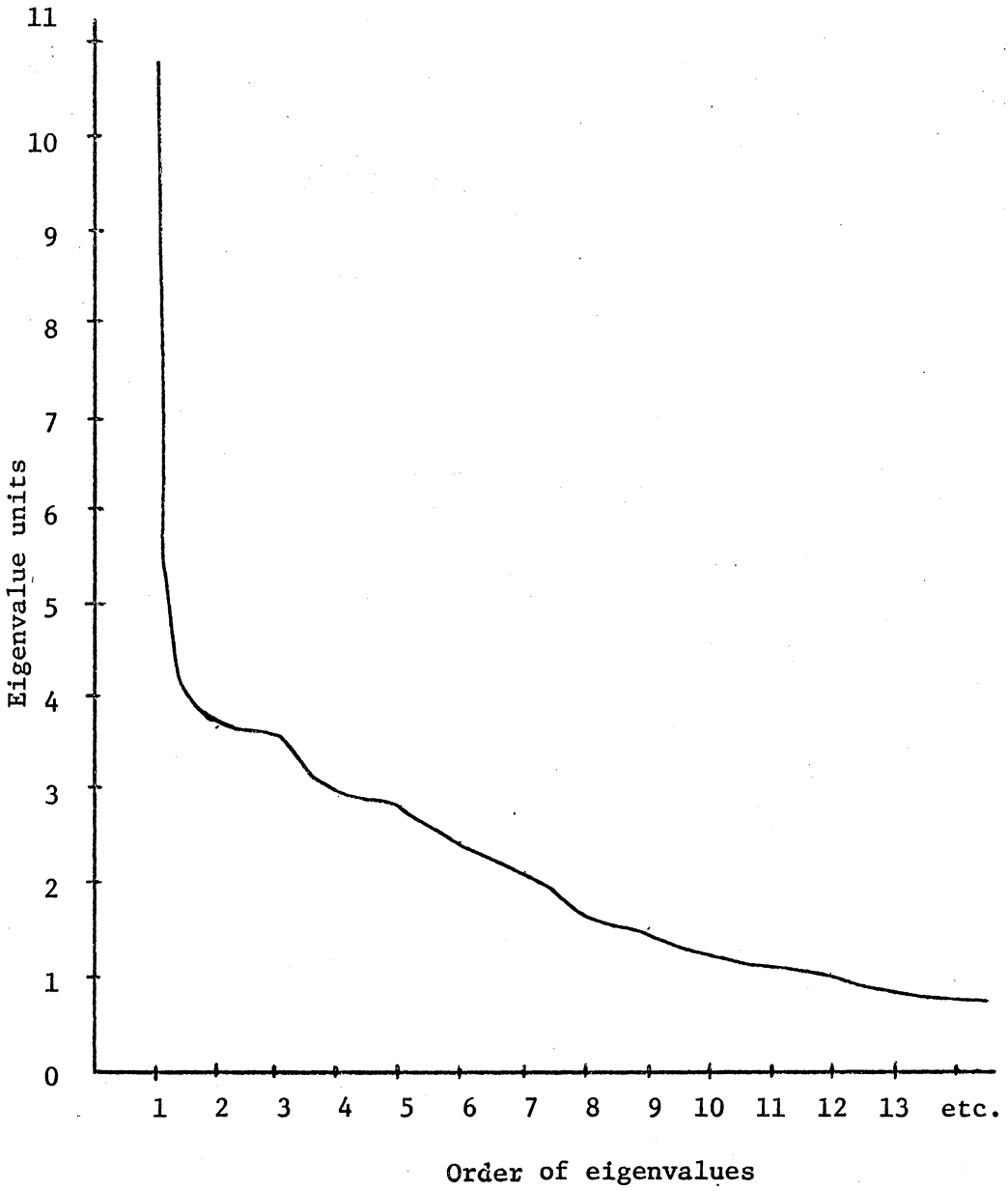

Figure 5

Eigenvalues Computed by Factor Analysis Program

variables, identified only by numbers in Tables 20 and 21, was displayed in Figure 2 on page 63.

In each set of analysis there was one, and only one, factor which loaded substantially on both achievement and situational characteristics variables. The achievement variable was the same in both instances, namely, the difference between the pre-test and post-test (or gain in) STS Grade Scores. In neither case did the factor load substantially on the variable representing teacher advocacy of continuous progress education or on other variables which could be considered indices of teacher attitudes regarding continuous progress education.

The achievement variable's loading was barely significant (r=-.41) when the factor (A, when limited to three factors) loaded substantially on the variable representing treatment (r=-.76). In addition to treatment, the situational characteristics variables on which Factor A loaded to a significant level were those representing teacher utilization of behavioral objectives, teacher expectations of student achievement, the extent of classroom discipline problems, teacher changes in the recommended sequence of instruction, and teacher background in reading; the factor also loaded to a lesser extent (r=-.41) on the variable representing the type of classroom grouping arrangement.

The nature of the variables suggested that Factor A was associated with characteristics describing teacher practices in the classroom situation. Accordingly, in terms of the teacher sample, pilot school teachers tended to have better reading backgrounds, to be more positive (perhaps even over-optimistic) regarding expected

student achievement, and to have their students achieve greater gains on the EDS reading tests. Pilot school teachers also tended to make more changes in the recommended sequence of instruction, to have more classroom discipline problems, to make less use of behavioral objectives, and to work more in homogeneously-grouped classroom situations than did non-pilot school teachers.

In the other analysis, the factor (I, when limited to seven factors) loaded heavily on the achievement variable (r=-.80) but almost not at all on the treatment variable (r=.02). The situational characteristics, or non-achievement, variables on which Factor I loaded to a significant level were those representing the number of hours the teacher spent in preparation for the reading class and the type of classroom grouping arrangement; the factor also loaded to a lesser extent on the variable representing teacher awareness of student differences. In terms of the teacher sample, high student gains on the EDS reading test were associated with more teacher preparation time, heterogeneous grouping, and greater teachers awareness of student differences.

Factor A loaded very weakly on the variable representing teacher advocacy of continuous progress education (r=-.11) as did Factor I (r=-.20).

There was evidence of strong relationships within each of the two major groups of variables (student achievement measures and instructional situation characteristics). Factor B, for example, had substantial loadings on variables which appeared to be related to the climate for learning: in terms of the sample, an association was observed of teachers who saw more possibilities for individualization

Table 20

Rotated Factor Matrix (Limited to Three Factors)

Variable	Factor A	Factor B	Factor C
1	- 11	- 6	- 80
2	2	17	68
3	- 10	- 9	92
4	- 14	- 21	68
5	11	12	57
6	- 7	- 5	93
7	- 16	- 13	59
8	20	19	31
9	- 8	- 5	93
10	- 13	- 10	87
11	2	22	71
12	- 8	- 3	96
13	- 11	- 13	87
14	6	8	16
15	- 76	- 11	8
16	7	- 26	2
17	6	- 1	- 4
18	0	46	0
19	58	7	5
20	- 11	53	6
21	- 5	43	8
22	3	71	4
23	64	33	- 4
24	- 58	6	- 2
25	- 21	58	4
26	6	75	3
27	- 34	- 31	- 2
28	- 59	38	13
29	35	36	2
30	- 65	13	7
31	16	- 4	- 18
32	26	58	8
33	- 34	36	- 7
34	- 41	- 3	13
35	- 1	22	1
36	- 25	13	1
37	12	7	88
38	- 24	25	71
39	- 41	19	- 37

Table 21

Rotated Factor Matrix (Limited to Seven Factors)

Variable	Factor I	II	III	IV	V	VI	VII
1	- 26	- 45	68	- 1	- 1	- 2	- 3
2	- 3	28	- 76	0	1	- 5	- 3
3	7	87	- 38	- 2	- 3	- 3	- 8
4	10	87	2	- 3	- 4	- 1	- 7
5	4	11	- 79	- 1	- 7	- 4	6
6	4	86	- 40	- 2	2	- 2	0
7	1	86	15	- 2	9	1	- 4
8	12	- 7	- 57	9	4	1	8
9	1	83	- 46	- 6	3	4	3
10	- 2	86	- 31	- 7	2	4	- 1
11	2	28	- 79	- 3	9	- 3	- 1
12	5	87	- 45	- 4	3	- 2	- 1
13	5	94	- 21	- 4	1	- 1	- 1
14	13	8	- 13	2	11	4	3
15	2	21	16	- 72	1	- 28	- 22
16	6	11	11	- 3	14	78	6
17	9	- 6	2	- 37	11	- 18	70
18	- 2	- 16	- 19	- 7	57	12	16
19	10	- 12	- 21	20	1	- 6	71
20	- 20	6	- 2	- 19	69	- 12	39
21	- 2	11	1	7	53	1	- 3
22	13	3	1	16	86	5	- 3
23	11	- 13	- 9	73	15	- 1	6
24	- 5	- 1	- 1	- 24	6	9	- 74
25	37	- 18	- 22	- 8	44	- 35	- 35
26	16	- 2	- 4	43	65	- 18	- 43
27	11	- 4	1	- 59	- 13	11	14
28	- 3	14	- 4	- 37	35	- 39	- 37
29	- 13	16	16	51	11	- 57	18
30	- 5	1	- 11	- 66	26	- 5	- 17
31	- 56	0	19	31	- 6	14	9
32	14	4	- 3	37	40	- 48	8
33	- 23	0	9	- 13	57	26	- 24
34	52	- 2	- 15	- 39	- 2	- 7	- 46
35	- 2	- 1	- 3	0	- 11	- 80	11
36	- 9	3	1	- 30	- 1	- 56	14
37	25	53	- 71	2	3	3	5
38	- 43	43	- 69	- 10	11	- 12	- 11
39	- 80	- 22	17	- 13	7	- 17	- 18

of instruction, were more aware of student differences, had more academic training, expressed greater advocacy of continuous progress education, worked more in ungraded classroom situations, had fewer discipline problems, had "parents" with a better understanding of continuous progress education, and felt that their student had greater interest and enthusiasm for the reading program than the previous year. Factor B did not load to a significant level (40 or more) on any achievement variables, however.

SUMMARY

The purpose of the study was to test the assumption of the school district officials that teacher utilization of the learning packages in the continuous progress education program would increase student achievement. It became clear during the analysis, however, that the achievement of the students in the pilot schools was greater, at a statistically significant level, than the achievement of the students in the non-pilot schools in only three instances of the twelve comparisons made. (Six comparisons were made for the criterion-referenced-type measures and six for the norm-referenced-type measures. In each case, a pilot school cell was compared with a comparable non-pilot school cell.) It was also evident that no instance occurred in which a non-pilot school cell achieved better than a comparable pilot school cell at a level that was statistically significant.

In each factor analysis procedure there was only one factor which loaded to a significant level on both achievement and situational characteristics variables; the relationships between the two categories were quite weak with respect to any association between

student achievement variables and variables representing teacher advocacy of continuous progress education or other indices of teacher attitudes regarding continuous progress education. The achievement variable on which one factor in each analysis loaded was the gain on the EDS reading test; the strongest relationships with this variable were the variables representing teacher preparation time for the reading class and type of classroom grouping (favoring more preparation and heterogeneous grouping arrangements).

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study, as stated in Chapter 1, was to obtain information about the continuous progress education programs in the pilot and non-pilot elementary schools in Kanawha County, West Virginia, using fourth-grade students and their reading teachers as the population sample, in order to provide a basis for judgments about the programs.

The intended difference between the two programs was that locally-developed learning packages were made available to the teachers in the pilot schools but not to the teachers in the non-pilot schools. The assumption of the Kanawha County school officials was that the "achievement of children in classrooms where these learning packages are used will be significantly greater than the educational attainment of children in . . . classrooms" in which the learning packages are not being utilized (Kanawha County Schools, 1972b:28-29).

The three questions posed in the Statement of the Problem were:

1. Did the students in the continuous progress education pilot program achieve better in reading than the students in the non-pilot schools?
2. Did socio-economic status affect the achievement of students in reading?
3. Was student achievement in reading related to teacher

attitudes regarding continuous progress education or to operational characteristics of the continuous progress education program?

CONCLUSIONS

On the basis of the data obtained and the subsequent analysis and discussion, the following conclusions were drawn:

1. Questions One and Two: The answer to both questions is "No, in general, but . . ." The students in the pilot schools did not achieve better in reading than the students in the non-pilot schools at a level that was statistically significant except (a) in one of six comparisons made of comparable pilot and non-pilot cells in the crossbreak model as measured by the criterion-referenced-type tests and (b) in two of the six comparisons as measured by the norm-referenced-type tests. The first exception reflected the much greater achievement of the low stanine, lower school SES, students in the pilot schools as compared with their counterparts in the non-pilot schools. The second two exceptions reflected the greater achievement of pilot school students in both high stanine group level cells. At the same time it should be noted that there was no instance of comparison in which students in non-pilot school cells achieved better than their counterparts in pilot school cells at a level that was statistically significant.
2. Question Three: No, in terms of the two factor analysis procedures discussed in Chapter 5 there was no evidence of

a very substantial relationship between student achievement in reading and teacher attitudes regarding continuous progress education or to operational characteristics of the continuous progress education program except in one instance, namely, the gain in STS Grade Scores and the type of classroom grouping arrangement, favoring heterogeneous grouping.

3. A conclusion was also drawn regarding a matter of unanticipated concern, mean class size. An unexpected finding was that of the substantial mean class size increases in the elementary schools of the district from the 1972-73 to the 1973-74 school year. In the case of the lower school SES schools, for example, mean class size was increased by 21.6 percent. Although the study had not attempted to assess the impact of these increases on the pilot and non-pilot programs (programs intended to bring about better achievement through greater attention to individual student needs), the literature clearly indicated that such an increase (particularly when a program of this type is newly implemented, and in the absence of other forms of assistance for the classroom teacher) will detract from both teacher morale and student learning. The remarkably superior performance of the low stanine, lower school SES students in the pilot schools notwithstanding, the inescapable conclusion was that the increases in mean class size most likely had a generally negative effect of unknown magnitudes on student achievement.

4. A final conclusion concerned the general consistency of the trend of the achievement scores with the stanine group levels. As shown in the multivariate, univariate, and factor analyses, this main effect in the design was highly significant statistically. The effect occurred in different ways on the two types of tests, however: on the criterion-referenced-type tests the greatest gains were achieved by the high stanine groups and the lowest gains were achieved by the low stanine groups; on the norm-referenced-type tests the greatest gains were achieved by the low stanine groups and the lowest gains were achieved by the high stanine groups.

The conclusions would not be complete without an observation of the researcher regarding the findings of the study. If this study were an evaluation of a program with more experience, then it is quite likely that the answer to Question One should remain "No," except for such benefits as might be implied to low stanine, lower school SES students. But this study was concerned with a new program which was still experiencing, apparently, many of the normal problems encountered in the initial implementation of a program as well as some rather unique situational factors, such as the considerable increase in mean class size. Without commending the program for achievements which it did not accomplish, it should be recognized that the conclusions drawn with respect to the questions posed were based on the situation as it existed in the school district. It should be clear to the decision-makers in the district responsible for the continuous progress education programs that a number of factors <u>may</u>

have substantially reduced the effectiveness of the pilot schools' program, and probably of both programs.

RECOMMENDATIONS

As a result of this study and the conclusions drawn, a number of recommendations are offered to the Kanawha County Schools Board of Education and school officials for their consideration:

1. That the policy commitment to continuous progress education be maintained pending additional developmental and evaluative efforts by school district officials and staff. It is essential that the benefits and shortcomings of continuous progress education programs and the learning packages be identified in a more satisfactory learning and operational situation, one which is based to a much greater extent in practice on the tenets of the concept rather than simply being imposed on established (traditional) school practices.
2. That the decision to increase class size be reviewed; if necessary, that a comparative study be made of student achievement in continuous progress education program classrooms of different class size.
3. That the expressed critical needs of teachers (e.g., aides, additional classroom resources, etc.) be reviewed to ensure that teacher efforts and morale are most effectively used in and for the learning situation, in the sense of Callahan's (1962:244) "the <u>finest</u> product at the lowest cost" (italics not in the original).

4. That an effort be made to resolve the problems which arise during the evaluation (and, later, in the communication to others) of achievement scores because of the differences in results on the norm-referenced-type and the criterion-referenced-type tests, as was apparent during this study. For example, the appriateness of the state-mandated evaluation instrument, the Educational Development Series' reading test, to the curriculum in reading of the Kanawha County Schools should be determined; perhaps the commonly used phrase, "better achievement," can be better defined so as to state specifically all of the desired outcomes (are there no desired outcomes in the affective domain, for instance?). Lacking these additional efforts, the mirror images of the results of the two types of tests (see Figures 3 and 4 on pages 69 and 72) will only cause confusion as to what did happen and uninformed (even informed) misinterpretation of the results of the very extensive curricular efforts.

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APPENDIXES

APPENDIX A

Standard Introduction to the Learning Packages

EDUCATIONAL LEARNING PACKAGES

An Analysis

Preface Remarks

On the following pages, you will find a series of educational learning packages which have been designed by teams of teachers, principals, and supervisory personnel who represented a cross-section of the Kanawha County Schools staff to give beginning and seasoned teachers a sophisticated approach to the individualization of classroom instruction in one program area.

In order that these educational learning packages may be used to the best benefit of teachers and students in and out of the Kanawha County Schools, the following analysis indicates the proper intent and usage of these materials.

The Philosophy of Educational Learning Packages

Educational learning packages are designed to increase the flexibility of using instructional materials in individualizing classroom instruction in a multitude of different ways.

a. Educational learning packages can be used with any organizational, staffing, or time patter (i.e. team teaching, differentiated staffing, self-contained classroom, flexible or traditional scheduling, mini-course arrangement, year-around school, and others).

b. The educational learning packages include sequences of skills for multiple grade levels which link the curriculum program into one continuous sequence and permit the student to move through skills, under the teacher's guidance, at a rate which is commensurate with that student's ability. In essence, time no longer need be considered the controlling learning factor--acquisition of basic learning skills becomes the primary ingredient for educational advancement.

c. Diagnostic testing has a very pronounced emphasis in the educational learning packages. The purpose of the diagnostic testing is to prevent failure by providing a mechanism for assessing student placement in instructional materials. Teachers may diagnose students upward or downward through grade levels of materials by simply administering the short, diagnostic tests or summative post-test until the student cannot grasp the test concepts, and then, placement can be ascertained.

d. Through the use of diagnostic test procedures, it is possible to have children within one classroom placed in several different levels of materials in accordance with the

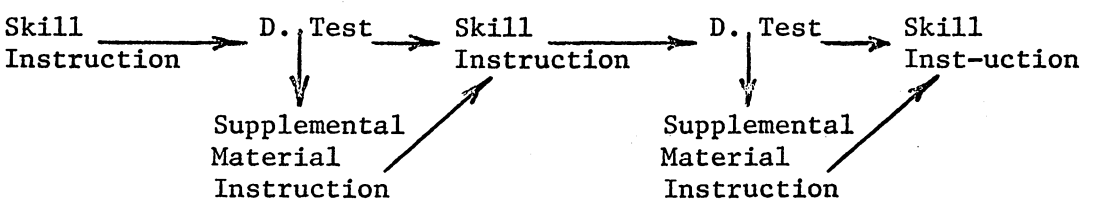
individual student's diagnosed proficiencies or deficiencies. The instructional objectives, learning activities, and textual and supplementary materials for instructing the student toward the acquisition of the unlearned skill.

e. After instruction the performance criterion will give the teacher a rough indicator of whether or not mastery of a skill has taken place. Teachers should simply look at the performance criterion as a warning light which may be an indicator of a coming failure if attention is not given to a present skill deficiency.

The Design of Continuous Progress Education

Educational learning packages are designed to incorporate three main processes--instruction, diagnosis, and supplementation--into continuous progress education programs.

Once the student is appropriately placed in a skill sequence, instruction takes place. Following instruction, the student's proficiency is assessed, and if a deficiency is noted, the student is recycled into supplemental materials emphasizing the same skill, although at a lower level. Upon further instruction, if the student then demonstrates mastery of the skill, he continues on the next basic skill in the skill sequence. This process is continued throughout the sequence of skills in an instructional program. The diagram below gives an illustrative example of the continuous progress education cycle.



In practice, the continuous progress education cycle will ultimately extend from kindergarten through grade twelve.

Use of the Educational Learning Packages

The teacher should look upon the educational learning packages as extremely detailed lesson plans which are sequenced in a multi-grade level pattern to insure instruction of the basic skills of the subject area under consideration.

The learning packages are prescriptive in the sense that the basic skills in the packages must be taught. The sequence of skills, instructional objectives, learning activities, diagnostic tests, and materials to be used are suggested as a logical and meaningful method for accomplishing the successful instruction of the basic skills, although, the teacher has the latitude to use her ingenuity and creativity to rearrange, supplement, or modify the content of the

packages as long as the skill and the intent of the skill are carried out. The teacher does not have the option to delete skills from the child's instructional program, but more skills can be added if this seems desirable.

The teacher should use the educational learning packages in a manner which is comfortable and manageable in classroom instruction. Obviously, by the very nature of continuous progress education, a teacher could individualize instruction in all areas for all children. Although this is highly desirable and the final intent in many program areas, it may be impossible from both a pragmatic and a theoretical standpoint.

Hence, the teacher should use the educational learning packages to establish instructional groupings of students and provide appropriate placement for small numbers of children who have very definite instructional deficiencies and cannot function at the grade level to which they have been assigned.

The teacher should then work with groups in ascertaining each individual's ability to function academically with his peers in that group. Because of the flexibility of the educational learning packages, an unlimited number of groups can be initiated by the teacher, but this should be carefully gauged by the teacher and principal to determine if further individualization reduces the teacher's effectiveness.

By all means, teachers should ease into the philosophy of continuous progress education since they may not immediately recognize the time required in providing exemplary instruction and keeping an accounting of pupil progress. This is not to say that instructional procedures should not change, but, rather, the teacher should keep in very close contact with the building principal to map out definitively the course and speed of individualizing instruction. Taken methodically and with careful planning, the continuous progress program can be one of the most successful educational programs in the United States.

The Numbering System for the Educational Learning Packages

All of the educational learning packages are numbered according to a set pattern. This pattern includes four specific notations: an initial two letters which indicate the program area (i.e. MA - Mathematics); three numbers which indicate the level; three numbers, following the dash, which indicate the position of the learning package in the sequence of learning packages; and two numbers, following the decimal, which indicate the auxiliary parts of the learning package (i.e. post-test, keys, worksheets, pre-tests, or guides).

The general numbering system is as follows:

MA -- Mathematics
FR -- French
SP -- Spanish
TY -- Typing
OP -- Office Practice
GE -- Geometry
RD -- Reading K-9
LS -- Life Science
ES -- Earth Science
PS -- Physical Science 9 & 11
BI -- Biology
CH -- Chemistry
PH -- Physics
SL -- Special Language Arts
SM -- Special Mathematics
SV -- Special Vocational & Adult Living Skills
GM -- General Mathematics
AL -- Algebra 1 and 2
TR -- Trigonometry
CL -- Calculus
ML -- Mathematical Analysis
CA -- College Algebra
BM -- Business Mathematics
HM -- High School Mathematics
FM -- Fundamentals of College Mathematics
CM -- Consumer Mathematics
AM -- Algebra Mathematics
PA -- Pre-Algebra

101 to 150 Kindergarten
151 to 200 Grade One
201 to 250 Grade Two
251 to 300 Grade Three
301 to 350 Grade Four
351 to 400 Grade Five
401 to 450 Grade Six
451 to 500 Grade Seven
501 to 550 Grade Eight
551 to 600 Grade Nine
601 to 650 Grade Ten
651 to 700 Grade Eleven
701 to 750 Grade Twelve

The general numbering system continued:

-005 First Learning Package
-010 Second Learning Package
-015 Third Learning Package
-020 Fourth Learning Package
-025 Fifth Learning Package
etc.

.00 Package Format
.01 Pre-Test
.02 Pre-Test Key
.03 First Post Test
.04 First Post Test Key
.05 Second Post Test
.06 Second Post Test Key
.11, .12, .13, .14 ..... worksheets, study guides, etc.

A few sample learning package numbers are presented and explained below:

MA	201	-	065	.	00
Math	Grade Two		13th Package		Package Format
AL	551	-	175	.	11
Algebra	Grade Nine		35th Package		Worksheet or Guide

Some minor variations of the learning package numbering may occur in the program areas in order that more information may be passed on to the teacher. These variations will be explained in subsequent pages.

Parts of the Educational Learning Package

There are seven parts of each educational learning package. In brief, the parts and significance of each section of an educational learning package are as follows:

a. Learning Package Number - indicates the program area, grade level, learning package relationship, pre- and post-tests, keys, guides, and special learning materials.

b. General Content Description - indicates the school level (i.e. primary, intermediate, junior high school), program, and basic skill under consideration.

c. Prerequisites - indicates prerequisite learning packages, skills, or activities which should precede instruction in the learning package under consideration.

d. Behavioral Objective - indicates the broad learning domain, terminal behavior, givens, restrictions, and performance criteria which govern the learning of the basic skill.

e. Sample Test Items - indicates the format and type of test item that will be used to assess the student's acquisition of the basic skill.

f. Pre-Test - indicates if a pre-test was required of the student prior to embarking upon the learning package and, if so, identifies the pre-test number.

g. Instructional Experiences - indicates the lessons, references, and activities with which the student will be engaged in mastering the basic skill emphasized in the learning package. Also provides the post-test which the teachers will use in assessing mastery of the basic skill.

Evaluation

On regular occasions, the teachers, consultants, and principals of the Kanawha County Schools will be asked to tender an assessment of the educational learning packages and a critique of the content of the learning packages. Included in this assessment should be positive recommendations for the improvement of the learning package content, sequences, and materials.

On dates which are to be designated, the assessment sheets attached to the learning packages should be sent to the chairman of the study committee which developed the educational learning packages. The assessment sheets will be carefully analyzed and considered in preparing for future modification and/or expansion of the program's educational learning packages.

Repreduction of Educational Learning Packages

Please consult with your building principal about the reproduction of educational learning packages for use in your classroom by students.

APPENDIX B

Sample Learning Package

Primary Reading

251 Series

Message to the Teacher

The RD 251 series educational learning packages are developed to facilitate continuous progress through individualization of instruction by providing students with materials which insure success. The use of these learning packages in which skills have been identified, should allow the teacher more time for meeting the needs of each student. Only the teacher can determine what works best for the student.

The teacher is not limited to using the materials and procedures included in these learning packages. Use methods or materials that are effective as long as the identified skills are taught.

Criterion-reference tests will be provided to aid in appropriate placement of students. They should be administered to those students the teacher judges to have some previously acquired skills. These tests should aid in placement of students who enter later in the school year.

From this point the teacher should be able to group effectively using the pre-tests to determine individual needs. The pre-tests are difficult enough that the student must have more than a superficial knowledge of the skill before going on to the next package. If the student does not score within the given range on the test, he will go through a series of instructional experiences, after which a post-test should be administered.

At this time, if the student still does not score within the given range (for example 8 of 10) the teacher will use recycling materials. The

recycling activities suggested in the instructional experiences begin again with number one. It will be up to the individual teacher to decide when the student will profit more by going on even though he has minimal mastery of a skill.

The instructional experiences are based on the Holt, Rinehart and Winston Company text with supplemental references to the Economy Company program. Only materials available to every school are included in the instructional experiences.

Packages may contain one or more objectives. Roman numerals are used in listing and referring to objectives within each package; and the activities suggested for each objective are listed with Arabic numerals. Extended Experiences are those activities of value described in the Holt, Rinehart and Winston text but not included in the objectives.

The educational learning packages in reading are in no way restrictive. They are not intended to replace the teacher nor stifle creativity. Many different methods and ideas for each skill were included to aid in planning for the individual needs of students.

Writing Team

Chandler Elementary
Sugar Creek Elementary
Sissonville Elementary
Chelyan Elementary
Chelyan Elementary
Taft Elementary
Mound Elementary

LEARNING PACKAGE NUMBER: RD 251-190.00

GENERAL CONTENT DESCRIPTION: Primary Reading: Alternate spellings for /ə/; Suffix -ary.

PREREQUISITE: RD 251-185.03

BEHAVIORAL OBJECTIVES:

I. In order to demonstrate the ability to identify o, aw and au spellings for /ə/, the student will underline the letters that stand for /ə/ and pronounce words containing the sound with an accuracy of 8 out of 10.

II. In order to demonstrate the skill in identifying words with the suffix -ary, the student will correctly choose words ending in -ary and use them in sentences with an accuracy of 8 out of 10.

SAMPLE TEST ITEMS:

I. Directions: Underline the letters that stand for /ə/ in each word.
1. awful
2. daughter
3. toss

II. Directions: Put an X on the word in each row which ends in -ary. Use them in sentences.

1.	military	militia	direction
2.	dictation	dictionary	direction

1._____
2._____

PRE-TEST: RD 251-190.01

INSTRUCTIONAL EXPERIENCES:

Follow HRW, Level 12, TE pp. 16-39.
Use Holt A-V Kit, Levels 11-12, "Today Has A Secret".

I. 1. Do HRW, Level 12, TE p. 40, Alternate Spellings for /ə/.

2. Do HRW, Level 12, wb. p. 1.

3. Do HRW, Level 12, TE p. 42, "Alternate Spellings for /ə/.

4. Do worksheet RD 251-190.11. Check.

II. 1. Do HRW, Level 12, TE p. 40, "Suffix -ary.

2. Do HRW, Level 12, TE p. 42, "Suffix -ary.

3. Do worksheet RD 251-190.13. Check.

LEARNING PACKAGE NUMBER: RD 251-190.01 (cont.)

EXTENDED EXPERIENCES:

1. Do HRW, Level 12, TE p. 41, "Constructing Sentences."
2. Do HRW, Level 12, wb. p. 2.
3. Do HRW, Level 12. TE p. 41, "Identifying Verbs."
4. Do HRW, Level 12. wb. p. 3.

POST-TEST: RD 251-190.03. Teacher Check.

I. 1. Do worksheet RD 251-190.15. Check.

II. 1. Do worksheet RD 251-190.17. Check.

POST-TEST: RD 251-190.05. Teacher Check.

LEARNING PACKAGE NUMBER: RD 251-190.0
PRE-TEST: RD 251-190.01

NAME_____

SCORE_____
(8 of 10)

I. Directions: Underline the letters that stand for /ɔ/ in each word.

1. Austin

2. saw

3. off

4. taught

5. office

6. fault

7. yawn

8. soft

9. dawn

10. cloth

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
PRE-TEST: RD 251-190.01 (cont.)

SCORE _____
(8 of 10)

II. Directions: Draw a box around the word ending in -ary in each row across. Choose four of these words and use in a sentence.

1. dictionary — dictation — direction
2. neccessity — necessary — university
3. revolve — revolution — revolutionary
4. unnecessary — understand — unable
5. militia — military — stable
6. understood — complimentary — complement
7. honor — dishonor — honorary
8. legendary — legend — legends
9. picture — pictionary — pictures
10. scary — snare — airy

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

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
PRE-TEST KEY: RD 251-190.02

I. (8 of 10)

1. Austin
2. saw
3. off
4. taught
5. office
6. fault
7. yawn
8. soft
9. dawn
10. cloth

II. (8 of 10)

1. dictionary
2. necessary
3. revolutionary
4. unnecessary
5. military
6. complimentary
7. honorary
8. legendary
9. pictionary
10. scary

Sentences will vary. (The words and the sentences should both be correct to meet the criteria.)

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
POST-TEST: RD 251-190.03

NAME_____

SCORE_____
(8 of 10)

I. Directions: Circle the letters that stand for /ə/ in each word.

1. soucer

2. fawn

3. toss

4. yawn

5. off

6. fault

7. soft

8. cloth

9. dawn

10. daughter

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
POST-TEST: RD 251-190.03 (cont.)

SCORE _____
(8 of 10)

II. Directions: Circle the word in each row across which ends in -ary. Use four of these words in sentences.

1.	honor	dishonor	honorary
2.	necessity	necessary	university
3.	legendary	legend	legends
4.	station	stationary	stations
5.	scary	share	airy
6.	understand	complementary	compliment
7.	militia	stable	military
8.	revolution	revolve	revolutionary
9.	dictation	dictionary	direction
10.	unable	unnecessary	unable

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

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
POST-TEST KEY: RD 251-190.04

I. (8 of 10)

1. saucer
2. fawn
3. toss
4. yawn
5. off
6. fault
7. soft
8. cloth
9. dawn
10. daughter

II. (8 of 10)

1. honorary
2. necessary
3. legendary
4. stationary
5. scary
6. complimentary
7. military
8. revolutionary
9. dictionary
10. unnecessary

Sentences will vary.
(The word and sentences should both be correct to meet the criteria.)

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
POST-TEST: RD 251-190.05

NAME_____

SCORE_____
(8 of 10)

I. Directions: Draw two lines under the letters that stand for /ə/.

1. jaw

2. moss

3. drawn

4. officer

5. sock

6. block

7. sault

8. lawn

9. pawn

10. cross

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
POST-TEST: RD 251-190.05 (cont.)

SCORE_____

(8 of 10)

II. Directions: Put an X on the word in each row across which ends in -ary. Write sentences with four of these words.

1.	military	militia	underage
2.	unhappy	unneccessary	unable
3.	complimentary	compliment	commas
4.	legendary	legend	honorable
5.	really	revolutionary	war
6.	airy	really	necessary
7.	scary	scare	share
8.	stationary	stationed	stations
9.	liberty	library	liberal
10.	honorable	honorary	honor

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

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
POST-TEST KEY: RD 251-190.06

(8 out of 10)

I. 1. jaw
2. moss
3. drawn
4. officer
5. sock
6. block
7. sault
8. lawn
9. pawn
10. cross

(8 out of 10)

II. 1. military
2. unnecessary
3. complimentary
4. legendary
5. revolutionary
6. necessary
7. scary
8. stationary
9. library
10. honorary

Sentences will vary. However, the word and the sentence should both be correct to meet the criteria.

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET: RD 251-190.11

NAME_____

SCORE_____

I. Directions: Read the words below, and place under the correct heading.

saw, taught, cloth, paw, fault, soft, law, off, straw, saucer, office, fawn, Austin, officer, cross, boss, draw, fox, drawn, socks, lawn, awful, haul, autumn

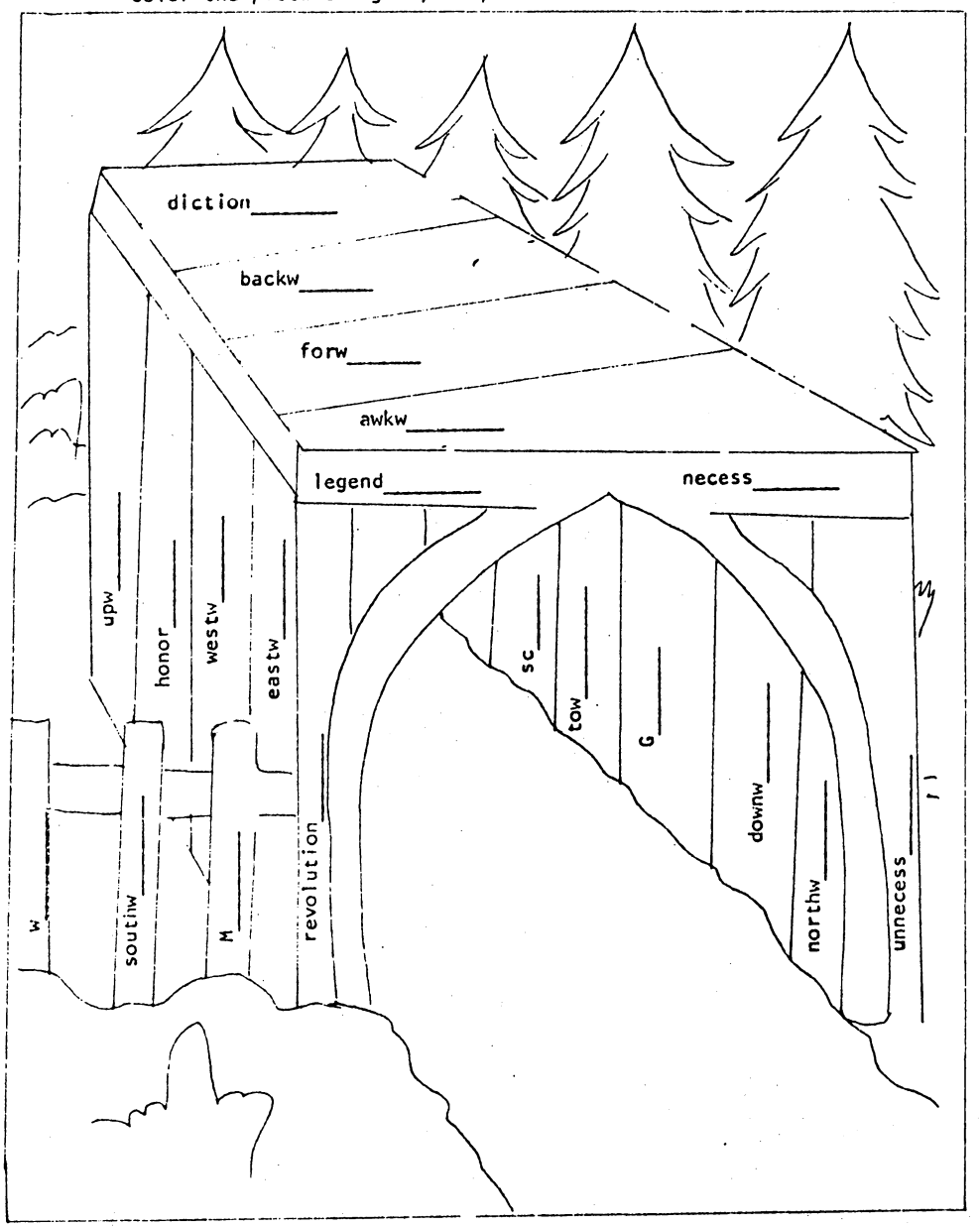
O	AW	AU
OFF	SAW	FAULT

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET KEY: RD 251-190.12

o	aw	au
cloth	saw	fault
soft	paw	saucer
off	law	Austin
office	straw	taught
officer	fawn	haul
cross	draw	autumn
boss	drawn	
fox	lawn	
socks	awful	

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET: RD 251-190.13

Directions: Fill in the blanks with ary or ard to complete the words. Color the picture lightly so your words will show through.



LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET KEY: RD 251-190.14

The word endings are:

1. dictionary
2. backward
3. forward
4. awkward
5. legendary
6. necessary
7. scary
8. toward
9. Gary
10. downward
11. northward
12. unnecessary
13. upward
14. honorary
15. westward
16. eastward
17. ward
18. southward
19. Mary
20. revolutionary
21. military

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET: RD 251-190.15

NAME_____

SCORE_____

I. Directions: Read each sentence. Put in the correct spelling for /ə/ o, aw, or au.

1. At d_____n most people are still saleep.
2. A y_____n tells us that a person may be tired.
3. Father t_____ght the boys how to skate last winter.

4. Mother put a cl___the on the table.
5. Please put a cup and s_____cer on the table.
6. Can you turn somers____lts?
7. Jane's s___cks were missing.
8. I s_____ a pretty f_____n.

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET KEY: RD 251-190.16

I. 1. dawn

2. yawn

3. taught

4. cloth

5. suacer

6. somersaults

7. socks

8. saw, fawn

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET: RD 251-190.17

NAME _____

Directions: Choose the word from the box below which completes the blanks.

Revolutionary	necessary	stationary
unnecessary	library	dictionary
honorary	legendary	scary
	military	

1. Paul Bunyan was a _____ figure.
2. She wrote her letter on pretty _____.
3. I found this book in the _____.
4. A spooky house looks _____.
5. It is _____ to know how to count.
6. We use the _____ to look up the meanings of words.
7. Something that is not necessary is _____.
8. She is an _____ member of the 4-H club.
9. Soldiers and sailors are _____ men.
10. George Washington fought in the _____ War.

LEARNING PACKAGE NUMBER: RD 251-190.00 (cont.)
WORKSHEET KEY: RD 251-190.18

1. legendary
2. stationary
3. library
4. scary
5. necessary
6. dictionary
7. unnecessary
8. honorary
9. military
10. Revolutionary

APPENDIX C

Sample Diagnostic Placement Test

KANAWHA COUNTY SCHOOLS
200 Elizabeth Street
Charleston, West Virginia 25311

Fourth Year
Reading Placement

Sample Items

A.

I'll (a)	I'm (b)	I'd (c)

B.

boat (a)	bond (b)	bone (c)

Pilot Edition
August 1973

1. Which word contains the /ɔ/ sound as in dawn?

a. tail b. dance c. saucer d. town

2. Which word has the sounds you hear after the f in the word fall?

a. almost b. alto c. allow d. alp

3. Which consonant will not make a word when added to both of these bases?

old
ind

a. m b. f c. p d. h

4. Which consonants are silent in this word? right

a. gh b. ht c. ght d. r

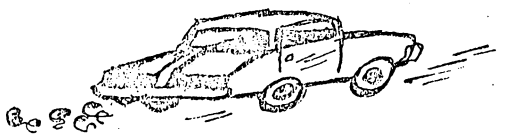
5. Find the word in which the letters or have the sound you hear after the h in her.

a. morning b. world c. torn d. shorn

6. Find the word in which the letters or have the sound you hear in the word or.

a. worthy b. worn c. world d. work

7. Find the word which has the sound you hear after the c in car.



a. fare b. part c. care d. warn

8. This word has the sound you hear at the beginning of the word fat. Which consonant(s) stand for this sound?

dolphin

a. lp b. ph c. lph d. gh

9. Find the word which has the oo sound as in cool.

a. took b. board c. food d. book

10. Read the sentence below and choose the correct answer.

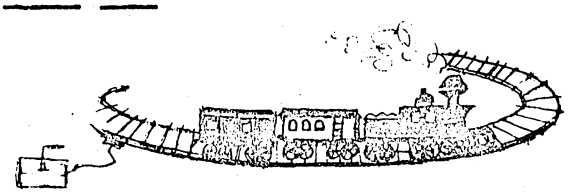
A person who helps people get well is a _____.

a. physician b. magician c. politician d. musician

11. Which word contains the vowel sound you hear in food?

a. hood b. mood c. hook d. book

12. Which word does not have the same vowel sound as train?



a. gray b. bake c. tramp d. pail

13. Which word does not have the same vowel sound as these?

a. week b. clever c. easy d. key

14. Which word contains the sound of long i?

a. drum b. dry c. wick d. liver

15. Which word does not have the same ct sound as fact?

a. collect b. faction c. elect d. act

16. Which group of letters will make a word when combined with the diagraph rk?

a. ta b. pa c. sa d. ra

17. Which word has the same ending sound as band?

a. ring b. pink c. wind d. dent

18. Which consonant will make a word if added to ard?

a. k
b. r
c. d
d. c

ard

19. Which letter "a" has the sound you hear in "battle"?

a. ā b. ä c. a d. ã

20. Which word does not have a /g/ sound as in gone?

a. snuggle b. smudge c. soggy d. sag

21. Which letter of the Glossary symbol stands for the underlined sound in rough?

a. gh b. g c. f d. h

22. Which word does not have the ō sound as in rose?

a. open b. float c. school d. go

23. Which word does not contain the ü sound?

a. swoop b. mule c. stoop d. fool

24. Which word does not have u̇ sound as in look?

a. good b. loop c. took d. book

25. How many syllables are there in the word consideration?

a. 4 b. 3 c. 5 d. 6

26. Which word does not contain the oi sound?

a. employ b. body c. destroy d. coin

27. Which word does not have the correct stress mark?

a. teach'er b. com'pare c. in'come d. ex plode'

28. Which word does not contain the f sound?

a. laughed b. plagued c. fantasy d. telephone

29. Complete the following sentence.

He is a _____ man in our history.

a. legendary b. contrary c. necessary d. pictionary

30. Complete the following sentence.

I am going to _____ house.

a. Sallys b. Sally's c. Sallys' d. Sallies

31. Complete the following sentence.

The two _____ cars were parked by the tree.

a. boys' b. boys c. boy's d. boyes

32. Complete the following sentence.

The cement will _____ when it dries.

a. lighten b. harden c. lengthen d. conform

33. Complete the following sentence.

Our car ran out of gas _____ between Kanawha City and Marmet.

a. midway b. midday c. midnight d. midwife

34. Match the word with its meaning.

reappear

a. never return
b. one who appears
c. to return
d. disappear

35. Complete the following sentence.

A person who can't read is called a _____.

a. nonreader
b. nonscientific
c. miscount
d. nonconformist

36. Complete the following sentence.

Mother made a car _____ at the bank.

a. pavement
b. payment
c. payroll
d. payee

37. Complete the following sentence.

The _____ of the road made our trip enjoyable.

a. greatness
b. smoothness
c. roughness
d. uneveness

38. Match the word with its meaning.

painful

a. happy
b. full of pain
c. full of happiness
d. having no pain

39. Which word ends with a suffix?

a. spy
b. safety
c. boy
d. plenty

40. Which word is a compound word?

a. workbook
b. number
c. example
d. resplendid

41. Which word means "something that allows people to talk over a distance"?

a. telephoto b. telegraph c. telephone

42. Which word is spelled correctly after adding -ly to happy?

a. happily b. happly c. happyly d. happiely

43. Complete this sentence.

A person who walks is called a _____.

a. walkist b. walker c. walkee d. walked

44. How many syllables are there in the word reservation?

a. 2 b. 5 c. 4 d. 3

45. Which animal belongs to the Latin genus Canis?

a. cat b. parrot c. poodle d. goat

46. Read each sentence and decide which (to, two, or too) belongs in the blank.

May I go to the store, _____?

a. to b. too c. two

47. Read each sentence and decide which word would be correct.

_____ mother took them to the club.

a. Their b. There c. They're

48. Which word means the same as "moving gaily and proudly"?

a. wastebasket
b. prancing
c. dancing
d. careful

49. Which word has the same meaning as the underlined word in the sentence?

Jack hoped that the spot of red paint was <u>unnoticeable</u>.

a. easily seen
b. attractive
c. not easily seen
d. detectable

50. Which word would complete this sentence?

The ant was at first friendly and _____.

a. amiable b. modified c. cud d. grouchy

51. Choose the synonym of the word <u>marsh</u>.

a. desert b. swampland c. march d. mountain

52. Choose the antonym of the word <u>awkward</u>.

a. graceful b. clumsy c. awe d. astounded

A New Experience

One night Mr. Ames announced to his family that they had been invited to spend a weekend on the Sloanes' farm. Everyone was excited about the trip, especially the oldest boy, Jack.

"I've seen so many Westerns on TV that I feel like an old cowhand already," Jack would say over and over. "Just think, I'm going to get to ride on a horse. Of course, a horse can

be a pretty dangerous thing to handle. Why, how many times have we seen one buck or take off like lightning on TV?"

Each time he said something like that, a worried look appeared on his sister Linda's face, and she changed the subject.

After the Ames family arrived at the farm, Mr. Sloane asked, "How would you children like to ride on a horse?"

Linda's brothers shouted with joy and hurried to the barn. Just then Linda started toward the Ameses' car, explaining that she had left something in it. When she came back, the boys were almost finished with their rides. "Oh dear, I'm afraid I'll have to give up my ride," she said. "It's almost time for dinner."

Read the story above and answer the following questions.

---

53. What is the main idea for this story?

a. Linda did not want to ride a horse.
b. The Sloanes' farm in the country.
c. A vacation for the Ames' family.
d. Watching westerns on T.V.

---

54. Which statement from the story <u>is</u> <u>not</u> a comparison?

a. take off like lightning
b. he said something like that
c. how would you children like to ride on a horse
d. feel like an old cowhand

---

55. Linda did not want to ride a horse because:

a. She forgot her sweater.
b. The boys had all the horses.
c. She was afraid of horses.
d. It was time for dinner.

56. Which of the following statements is not a detail:

a. The boys rode horses on the farm.
b. The Ames family spent a weekend at the farm.
c. The horses on the Sloanes' farm would buck and run real fast.
d. Linda was glad when it was time for dinner.

57. Choose the group of sentences which best tells the order of how things happened in the story.

a. Mr. Sloane asked if they wanted to ride horses.
The Ames family was invited to the farm.
Linda went to get something from the car.

b. Linda went to get something from the car.
Mr. Sloan asked if they wanted to ride horses.
The Ames family was invited to the farm.

c. The Ames family was invited to the farm.
Mr. Sloan asked if they wanted to ride horses.
Linda went to get something from the car.

58. Which one of these statements is an opinion?

a. Horses can be pretty dangerous.
b. They spent a weekend on the Sloanes' farm.
c. A worried look appeared on his sister Linda's face.
d. It's almost time for dinner.

KANAWHA COUNTY SCHOOLS
READING PLACEMENT
ANSWER KEY
LEVEL 4

1.	c	21.	c	41.	c
2.	a	22.	c	42.	a
3.	c	23.	b	43.	b
4.	a	24.	b	44.	c
5.	b	25.	c	45.	c
6.	b	26.	b	46.	b
7.	b	27.	b	47.	a
8.	b	28.	b	48.	b
9.	a	29.	a	49.	c
10.	a	30.	b	50.	a
11.	b	31.	a	51.	b
12.	c	32.	b	52.	a
13.	b	33.	a	53.	c
14.	b	34.	c	54.	c
15.	b	35.	a	55.	c
16.	b	36.	b	56.	c
17.	c	37.	b	57.	c
18.	d	38.	b	58.	a
19.	c	39.	b		
20.	c	40.	a		

KANAWHA COUNTY SCHOOLS

SEQUENCE OF SKILLS

FOURTH LEVEL READING PLACEMENT TEST

Question	Skill	Skill Name
1	RD 251-190	Identifying o, aw, and au as three alternate spellings of /ɔ/.
2	RD 251-195	Graphemic bases -al and -all and phoneme - grapheme correspondences of /ɔl/.
3	RD 251-200	Graphemic bases -ind and old.
4	RD 251-205	Silent letter combination gh.
5	RD 251-230	Phoneme - grapheme correspondences /ər/or.
6	RD 251-235	Phoneme - grapheme correspondences /ɔr/or.
7	RD 251-245	Phoneme - grapheme correspondence /ar/ar.
8	RD 251-260	Phoneme - grapheme correspondence /f/ph.
9	RD 251-270	Distinguishing between the two sounds for oo: /uw/and /u/.
10	RD 251-275	Phoneme - grapheme correspondences /isən/-ician.
11	RD 251-277	Alternate spellings for /uw/.
12	RD 251-280	Identifying a-e, ai and ay as spellings for /ey/.
13	RD 251-285	Identifying e-e, ee, ea, and ey as spellings for /iy/.
14	RD 251-290	Identifying i-e, ie, and y as spellings for /ay/.
15	RD 251-310	Phoneme - grapheme correspondences /ky/ct.
16	RD 251-315	Final consonant clusters ft, rk, lk.
17	RD 251-320	Identifying and encoding words containing the final consonant digraph ng and clusters nk, nd, nt.

Fourth Level Reading Placement Test
Page 2

Question	Skill	Skill Name
18	RD 251-325	Final consonant clusters ld and rd
19	RD 301-005	Distinguishing between vowel letters and vowel sounds
20	RD 301-008	Phoneme - Grapheme g/g
21	RD 301-060	Decoding story words written in pronunciation key symbols
22	RD 301-070	Identifying four basic spelling patterns for the long vowel phoneme /ow/ as in no; o-e, o, ow, and oa
23	RD 301-085	Identifying five basic spelling patterns for the long vowel phonemes /uw/ as in moot and /yuw/ as in mute; u-e, oo, ew, ue, and u; pronunciation key symbols: ü and ū
24	RD 301-130	Identifying and classifying words containing the vowel phonemes /u/ and /uw/; pronunciation key symbols: ů and u
25	RD 301-140	Identifying the number of syllables, primary stress pattern, word-class, and word parts (base and affixes) for a group of words ending in the suffix -ation
26	RD 301-225	Identifying the most frequent spellings of the phoneme diphthongs /y/ and /aw/ as in toy and house; oi, oy, and ou, ow; pronunciation key symbols: oi and ou
27	RD 301-240	Describing the syllable as containing one vowel sound and usually from zero to six consonants
28	RD 301-260	Identifying four basic spelling patterns for the consonant phoneme /f/ as in fat; f, ff, ph, and gh; pronunciation key symbol: f
29	RD 251-192	Suffixes -ary
30	RD 251-197	Possessive form by adding -'s

Fourth Level Reading Placement Test
Page 3

Question	Skill	Skill Name
31	RD 251-202	Plural possessive form by adding -s'
32	RD 251-210	Suffixes -en
33	RD 251-225	Prefixes mid-, fore-,
34	RD 251-237	Prefixes re-;
35	RD 251-240	Prefixes mis, non
36	RD 251-322	Suffixes -ment
37	RD 251-327	Suffixes -ness
38	RD 251-330	Suffixes -ful and -ous
39	RD 251-335	Suffixes -ty
40	RD 301-007	Simple compound words
41	RD 301-020	Identifying the meaning of words having the prefix tele-
42	RD 301-025	Adding -ly to adjectives and using them in context
43	RD 301-100	Identifying vocabulary words and their synonyms which most accurately complete sentences describing story content
44	RD 301-142	Identifying the number of syllables, primary stress pattern, word-class, and word parts (base and affixes) for a group of words ending in the suffix -ation
45	RD 301-152	Identifying words belonging to the Latin word families of genus and species
46	RD 251-330	Distinguishing between to, too, and two
47	RD 251-337	Distinguishing between there and their
48	RD 301-010	Identifying phrases which relate to the meaning of given story words

Fourth Level Reading Placement Test
Page 4

Question	Skill	Skill Name
49	RD 301-055	Using context clues to discover word meaning
50	RD 301-065	Identifying semantic relationships in selected story words
51	RD 301-135	Identifying synonyms for given vocabulary words
52	RD 301-137	Identifying antonyms for given vocabulary words
53	RD 251-295	Main idea
54	RD 301-027	Use of comparison in the story
55	RD 301-028	Cause and effect
56	RD 301-030	Detail
57	RD 301-145	Sequencing events in a story
58	RD 301-152	Distinguishing between fact and opinion

APPENDIX D

Kanawha County Schools Board of Education Curricular Objectives

Board of Education Memo #156 - 72/73

February 16, 1973

TO: Board of Education Members

FROM:

SUBJECT: Kanawha County Schools Board of Education Curricular Objectives

For the past nine months a working paper for "Long-Range Curriculum Planning to Increase Educational Achievement and Educational Accountability in the Kanawha County Schools" has been under examination and revision. Among the groups that have reviewed, critiqued, and suggested revision of this working paper are the Board of Education of the County of Kanawha, the Superintendent's Council, all building administrators, a special administrators' committee (elementary principals' and secondary principals' officers), the Association of Classroom Teachers, the Kanawha County Education Association, all county office administrators, and the Kanawha County Curriculum Council. As a result of the reactions received from the mentioned groups and individuals within those groups, several changes have been made in the original working paper objectives.

Presented below is a short rationale and curricular objectives for the Kanawha County Schools. The rationale and objectives are presented to the Kanawha County Schools Board of Education for approval and adoption in the Kanawha County Schools.

Rationale

Throughout the nine introductory pages of the working paper entitled "Long-Range Curriculum Planning to Increase Educational

Achievement and Educational Accountability in the Kanawha County Schools," it has been the intent of the Kanawha County Superintendent of Schools and his staff to convey the necessity for establishing - in Board of Education policy - the direction and objectives for curriculum and instruction programs in the Kanawha County Schools. The inclusion of the phrases "educational achievement" and "educational accountability" is done so for a specific purpose. The "educational achievement" obligation of school administrators and school teachers in Kanawha County must first and foremost be to the students of Kanawha County. This is to say that our efforts must be directed toward assuring that each child - regardless of his God-given talents, his background, and his position in life - will be furnished with an instructional program which is flexible enough to assure him of appropriate placement, appropriate instructional materials, rate of learning variability, level of understanding variability, and coordination in such a manner as to assure maximal success for each of the 52,000 students in Kanawha County. The "educational accountability obligation of school administrators and school teachers in Kanawha County affirms that efforts will be directed toward the design of curricular and instructional programs, operational procedures, and evaluative procedures which will assure that we are apprised of our own priorities and able to recognize and self-correct our own deficiencies.

To be able to assure that our direction is toward greater "educational achievement" and "educational accountability," it is essential that a school system establish some basic, affirmative, measurable guidelines and standards against which it may critique itself. This is the purpose of establishing objectives for curricular

programs in Kanawha County. The objective is, in a sense, a Board of Education standard of quality which will facilitate the operation of a school system in a number of ways. Among the ways in which a school system is facilitated by the statement of direct objectives are the following: (1) clear statements of direction, (2) clear statements of expectation, (3) clear statements of evaluative procedures, and (4) clear statements of corrective procedures.

School system objectives are not confining, but they are directive. They are not repressive; they are enlightening. Rather than being feared, they should be welcomed. After all, the concise and explicit statement of objectives is one significant tool for eliminating role conflict, misunderstanding, anxiety, dissatisfaction, and disorientation. When personnel become aware of the committed direction of their organization, they are able to perform their duties with the fullest realization of job direction, purpose, expectations, and commitment.

The curricular objectives, direction, and commitment in Kanawha County are aimed toward children. Though the terms of the objectives appear "bureaucratically cold," they convey the message and the intent that it is our school system's obligation to diagnose, place, and instruct each child at an instructional level where he can succeed. It is to this end that the following curricular objectives are proposed to the Board of Education of the County of Kanawha for approval.

[The proposed policy was approved on March 8, 1973.]

Kanawha County Schools Board of Education Objectives (Proposed)

1. In order to increase the probability of greater educational achievement and accountability, the skills of instruction (cognitive, affective, and psychomotor) will be identified, stated, and sequenced for each program, subject, or course in the Kanawha County Schools according to a timetable that will coincide with the State Department of Education's textbook adoption dates for each program, subject, or course. These skills and skill sequences will be reviewed, revised and republished annually, if necessary.

2. In order to increase the probability of greater educational achievement and accountability, educational learning packages will be written to coincide with each skill of instruction (cognitive, affective, and pyschomotor) in each program, subject, or course offered in the Kanawha County Schools. The educational learning packages are to include no less than one behavioral objective (including a suggested performance criterion), one set of learning activities (no less than three different resource materials), one pre-test, and one post-test. It is to be emphasized that all features of the educational learning package with the exception of the basic skill of instruction are optional tools to be used by the teacher in a manner and with an approach fitting and comfortable to his/her instructional methodology. The timetable for educational learning package writing will coincide with the State Department of Education's textbook adoption dates for each program, subject, or course.

3. In order to increase the probability of greater educational achievement for each child in the Kanawha County Schools, an operational continuous progress education program will be designed and implemented for each program, subject, or course in the Kanawha County Schools curricula. The continuous progress education program will assure by no later than the 1976-77 school year, that all children will be placed in instructional programs and taught at a level of instruction commensurate with each student's individual placement position, learning rate, and level of understanding.

4. In order to increase the probability of greater instructional diagnosis, placement, and assessment and, as a result, increase the probability of greater educational achievement and accountability, no less than four multi-grade level criterion-referenced tests with no less than four equivalent forms for each test will be written, validated, and relied for each program, subject, or course in the Kanawha County Schools. The test construction timetable will lag--by one year--the timetable set by the State Department of Education for textbook adoptions for each program, subject, or course.

5. In order to increase the probability of greater educational achievement and educational accountability, inservice programs of no less than two days in duration will be presented annually on the skills of instruction, educational learning packages, criterion-referenced testing, diagnosis, placement, prescription, supplementation, and

continuous progress education as these are related to each program, subject, or course in the Kanawha County Schools. The inservice training programs will be developed by committees of teachers and principals under the auspices of the county office staff.

6. In order to increase the knowledge of school system personnel and parents about the educational achievement attained in the Kanawha County Schools, achievement gain scores -- tabulated from pre- and post-administrations of criterion-referenced tests -- will be compiled for all programs, subjects, and courses in the Kanawha County Schools on an annual basis. Achievement gain scores will be compiled by program, school, class, and individual school results will be presented to each building administrator. Parents will have access to their child's skill gain score upon request to the building administrator.

7. In order to increase the knowledge of the Kanawha County Schools instructional-budgetary priorities, the school administration will construct and have operational a program budget within a two year time period. The program budget will furnish written data on instructional and non-instructional costs by program, school, grade level, school level, item, and sub-categories of the previously mentioned categories.

8. In order to increase knowledge of the relationship between instructional achievement and cost for decision-making purposes, the school administration will compute cost-effectiveness comparisons for all programs, courses, and subjects on an annual basis by program, school, grade level, and item. Cost-effectiveness comparisons will be computed for each program, course, or subject no earlier than one year following the completion, validation, and relying of the criterion-referenced tests for those programs, courses, or subjects in question.

9. In order that the school system may strive for increased educational achievement for all children in the Kanawha County Schools, the Board of Education, Superintendent of Schools, and his staff shall project, in cooperation with principals and teachers, minimal achievement gain goals for all programs, subjects, or courses in the school system, report the degree to which the projected achievement gain goals have been attained, and delineate courses of action, if any, to increase performance in the attainment of achievement gain goals. Achievement gain goals will be assessed annually by the Board of Education, the Superintendent, and the Superintendent's staff in cooperation with a committee of principals and teachers. Achievement gain goals will be projected for each program, course, or subject one year after the development and pilot-testing of criterion-referenced tests for that program, course, or subject.

10. In order to ascertain the direction of all administrative, service, and support divisions in the Kanawha County Schools, objectives and

minimal performance criteria will be set annually to delineate the purpose, operation, and expectations of each administrative, service, and support division and department in the Kanawha County Schools.

11. In order to foster the increased performance of all administrative, service, and support divisions in the Kanawha County Schools, evaluative instruments -- both formal and informal -- will be designed to assess annually the minimal acceptable performance levels of each administrative, service, and support division and department in the Kanawha County Schools.

12. In order to project the long-range planning procedures and directions in the Kanawha County Schools, the Superintendent and his staff in cooperation with a committee of principals and teachers will prepare and present annually to the Kanawha County Schools Board of Education a three-year plan, flowchart, and timetable on the major activities to be undertaken in the accomplishment of the Kanawha County Schools instructional programs.

13. In order to illustrate the educational accomplishment of the Kanawha County Schools, the Superintendent and his staff will in cooperation with a committee of principals and teachers prepare and present annually to the Kanawha County Schools Board of Education a st atus report on the degree of accomplishment of each instructional objective established for the operation of the Kanawha County Schools.

RBW/s

APPENDIX E

Listing of the Pilot and Non-Pilot Schools

Listing of the Pilot and Non-Pilot Schools

Pilot schools:		Non-Pilot schools:	
Anne Bailey	*	Alum Creek	
Belle		Central	*
Big Chimney		Chelyan	
Boreman	*	Chesapeake	*
Bridge	*	Elkview	*
Cedar Grove Community	*	Holz	*
Chandler	*	Malden	*
Cross Lanes	*	Midland Trail	*
Flinn		Oakwood	
Ford		Overbrook	*
Fort Hill		Roxalana	
Hansford		Taft	
Highlawn	*	Tyler	
Lakewood	*		
Loudendale			
Mary Ingles			
Piedmont			
Pinch-Quick			
Richmond			
Ruffner			
Ruthlawn			
Shoals	*		
Sissonville			
Spring Hill			
Tiskelwah			
Valley Grove	*		
Watts			
Weberwood	*		

* Schools in the study sample.

APPENDIX F

Excerpts from the Student Handbook of a Suburban Senior High School

Excerpts from the Student Handbook of a Suburban Senior High School

From the Section Titled, "Cafeteria Regulations"
[Passaic Valley High School, 1971:26-30]

. . . Some of these misguided individuals have come to believe that they may thwart the will of the majority and remain immune to any penalty. Any school that would permit any student to endorse such a concept which is counter to the basic principles of democratic living would be failing seriously in its responsibility. Passaic Valley High School will not fail to meet its responsibility.

Despite everything said about it, some students profess not to know what is expected of them and further profess that they need a set of specific rules to guide their behavior. Whether or not this is valid is of relatively small importance. To satisfy the demand the following specific rules and regulations are to be observed:

Getting One's Lunch

1. In getting one's lunch each individual is to observe the regulations set up for entering and leaving the serving area. Enter by way of the door marked "Enter" and leave by the door marked "Exit." Do not attempt to reverse them.

2. A basic principle of democratic organization is equality of opportunity. Therefore it is a direct violation of this concept for people to attempt to cut into line. . . .

3. Calling one's lunch order to someone already in line is in reality only very slightly different from cutting in line. This practice is to be discontinued at once. . . .

Eating One's Lunch

5. . . . .

6. . . . .

a. . . . The refuse is to be placed in the barrels rather than thrown from the table in the direction of the nearest barrel.

b. He is to return his tray with the used dishes, forks and spoons to the receiving window. Again any individual who fails to do this reveals that same egotistical characteristic referred to above--namely, that he considerd his time and his special privileges as being more important than anyone else's.

Sitting At The Tables

7. . . . It is an especially bad practice for students to take

chairs and move them into the aisles set up between the tables. It is amazing that these individuals have not gotten a bowl of soup down their neck, since they are obviously in the way of people . . .

8. . . . Whenever any individual or groups of individuals chooses to speak so loudly or to laugh or exclaim so exaggeratedly that the entire room becomes aware of the situation, then this group is no longer socializing, but is guilty of boisterous conduct which is borderline to rowdyism. . . .

Use of your Leisure Time available of Lunch Time

10. . . . .

11. The facilities of the boys' room and the girls' room adjacent to the cafeteria are intended for students' use, not abuse. The teachers in charge are aware of the fact that many students attempt to smoke in these rooms and many boys have been punished because of this violation of school regulations. It is known that a similar practice goes on in the girls' room. Measures will be taken in the immediate future to see to it that this abuse is curtailed. It goes without saying that the person who finds it necessary to visit the boys' or girls' room two, three, four, or five times during a lunch period exposes himself to the suspicion that he is seeking the opportunity to have a cigarette in direct violation of school controls.

12. As all other facilities provided in the cafeteria the water fountains are available to the students for their use rather than abuse. Malicious persons have attempted to destroy a part of this equipment and again it must be assumed that these persons are sufficiently misguided to believe that this is a good way to receive attention.

. . . . . .

. . . The completeness of details nullifies any possible statement that any individual offender was unaware of what was expected or of what might happen. The determination to resolve this matter satisfactorily cannot be over-emphasized. For any student who has been an occasional offender, or even a more aggravated offender, this would be an excellent time for him to mend his ways unless he chooses to find out for himself just how determined this resolve actually is.

APPENDIX G

Letter and Survey Form Given to Principals Regarding Teacher Individualization of Instruction

KANAWHA COUNTY SCHOOLS

Superintendent

Telephone

Division of Curriculum and Instruction

November 7, 1973

Building Principals:

As we had indicated to you in our recent feeder school meetings, the Kanawha County Schools is engaged in gathering data to fulfill the evaluation requirements of the Kanawha County Schools ESEA Title III project which was funded by the West Virginia State Department of Education. Funds received from ESEA Title III were instrumental in assisting the Kanawha County Schools in developing educational learning packages and criterion-referenced tests and in implementing continuous progress education.

On the attached information form, we would appreciate it if you would list your fourth grade teachers by number (i.e., 1, 2, 3, etc.) and check the appropriate boxes regarding each of your teachers. Please note that for the purposes of this study, we will not identify individual students, teachers, principals, or schools in the conduct of the study. The purpose of this information form is simply to gather data which will help to narrow down the number of schools that will be a part of the Kanawha County Schools final sample for the Title III audit. Naturally, it goes without saying that you must be candid about the information you provide on this information form if we are to receive an accurate assessment of how well continuous progress education is working in our school system.

Please note that the information form should be completed by the building principal. It has no relevance or pertinence to the regular classroom teacher. Please return the form to , Assistant Superintendent for Curriculum and Instruction, , by no later than Tuesday, November 20, 1973. Please feel free to include on the information form any comments or questions that you may have.

We appreciate your assistance in helping us to conduct this study that is so vital to the continuation of our funding from ESEA Title III. We appreciate your willingness to help in identifying areas of strength and weakness in our curricular programs.

Yours most sincerely,

Assistant Superintendent

Associate Superintendent

REK/RBW/cs/lks

School_____

Please list the fourth-grade teachers in the school (e.g., 1, 2, 3, etc.)	Place a check in the column IF the teacher: is new to the school this year *	wanted to be in the pilot program * **	did not want to be in the pilot program **	In your judgment the teacher individualizes instruction	most of the time in	sometimes in	almost never in
				mathematics			
				reading			
				mathematics			
				reading			
				mathematics			
				reading			
				mathematics			
				reading			
				mathematics			
				reading			
				mathematics			
				reading			
				mathematics			
				reading			
				mathematics			
				reading			

*If the teacher is new to the school this year, no other information is needed for that teacher.

**Leave both boxes blank if the teacher didn't indicate to you her feelings, one way or the other, about wanting the school to be a "pilot school" for the continuous progress education program.

Please return this form to , Assistant Superintendent for Curriculum and Instruction, no later than Tuesday, November 20, 1973.

/ /lks -- 11/7/73

APPENDIX H

Goolsby and Frary's Form for Determining Student SES

Goolsby and Frary's Form for Determining Student SES
[Goolsby and Frary, 1971:20-21, 79-80]

CLASSIFICATION OF STUDENTS ACCORDING TO FATHER'S OCCUPATION
(OCCUPATION OF MOTHER OR GUARDIAN IF FATHER IS ABSENT)

The following guidelines are presented with the realization that in some cases the teacher may have to make a judgment without full command of the facts regarding the occupational status of a parent or guardian. In such cases, no additional investigation should be made. Rather the teacher should classify the student according to her perception of the student's family background based on observation throughout the year. Because an occasional rating may therefore be inaccurate, it is essential that the finished rating sheet be shown only to personnel directly involved in processing the research findings. Of course, all responses will be held in strictest confidence and will be used only for group evaluation.

Classification 1: The student's father (or guardian if the father is absent) holds a professional or managerial position. Such jobs usually but not always require at least a bachelor's degree. Examples are:

Accountants (senior or CPA)
Clergymen
Commissioned officers
County agents
Engineers or scientists
Lawyers
Medical doctors
Nurses (registered)
Proprietors or managers of substantial businesses or farms
Teachers

If in doubt as to whether a person belongs in this cl assification, the holding of a bachelor's degree is the best criterion on which to base the decision if this fact is known. If not, try to judge the level of association in the community. For example, a life insurance salesman who sells mainly large policies to the financially affluent segment of the community probably belongs in this classification. One who sells mainly small policies (perhaps on a weekly collection basis) would not.

Classification 2: The student's father (or guardian) holds a regular, full-time job which requires training, knowledge and skill but not at the college level. Examples are:

Agricultural specialists (not college trained)
Automobile mechanics or other skilled tradesmen
Bookkeepers
Clerical and related workers
Draftsmen

Police officers
Postmen
Practical nurses or other non-professional health therapists
Sales personnel in retail stores (if training and knowledge are required, but not lower level sales clerks)
Service personnel (barbers, beauticians, bartenders, cooks, but not lower level waiter or waitress positions)
Supervisory personnel for lower level workers (foremen, etc.)

Classification 3: The student's father (or guardian) holds a job (or jobs) which require only casual or short-term training. These jobs are usually of low prestige and relatively low paying. Examples are:

Agricultural workers (field hands, etc.)
Domestic workers (household servants)
Laborers (construction, etc.)
Laundry workers
Service and sales personnel in lower positions

If in doubt as to whether a job belongs in this category, the primary criteria are lack of any requirement for prior training, a short training period and little raise in pay following training.

APPENDIX I

Teacher Questionnaire and Accompanying Letters

Dear Teacher:

During the 1973-1974 school year, the Kanawha County Schools conducted an ESEA Title III project entitled "Basic Skills-Oriented Learning Packages." This project, funded by the West Virginia State Department of Education, Title III Office, furnished developmental money to design and write educational learning packages in reading. As a part of that project, it was a stipulation of the State Department of Education Title III Office that an evaluation of the project be completed by an external evaluation or audit team. The final evaluation of the project will, in part, serve as a determining factor in whether or not the Kanawha County Schools will be refunded for a third developmental year.

As evaluators of the Kanawha County Schools Title III project, our audit committee would appreciate it if you would participate in evaluating this project. We have the support of the Kanawha County Schools central administrative staff and the West Virginia State Department of Education, Title III Office in this endeavor.

The attached brief questionnaire is an essential part of the evaluation. Your responses will be completely confidential. (Please use the attached stamped addressed envelope to return your questionnaire). As you can see on the top of each sheet on your questionnaire, we have assigned a special code number to each person. The purposes for doing this are to aid in questionnaire categorization and data compilation. Please be assured that no individual teacher or school will be identified in the evaluation and that your responses will be anonymous to everyone other than the Title III Audit Committee.

Please do not omit any items.

If you are not sure of an answer, mark the choice which seems closest to your review and experiences.

There are no "right" or "wrong" answers.

IT IS ESSENTIAL, however, that you respond to each question according to your views and experiences. Please do not be concerned about the opinions of others or what others would like you to think. We are only interested in your personal opinion.

Please mail the completed questionnaire to the Title III Audit Committee as soon as possible, but no later than Friday, June 7.

Again thank you very much for your help.

Title III Audit Committee

Blacksburg, Virginia 24060

cs

TEACHER QUESTIONNAIRE

#_____

1. *Total years' teaching experience (including this year):*

   _____ *1-3 years* _____ *4-9 years* _____ *10 or more years*

2. *Formal academic training:*

   _____ *B.S.* _____ *M.S.* _____ *M.S. + 30 or more*

3. *In your opinion, how extensive is your background in reading, compared to other elementary teachers?*

   _____ *above average* _____ *average* _____ *less than average*

4. *To what extent are you an advocate of the concept of continuous progress education?*

   _____ *outspokenly in favor of*

   _____ *moderately supportive*

   _____ *still trying to decide*

   _____ *prefer another concept*

5. *To what extent do parents understand the concept of continuous progress education?*

   _____ *almost all understand*

   _____ *a substantial number understand*

   _____ *a substantial number do not understand*

   _____ *few if any understand*

6. *To what extent are your students interested in and enthusiastic about their instruction in reading in the continuous progress education program?*

   _____ *not as interested and enthusiastic as last year*

   _____ *more interested and enthusiastic than last year*

   _____ *about the same as last year*

7. *In your opinion, how well have your fourth-grade students achieved in reading this year?*

   _____ *about as well as expected*

   _____ *better than expected*

   _____ *not as well as expected*

8. *To what extent have you changed the recommended sequence of instruction in reading?*

   _____ *considerably* _____ *somewhat* _____ *very little*

9. *To what extent are you aware of specific differences among your students with respect to reading abilities, achievements, and difficulties?*

   _____ *much more than last year*

   _____ *more than last year*

   _____ *about the same as last year*

   _____ *not as much as last year*

10. *To what extent does the continuous progress education program make it possible for you to individualize instruction?*

   _____ *much more than last year*

   _____ *more than last year*

   _____ *about the same as last year*

   _____ *not as much as last year*

11. To what extent do you individualize instruction in reading?

_____ almonst never _____ sometimes _____ most of the time

12. To what extent are there discipline problems in your reading class?

_____ very few _____ moderate _____ considerable

13. To what extent does the continuous progress education program place stress (tension) on the teacher?

_____ considerable _____ moderate _____ very little

14. To what extent do you utilize behavioral objectives?

_____ much of the time _____ sometimes _____ seldom

15. How many hours each week (on the average) do you spend preparing for a class in reading?

_____ hours per week

16. Check all the categories that apply to your teaching situation in reading:

_____ graded _____ ungraded _____ multi-graded

_____ self-contained _____ team teaching _____ departmentalized

_____ homogeneous grouping _____ heterogeneous grouping

17. To what extent do you consider yourself to be an "enthusiastic" reading teacher?

_____ very enthusiastic _____ moderately _____ not too enthusiastic

18. To what extent are you feeling pressure concerning your students' achievements in reading because the school year is almost ended?

_____ considerable pressure _____ moderate _____ very little

19. *Please define "continuous progress education" as you understand the concept. (You don't have to write complete sentences; use descriptive words and phrases; but include all essential elements of continuous progress education programs.)*

PLEASE PRINT

_____

_____

_____

_____

_____

20. *What else (if anything) needs to be done -- in the classroom, in the school, in the school district, or by you -- in order to fully implement the continuous progress education concept, with specific reference to reading instruction?*

PLEASE PRINT

_____

_____

_____

_____

_____

21. *What is the worst aspect/or/biggest problem/or/greatest concern with the continuous progress education program in reading?*

PLEASE PRINT

_____

_____

_____

_____

_____

22. *What is the best aspect/or/biggest "plus"/or/greatest advantage of the continuous progress education program in reading?*

PLEASE PRINT

_____

_____

_____

_____

_____

Write additional comments on the rest of this sheet.

THANK YOU VERY MUCH FOR YOUR HELP! PLEASE MAIL BACK RIGHT AWAY!

June 17, 1974

Dear

The Title III Audit Committee has not yet received your completed questionnaire. IT IS VERY IMPORTANT to the evaluation that ALL of the teachers in the sample complete the questionnaire. (You are one of only thirty-two fourth-grade teachers in the district-wide sample, SO YOUR RESPONSE IS VERY, VERY IMPORTANT!)

Another set of the questionnaire sheets is enclosed together with a stamped, addressed envelope.

Your response will be completely confidential and will be anonymous to everyone other than the Title III Audit Committee.

It should take only 10 minutes (or less) to complete the questionnaire items. Hopefully, this use of your time (and the time of the other teachers participating in this evaluation) will result in a better learning situation for all Kanawha County students.

Please complete the questionnaire -- and mail i t back today!

Thanks for your help.

Title III Audit Committee

APPENDIX J

Explanation of "STS Grade Score"

Explanation of "STS Grade Score"

The "STS Grade Score" is a special reporting device of the Scholastic Testing Service, publishers of the Educational Development Series. The STS Grade Score system is explained in the publisher's Technical Report (Scholastic Testing Service, 1971:9-14):

> . . . the Grade Score is derived from the same kinds of within-grade comparisons associated with percentile-rank scores. Beginning fourth-grade pupils are compared with other beginning fourth-grade pupils . . . The within-grade comparisons are then expressed on a normalized standard score scale, with the mean set equal to the actual grade placement, and with the standard deviation set equal to 1.0. Thus, if a group of mid-year Grade 6 pupils were tested, the median raw score would receive a Grade Score of 6.5, the 84th percentile would receive a Grade Score of 7.5, the 98th percentile would receive a Grade Score of 8.5, and so on. There is always a direct and readily-expressed relationship between the Grade Score and a within-grade percentile-rank score.
>
> . . . . . .
>
> The STS Grade Score system meets five of the six criteria [of characteristics of desirable norms reports], as follows:
>
> 1. Grade Scores are well-suited for within-grade comparisons. With a knowledge of the conversion scale (and it is a conventional scale--the normal-probability scale) one can readily determine the ranking of an individual pupil within his own grade group.
>
> 2. As in the case of grade-equivalent scores, Grade Scores at or near grade placement do represent grade-level performance. . . .
>
> For Grade Scores varying considerably from actual grade placement, Grade Scores do not represent grade level. Extreme Grade Scores mean only that the pupil did very well (or very poorly) when compared with others at that grade level. Thus, for extreme scores, Grade Scores suffer the same limitations as do grade equivalents. However, by establishing a standard deviation of 1.0 for distributions at all grade levels, the Grade Scores limit the number of very extreme deviations from grade placement, and consequently they tend to minimize misinterpretation of such scores.

[A footnote states: "The STS professional staff feels that there is only one sound method for precisely determining grade level for pupils considerably above or below actual grade placement. This is through some system of graded mastery tests."]

3. Grade Scores do provide a meaningful measure of growth, although it is not entirely consistent with that provided by grade-equivalent scores. For individuals scoring at or near grade placement on two successive testings, growth as expressed by Grade Scores is essentially the same as that expressed by grade-equivalent scores, since the two measures are comparable for scores near the actual grade level. Similarly, for those Grade Scores considerably away from the actual grade level, a suitable measure of growth is feasible. Suppose, for example, that a 4.0-level pupil received a Grade Score of 5.0, and then one year later (as a 5.0 pupil) he received a Grade Score of 6.0. When both reports are converted to percentile ranks, we see that he had a percentile-rank score of 84 as a fourth-grader, and a comparable percentile-rank score of 84 as a fifth-grader. Thus, over a one-year period, he maintained the same relative rank among other pupils at his same grade level. This is a meaningful measure of growth--showing that he has achieved "typical" (or expected) growth on this particular test.

Stated another way: Normal growth on the STS Grade Scores is 1.0 units per year. Score changes of more than 1.0 units indicate relatively rapid growth as compared with other pupils; score changes of less than 1.0 units indicate relatively slow growth as compared with other pupils.

4. As normalized standard scores, the STS Grade Scores have many advantages in conventional statistical procedures--adding, averaging, and the like. STS Grade Scores can appropriately be used for these purposes.

5. The direct relationship between Grade Scores and within-grade percentile-rank scores should make them readily understood by most test users. As compared with the percentile-rank reports, the Grade Scores reduce the problem of unequal units of measurement, and also avoid any possible confusion with "percent-correct" score reports.

6. Similarly, the constant standard deviation of 1.0 for all tests at all grade levels provides for uniform interpretations of results from several testings.

The unmet criterion is that "the norms should indicate grade-level placements, permitting one to say that a given pupil has performed as typical pupils at 'X grade level' did in the tested area." However, according to the Technical Report, "none of these norms systems [i.e., percentile-rank scores, grade equivalent scores, or STS Grade Scores] is fully satisfactory as a measure of grade-level placements."

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THE EFFECT OF LEARNING PACKAGES
ON THE CONTINUOUS PROGRESS EDUCATION PILOT PROGRAM
IN THE KANAWHA COUNTY, WEST VIRGINIA, SCHOOLS

by

Johannes Ingebret Olsen

(ABSTRACT)

The purpose of this study was to obtain information about the continuous progress education programs in reading in the pilot and non-pilot elementary schools in Kanawha County, West Virginia, using selected fourth-grade students as the population sample, in order to provide a basis for making judgments about the programs. The difference between the programs was that locally-developed learning packages were made available to the teachers in the pilot schools but not to the other teachers. The assumption of the Kanawha County school officials was that the "achievement of children in classrooms where these learning packages are used will be significantly greater than the educational attainment of children in . . . classrooms" in which the learning packages are not utilized.

A crossbreak of twelve cells was established in which the three major variables were treatment (pilot and non-pilot), school SES level (higher and lower), and reading achievement levels (high, middle, and low local stanine groups from scores on the EDS Reading pre-test). The sample was comprised of 221 students selected randomly from the available population.

Achievement data were obtained by administering pre-tests and

post-tests using two instruments, one a standardized norm-referenced-type test (the STS Educational Development Series' Reading test) and the other a locally-developed criterion-referenced-type test (the diagnostic placement test). Data was also obtained regarding the instructional situation. Based on the various benefits and characteristics of continuous progress education identified in the literature, a questionnaire for teachers was prepared which was designed to assess the extent to which these benefits and characteristics occurred and were evident. The questionnaire was administered to the teachers of the students in the sample, permitting a comparison of the teacher responses with the achievements of each teacher's students.

On the basis of the data obtained and the subsequent analyses (including MANOVA and factor analysis), it was concluded that students in the pilot schools did not, generally speaking, achieve better in reading than the students in the non-pilot schools at a level that was statistically significant. The exceptions occurred in one of six comparisons made of comparable pilot and non-pilot cells in the cross-break model as measured by the criterion-referenced-type test and in two of the six similar comparisons made as measured by the norm-referenced-type test. The first exception reflected the very superior performance of the low stanine, lower school SES students in the pilot schools as compared with their counterparts in the non-pilot schools. The second two exceptions reflected the superior performance of the pilot school students in both high stanine group level cells (both the lower and higher school SES levels). In no instance of comparison did students in non-pilot school cells achieve better than their counterparts at a level that was statistically significant.

No significant relationship was found between student achievement and teacher attitudes regarding continuous progress education or to operational characteristics of the program except in one instnce, classroom grouping arrangement, favoring heterogeneous grouping.