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An Analysis of the Ungraded Reading Program at Snoqualmie Elementary School and Its Influence on Accelerated Achievement in High School

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AN ANALYSIS OF THE UNGRADED READING PROGRAM AT SNOQUALMIE ELEMENTARY SCHOOL AND ITS INFLUENCE ON ACCELERATED ACHIEVEMENT IN HIGH SCHOOL

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THE PROBLEM AND DEFINITION OF TERMS

I. INTRODUCTION

Since the advent of "Sputnik" our educational system has been under criticism to step up the pace of our educational processes. The teaching staff and administration at Snoqualmie Elementary School, Snoqualmie, Washington, felt there would be accelerated learning in most subject matter if the reading abilities of the students were improved. The mutual concurrence was to group the youngsters homogeneously for reading in grades four through eight. Consequently, the "Ungraded Reading Program" was instituted in the fall of 1959. Thus far there was only cursory examination of the program and its possible effectiveness; therefore, it was felt that research of the program was needed to test its validity.

II. THE PROBLEM

Statement of the Problem

It is the purpose of this study (1) to investigate the bases upon which the administration set up the ungraded reading program; namely, taking into consideration the factors of sex, chronological age, mental maturity, grade

level, and achievement; (2) to review the literature that pertained to homogeneous grouping in order to ascertain if data was available to prove conclusively that it was a more effective way to group for reading instruction; and, (3) to compare the students' accomplishments in other scholastic areas for two years before and after the program was inaugurated; consequently, an attempt was made to determine, insofar as was possible, the effect of the ungraded reading program's subsequent degree of success or failure.

Hypothesis

The major hypothesis tested in this study was that there would be no difference between ungraded reading grouping or heterogeneous reading grouping and accelerated learning in academic subjects based on high school subjective grades.

Importance of the Study

Reading proficiency has long been recognized by authorities as the backbone of democracy and the learning processes. McKee (10:vii) in his preview of reading in the elementary school stated:

> Obviously, the teaching of reading constitutes one of the most crucial responsibilities of the elementary school. The child must be taught to read so that he can live intelligently and with pleasure in our complex civilization, and so he

> can learn whatever the school has to teach through the medium of reading. He needs to use reading as a means of extending his experience, of following his interests, of keeping abreast of the times, of getting information on his questions, and of obtaining fun and recreation. He must read in order to come to grips with much of the social studies, science, arithmetic, health, and other subjects which the school attempts to teach.

From his book concerned with How Children Learn to Read, Russell (15:4) says:

> From the social point of view, a good general level of reading ability is essential to the working of democracy. With all of its cumbersome machinery of government, democracy is still the rule of the people, and the citizenry are fit to rule only if through reading they can appreciate and understand some of the important problems facing their community or country and make thoughtful decisions about them.

Despite recognition of reading's importance to learning and as democratic society, some of our reading methods and philosophy may have been unrealistic due to heterogeneous grouping in a homeroom situation where the students' reading abilities may vary as much as eight years.

III. DEFINITION OF TERMS USED

Accelerated Learning.

The acquisition of excess knowledge or skill received by the instruction of a homogeneous group over the amount of knowledge or skill received by the instruction of a heterogeneous group.

Achievement.

Actual student accomplishment as measured by the Stanford Achievement Test.

Heterogeneous Grouping.

Grouping within a homeroom situation. Other terms used synonomously with heterogeneous grouping were traditional grouping and lock-step grouping.

Homogeneous Grouping.

Grouping across grade lines on the basis of reading ability. The other terms used synonomously and interchangeably with homogeneous grouping were "Joplin Plan" and Cross-Grade Grouping."

Intra-class Grouping.

Grouping for reading or other subject matter within a homeroom.

Inter-class Grouping.

Grouping wherein grade lines were disregarded when grouping for subject matter was done.

Non-graded.

Gradation of students and/or grades were disregarded in this type of organization for instruction. Students progressed only at their own rates and according to their needs.

CHAPTER II

REVIEW OF THE RESEARCH LITERATURE

I. OVERVIEW OF THE EARLY HISTORY

During the colonial period in America, the schools of the early settlements were teaching religion and the humanities. Dolbear (6:750) said, "The educational institutions became strong allies of the religious institutions, but the former were subservient to the latter." Independence from Great Britain saw a system of free public education with Thomas Jefferson being one of the main architects, because of his beliefs that literacy of the population was a necessity if freedom was to be enjoyed and maintained.

During the period of Jacksonian Democracy, the first beginnings of a truly new type of education came into being. The westward movement of the population and the agrarian oriented economy saw small country schools being opened for a few weeks or months, with the students taking up where they left off in their educative processes. These schools were non-graded and had partially broken from the classical European system which had dominated the new world's educational scene for two centuries.

From 1870 to the depression year of 1929, the schools' programs expanded rapidly, absorbed and educated the

the immigrant population so they could pursue their own desires and become useful citizens. At the same time, the duration of a person's education was lengthened to include high school and even foster and promote preparation for college.

Shuster and Ploghoft (13:11) stated:

> It is interesting to note that the faculty psychology theory strengthened the emphasis on drill and repetition as a means of educating the child satisfactorily. School personnel were fascinated that they could put children into an 'assembly line' procedure and turn out the finished product. Thus the elementary school curriculum was conceived as a series of subjects that were too concerned with skills and knowledge to be learned and neglected to help children acquire desirable behavior skills in terms of social, creative, and personal factors. On the other hand, educators like Dewey, Kilpatrick, Horn and others were leading the way by emphasizing the importance of developing the child who had good work habits, initiative for self direction, and proper attitudes about himself and others. These men were ahead of their time, but the curriculum of the elementary school was due for another more radical change after the 1930's.

Basically most of our schools in the early 1930's were grouping heterogeneously with the children moving from grade to grade if they completed the course of study satisfactorily within the given school year. If the student failed to meet the standards, he had to repeat the course of study. This naturally led to feelings of inferiority and a downgrading of one's opinion of himself.

At the same time, the high schools were placing demands upon the elementary levels to promote and foster basic skills that would lead to secondary admittance. The colleges in turn were using the same measures on the high schools. The end result was that students from the upper socio-economic groups and those possessing superior ability prospered intellectually, emotionally, and economically, while those from the lower socio-economic groups were adversely affected.

As mentioned by Shuster and Ploghoft (13) on Page 7, educators such as Dewey, Kilpatrick, Horn and others had undertaken initial research on this problem, but were ahead of their time. The time seemed near and there were educators prepared to do something about the heterogeneous, lock-step method of promotion and retention that had dominated the scene more and more since the 1870's.

In this discourse, the writer reviewed the literature of the ungraded school as exemplified and instituted by authorities such as Lane (17) and Brown (3); and, the ungraded or homogeneous grouping plans for reading that Skapski (16) and Floyd (18) advocated and commenced using. However, one must be aware that the underlying philosophies, though somewhat the same since they use homogeneity as the basis for grouping, are really quite divergent.

The ungraded school, whether in the elementary or secondary school, is non-graded in all subject areas; the students progress from one level to the next at their own rate of progress; no grades are given; and, the rate of progress is not the same for all students.

In the cross-grade plan of grouping for reading, as used by Floyd (18), the students in a graded school are regrouped during a specified block of time for reading only. Under this type of plan, homogeneous grouping based on reading ability is the main factor used; students go to a certain teacher for this block of time; grades may or may not be given, depending upon the philosophy of the school system involved; and, advancement to the next group is dependent upon the individual student's rate of progress.

Any further reference to the terms "non-graded school" or "ungraded reading" will be based upon the aforementioned clarifications.

II. THE UNGRADED SCHOOL

Smith (17:117-119), in her review of methods of grouping for reading instruction, stated:

> On a July day in 1935, Dr. Robert Hill Lane tossed an educational bomb into the midst of a group of listeners in Denver during the annual convention of the National Education Association. Dr. Lane, principal of a public school in Los Angeles, proposed to establish a school unit which he called the 'Junior School.' In this

> unit, there would be no grades, and children would be classified as Group One, Group Two, Group Three, and so on. Reading would be the major problem attacked; a child would be passed only once and that would be when he made the transition to the 'Upper School.' Some children would be in the 'Junior School' three years, others four years, or two years, or whatever period of time it was necessary for him to achieve such ability as would enable him to enter the 'Upper School,' to join children for whom reading was no longer a serious problem.
>
> Shortly after his proposal, Dr. Lane experimented with his plan for an ungraded primary school with success in some of the Los Angeles Public Schools. Several years elapsed before the idea took hold elsewhere, but more recently several public school systems have adopted the plan and extended it to include the intermediate grades as well as the primary grades.

More recently, Brown (3:33), in reviewing the Rockefeller Report on education, said:

> The towering obstacle to the development of students as individuals is the lock-step method of grade organization, for the grade places a formal ceiling on learning. It is a citadel of routine, requiring the individual to conform to a fixed pattern of learning. In brief, the grade is a bureaucracy for children.

Here we see that another authority in the field of education questioning the graded organization. Brown's (3:34) next statement is as revolutionary in concept as was Lane's in 1935. He stated:

> The non-graded high school reform is the revamping of the structure for learning. It is distinct from reform programs involving subject matter of the curriculum which are being undertaken both nationally and locally. Where current curriculum reform programs deal primarily

> with improvement of education within the framework of the present structure, the non-graded school proposes that the architecture of the learning process be subjected to a searching investigation with a view toward fundamental reconstruction of the organization.
>
> This 'reorganization of the process' reform is based upon the need for a greater concentration upon the individual. In order to achieve this elusive objective, individuals must be aligned for learning. The re-sorting process involves a new classification of students on the basis of achievement rather than chronological age.

This concept brought the pendulum of proposed restructuring of our grouping practices full swing. From the "Junior School" proposed in 1935, later extended to the "Upper School," and now the further extension of this idea into our secondary schools.

The basic concepts behind the graded school were sound; however, when some new innovation enters the educational field, many schools that know nothing about the new technique, or the proper methods for implementing and administering it, jump on the bandwagon by including the new innovation or technique in their program. In many instances, because of a lack of knowledge and misunderstanding, it is soon dropped by many of the hasty neophytes. However, if it has educational merit, it was retained by a few of the well-versed and prepared school systems or it gradually finds its way back into educational circles for further testing and

refinement. This was true of Doctor Lane's "Junior School," and Brown's proposed extension of the non-graded program to include high school.

Bushnell (5:1) affirmed this by stating:

> Homogeneous grouping or ability grouping is such a movement. It is a relatively new procedure designed to assist both the administrator and the classroom teacher in solving the problem of individual differences. The movement has had very wide recognition and acceptance especially among the larger schools. Now the reaction has set in, with many prominent educators decrying ability grouping, calling it undemocratic, unfair to the child, a plan to kill the initiative of the teacher, a plan which tends to level the brighter pupils downward.

Bushnell later explained, in his discussion of the purpose, method and materials of his study, that the pupils of the seventh and eighth grades were segregated by ability, while the ninth grade was segregated to a limited extent in English and algebra. Here we have an unusual situation of interclass and intraclass grouping in one school, though both were based on ability from the Stanford Norms rather than subjective grades.

In his discourse on the subject of ability grouping, Bushnell (5:2) continued:

> The author holds that ability grouping on a proper and adequate basis and used wisely by both teachers and administrators, lends itself to more efficient learning on the part of the pupils, and more able teaching on the part of the teaching staff.

To the writer, this statement holds truths that appear to be constructed on firm suppositions. He does feel, however, that more than suppositions are needed before it should be accepted. Bushnell (5:18) later asserted, and at the same time expressed the author's viewpoint, that:

> The need is for some careful experiments with comparable groups, one set homogeneous, the other set heterogeneous, the experiments to last at least two years, preferably longer. Results from such studies would have real value in the solution of ability grouping.

Following World War II, the colleges and universities experienced an unprecedented influx of returning veterans eager to further their education. The interest in research and the experimentation with new innovations in education, reviving and/or revision of previously used methods was given added impetus. By the mid-1950's, the layman was not aware of the experimentation and innovations, though considerable work had been done on the ungraded plan, especially in reading.

Dr. Lanes' ideas about the ungraded elementary and Bushnell's proposal to do experimentation in a junior high school on the basis of grouping for particular subjects were combined and used by elementary schools to improve reading.

The administrators and teachers liked the basic idea of the ungraded reading plan; the former, because it was not

too expensive and the latter, because it narrowed the range of abilities within their reading classes.

One of the plans was started in 1953 in Joplin, Missouri, by Cecil Floyd, an elementary principal in the Joplin system. Tunley (18:108) reviewed the institution of this method of grouping for reading. He stated:

> Grades, Floyd decided, were merely an administrative device for grouping children, and he strongly suspected that the children were being sacrificed to administrative bookkeeping. Since the greatest variety of reading skills occurred in the fourth, fifth and sixth grades, why not group the children into their proper reading levels and let them learn at a speed which was proper for them.

The plan was instituted in one elementary school for experimentation and analysis. At the end of the first semester, the limited statistical data seemed to indicate that the youngsters had progressed at about twice the usual rate.

The program was then begun in another local school system and soon spread to encompass all of the elementary schools in Joplin. Preliminary statistical reports seemed to indicate that the youngsters had progressed as well or better than the first experimental group.

Meanwhile, Floyd was still waiting to test his plan completely. Tunley said (18:110):

> Floyd didn't have the ultimate answer until last spring (1957) when Joplin's 500 top students, who had been exposed to the reading program for

> three years, graduated into junior high school. Although they were ready to begin the seventh grade, tests revealed that their average reading level was approximately ninth grade. Previous tests made in 1950 showed the top 500 students at the time averaged only slightly above the beginning seventh grade level.

The author searched for, but could not locate, any data on the lower achieving students in Floyd's statistical data of 1957. However, an evaluation of a comparable study done by Ramsey (14:572) between 1958 and 1960 in Logansport, Indiana, with the fourth, fifth, and sixth grades was reviewed. His conclusion stated:

> The program of cross-grade grouping appeared to be effective in producing expected reading gains for all three grade levels, when each group was considered as a whole. For those who were in the upper third of the class in intelligence, it was effective in producing gains equal to or greater than expected, except for the fourth grade in vocabulary. For those children who were in the lower third in intelligence, it was not effective in producing gains as great as expected, except in the fifth grade.

Ramsey's findings, therefore, show more complete statistical data, but most laymen and many educators did not let Floyd's omission of the lower ability students enter into their analysis of the Joplin Plan. The publicity stirred the public's imagination and created widespread interest in the ungraded reading program. Educators were forced, willing or unwilling, to at least peruse Floyd's data. Many programs were instituted in the school systems around the

country; some well organized and administrated and others which failed completely or partially because of lack of knowledge about implementing this type of program.

Smith (17:125) called the Joplin Plan the Cross-Grade Plan. She reviewed the plan by stating:

> One school which uses the plan and approves it highly jestingly calls it their 'Ring and Run Plan.' The colorful appellation gives some idea of what takes place, but, of course, does not explain the real educational implications of the scheme. The plan, in essence, is for children in an elementary school who are at the same level in reading to go to one teacher who will teach them at an appropriate level.

Skapski (16:45) summarized a study of ungraded reading in the primary grades in Burlington, Vermont, by saying:

> Less than half the children at the lower end of the intelligence scale spend four years in the primary as would if the question of promotion came up at the end of their first school year. The data shows the reading achievement of the children of each ability level in each of three schools. Again it is evident that children of each level of ability were benefitting from the individualized instruction they were receiving in the ungraded primary reading program and again the difference was greatest for the children of superior intelligence.

Conversely, Williams (19:567-72) reported that a version of the Joplin Plan used in the Chicago area did not reveal such spectacular results.

As a result of using the ungraded primary plan in Milwaukee; Smith, in her book entitled, Reading Instruction for Today's Children, reviewed an article by Florence Kelley,

Director of Elementary Schools, Milwaukee, Wisconsin. From this review Smith quoted Kelley. She said:

> 'When children enter grade IV from the ungraded primary reading plan, the distribution of their achievement is no wider than the traditional plan; but reading and other limits are more clearly defined, and children's problems seem more definite. Although pupils are often younger, they have a firm foundation for the program in the middle grades.'

The research on the subject indicates that some are pleased with the plan and others displeased. Smith (17:126) supported this by saying:

> Those who are using the plan believe it is effective in reducing retardation and that it saves time and effort for both teachers and pupils. Others feel that from the sociological, and psychological viewpoints it is undesirable to have older children working with younger children in the same reading class. Still others believe that developmental reading should not be detached from the regular classroom.

This investigator reviewed two plans on ungraded grouping from the northwest area which contained mentionable merit. The earliest of these was the Ronald Plan from the Shoreline School District, Washington. Buckley (4:5-6) explained the plan by saying:

> During the past three years, ('1952-1955') the Ronald School has used a plan for grouping which the principal and teachers believe has been a contributing factor to the improvement of instruction and the increase of time and attention which can be given each pupil.
>
> The plan used by the Ronald School provided for grouping of fourth grade pupils by achievement for reading instruction. For the remainder

of the day the pupils were heterogeneously grouped for the other subjects.

The teachers participating in the grouping plan point out that the achievement level range of each group has been greatly reduced. The span of achievement is usually less than one year. In one particular teacher's class the reading range was from 2.3 to 3.1 years. The achievement level of the pupils in the teachers regular classroom was from 2.3 to 5.9 years. When the achievement range of the pupils is less than one year, many lessons may be planned in which the entire class may participate. Though some individual and some group work is necessary, individual help and small group work may often be given by use of the supervised study method. The teachers believe that the slow learner gains confidence by not always being reminded of his poor reading by the superior child's performance. Also, the superior student has the opportunity to learn the skills involved in comprehensive reading and critical thinking under the teacher's individual guidance.

The author investigated another study the Maple Park Plan; an ungraded primary program reviewed by Dyer (2:13) in a thesis entitled "The Effects of Achievement Grouping on Fourth Grade Reading." She stated that:

The Ungraded Primary Plan was instituted in January, 1956, at the Maple Park School in Edmonds, Washington. Originally the plan included the first three grades, but since has been expanded to include all six years of elementary school.

In the Maple Park program, a child was placed according to his academic achievement primarily, although the social maturity of the child was also considered.

Burton, the principal of Maple Park Elementary School, believed that the fast moving children achieved more than in a graded structure without

> building up adverse attitudes toward learning because in this program they did not become bored. All children seemed to be happy and eager. The slower children were enthusiastic when allowed to proceed at their own pace without side effects that usually occur from pushing and resultant failure.

Anderson's (2:197) summary of a non-graded school in East Brunswick, New Jersey, stated:

> In sum, homogeneous, non-graded grouping has the immediate advantage of yielding classes of equal size. More important, the plan offers the promise of greater differentiation of instruction; better social and emotional adjustment for children at every level of ability and advancement.

The author has been inclined to agree with Anderson. However, he felt that before the reader accepts or rejects this line of reasoning, an overview of grouping practices might further clarify this rationale.

Overview of Grouping Practices

As reviewed in this Chapter, the typical elementary school was organized into a series of graded classrooms; self contained; with one teacher in charge of thirty to forty students of relatively the same chronological age.

Douglas (7:85) confirmed this by saying:

> This method of grouping young children for their earliest formal educational experiences emerged as the dominant pattern for organizing the elementary school in the United States during the latter half of the 1800's. It is now beginning its second century, in good health, as the most common pattern for grouping children

> for instructional purposes. This is not to say there are no grumblings of discontent. The self-contained classroom based upon the age-grade hierarchy poses some difficult educational dilemmas which challenge the ingenuity and imagination of the teacher who seeks to adjust instruction to meet the variety of levels of ability and achievement which face him in a graded classroom. We have, therefore, witnessed over the years a number of attempts to adjust the organizational pattern within which teachers and children learn.

Douglas then reviewed six types of groupings that elementary schools have attempted in the area of reading instruction within the conventional classroom. These were: (1) individualized reading; in which students within the homeroom are placed in three or four reading groups; (2) staggered sessions; in which half of the children come to school early for reading in small groups and the other half stays late for the same purpose; (3) continuous progress; whereby the student is placed in levels commensurate with his abilities; three levels to a grade, supposedly nongraded, but often, more rigidly graded than the traditional school; (4) team teaching; where several teachers combine their talents and teach both large and small groups, the classes are organized similar to a departmentalized plan, and the basis of grouping is homogeneity of the students; (5) multigrade; whereby planned heterogeneous grouping is the dominant organizational pattern; and, (6) departmentalization, which is considered among the oldest of the plans, having

been initiated and used in Gary, Indiana, from 1907 to 1918, and more recently having gained attention as the Joplin Plan.

The review of the literature has brought this study to a point where consideration must be given to pertinent literature and research which may have more directly led to the institution of ungraded reading at Snoqualmie Elementary School, Snoqualmie, Washington.

III. PREVIEW OF THE IMPLEMENTATION OF THE UNGRADED READING PROGRAM AT SNOQUALMIE ELEMENTARY SCHOOL

With reference to the aforementioned paragraph, this writer interviewed William Menold, Principal of Snoqualmie Elementary School, Snoqualmie, Washington, on June 25, 1965. During this interview, Menold (12) stated:

> I had read some literature on the Joplin Reading Plan and it showed some possibility of being adapted to Snoqualmie's situation. Since only sketchy and incomplete data was available on the program in 1957 and 1958, I visited two elementary schools in the vicinity that were using cross-grade grouping for reading.
>
> My first visit was to Minor Elementary School in Seattle, Washington. Thomas Leist, the principal, outlined the methods they were using and explained that they felt that the cross-grade grouping for mathematics and reading was effective. The Minor Elementary School had used the plan since 1955, and had compiled some statistical data which substantiated its success. Leist told me that he was certain that the plan had helped them to overcome a deficiency in their groupings for mathematics and reading, that was thought to

> be a result of a lack of cultural background by many of the students attending the school. I understood better what Leist meant when he told me that the school's population was 25 per cent oriental, 25 per cent negroid, and 50 per cent white.
>
> My visit with Stan Volwiler, Principal of May Valley Elementary School, Issaquah, Washington, had much the same result. Their reading program, based on the Joplin Plan, had been effective enough to convince the administration that the mathematics program should be reorganized along the same lines. No statistical evidence had been compiled on the reading program at this time.
>
> These school visitations convinced me, and the district administration, that the program should be given a try in Snoqualmie Elementary School; therefore, it was implemented into our program.

This author assumed that the readings Menold did on the Joplin Plan were similar to the studies and types of programs reviewed in Chapter II. The writer neglected to ask Menold for specific articles he researched when he mentioned "data on the Joplin Plan." Menold was unavailable for clarification of this point at the time this paper was written. Menold, however, did clarify the manner in which the homogeneous grouping plan for reading was conceived at Snoqualmie Elementary School.

From all of the research literature and comments surveyed by the author, Mazurkiewicz (11:182) appeared to offer a pertinent summary when he commented:

> Whether the graded system is departmentalized or not, the selection of the classes must be made according to some accepted criteria. The terms heterogeneous and homogeneous have often been used, though not always precisely. Groups arranged heterogeneously contain children of varying levels of ability and achievement in one class, and where homogeneity has been striven for in a class, the best that can be done is reduce the range of the extremes. As a result, teachers may have an 'average' group, a 'bright' group, or a 'slow moving' group. Within each of these, however, there still remains a range and the acceptance of these differences must be made if the children are to learn well.
>
> One variation of a homogeneous grouping plan is that called 'The Joplin Plan,' for teaching reading. In essence all this entails is reducing the range of reading level in a given class.
>
> A review of the literature does not reveal much in the way of controlled studies indicating that children learn better under this plan. Teachers and administrators who report experiences are enthusiastic; but, of course, not many are likely to report who are not.

The writer felt that Mazurkiewicz's dilemma about controlled studies was pertinent. As a matter of fact, this study concerned itself with just such a controlled investigation. The major difference between this study and the Bushnell research concerned the addition of sex. Attention to all variables included in this study is a major part of the following chapter which included the selection of the study participants.

CHAPTER III

CRITERIA USED FOR SETTING UP THE UNGRADED READING PROGRAM AND SELECTION OF THE STUDY PARTICIPANTS

I. A DESCRIPTION OF THE PROGRAM AT SNOQUALMIE ELEMENTARY SCHOOL PRIOR TO AND FOLLOWING THE IMPLEMENTATION OF HOMOGENEOUS GROUPING

Deficiencies in the Heterogeneous Program

The statistical information for grouping homogeneously for reading in Snoqualmie Elementary School was taken from the Stanford Achievement Test given in May of 1959. Menold (12) also took Mental Age from the California Mental Maturity Test into consideration for regrouping the classes for the ungraded reading program.

The California Reading Test was not implemented until January of 1960; therefore, it was not available for use when the original regrouping was done.

The data with regard to the grade placement of pupils before the ungraded reading program was instituted is presented in Table I, Page 25. There was a general tendency for the reading abilities of the groups to have a wider range as the reader moves down the table. This indicated that there was a greater spread of abilities the further a

TABLE I

READING GRADE VARIATIONS IN SNOQUALMIE ELEMENTARY SCHOOL, SNOQUALMIE, WASHINGTON, 1958-1959, AS FOUND BY THE STANFORD ACHIEVEMENT TEST BEFORE HOMOGENEOUS GROUPING

Reading Level	Average Mean	Reading Range	Difference	Per Cent ½ Grade Below	Per Cent ½ Grade Above
4A	4.0	2.3- 6.2	3.9	24	17
4B	4.4	2.6- 6.0	3.4	16	60
5A	5.2	3.4- 8.5	5.5	17	42
5B	5.5	2.5- 7.7	5.2	20	56
6A	6.0	2.5- 9.9	7.4	35	46
6B	6.5	4.3- 9.9	5.6	25	54
7A	7.6	4.8-11.7	5.9	13	65
7B	7.5	4.6-10.4	6.8	29	55
8A	8.5	4.1-12.1	8.0	25	54
8B	7.9	4.4-11.8	7.5	27	46

student progressed in school. In fact, although in Grade 4A there was a spread of only 3.9 years on the Stanford norm, in Grade 8B there was a spread of 7.5 years. This indicated that those barely capable of meeting fourth grade requirements were in the same class with others capable of doing the work of a high school junior. The last two columns of Table I show the pupils by per cent that were one-half of a grade below and one-half of a grade above grade level. By examining column two, Table I, the mean for each class shows that the majority of the pupils were not retarded.

Table II, Page 27, presented the grade placement of pupils after the ungraded reading program was initiated. This Table shows how the widely divergent groups, listed in Table I, were realigned into levels that better met each students' reading ability. The reading groups tend to be more centrally located as to reading abilities. Further comparison with Table I will show that the ranges, based on the Stanford norms, were more homogeneous. In no case do they vary more than 2.9 years. This appeared to be a more realistic grouping than the heterogeneous type. Of particular interest was the fact that the lower the reading group in ability, the fewer students the group has been assigned. This was accomplished without the addition of more teachers to the school staff.

TABLE II

READING VARIATIONS IN SNOQUALMIE ELEMENTARY SCHOOL, SNOQUALMIE, WASHINGTON, 1959-1960, AS FOUND BY THE STANFORD ACHIEVEMENT TEST AFTER HOMOGENEOUS GROUPING

Reading Level	Number of Pupils	Range	Grade Difference
4A	14	2.3- 3.1	.8
4B	23	3.4- 4.0	.6
5A	26	4.1- 4.5	.4
5B	31	4.6- 5.1	.5
6A	31	5.2- 5.7	.5
6B	32	5.8- 6.4	.6
7A	32	6.5- 7.2	.7
7B	34	7.4- 7.9	.5
8A	34	8.0- 9.1	1.1
8B	35	9.2-12.1	2.9

An Overview of Reading Materials Available

The data with regard to textbooks available in the fall of 1959 was presented in Table III, Page 29. There were twenty-nine series of reading textbooks listed in the inventory. Additional series were assigned to the lower levels because of availability and to help overcome reading difficulties of the individual students in groups 4A and 4B by having extra reading materials available for them. The fourth column of Table III shows the series of textbooks used by more than one reading group during the 1959-1960 and 1960-1961 school years. They were referred to as overlapping series by the writer. This situation came about because of the shortage of textbook series and created a problem due to the repetition of some textbook series by same students during the 1960-1961 school year. For example in way of explanation, group 4B worked in one series of textbooks which the students in group 4A had used earlier in the 1959-1960 school year. When some of the members advanced from group 4A to group 4B, this caused them to work with repetitious texts. In one case, group 8B, there was the use of two previously covered textbooks. Due to the repetitious textbook, usage by the reading groups was restricted to specific textbook series in 1962-1963.

TABLE III

READING TEXTBOOKS AVAILABLE IN THE UNGRADED READING PROGRAM AT SNOQUALMIE ELEMENTARY SCHOOL DURING THE 1959-1960 SCHOOL YEAR

Grade Level	Reading Range	Number of Textbook Series	Overlapping Series
4A	2.3- 5.1	8	0
4B	3.4- 4.0	5	1
5A	4.1- 4.5	2	1
5B	4.6- 5.1	2	1
6A	5.2- 5.7	3	1
6B	5.8- 6.4	2	0
7A	6.5- 7.2	1	1
7B	7.4- 7.9	3	0
8A	8.0- 9.1	2	0
8B	9.2-12.1	1	2

The library was allotted more funds with which to buy additional materials and during the 1959-1960 school year, twenty-four advanced junior dictionaries and two sets of encyclopedias were purchased. In the spring of 1960 the teachers' library book and magazine order fund was increased from twenty-five to forty-two dollars. This allowed supplementary materials to be purchased for the library.

Groups 6A and 8A received a new series of Scott-Foresman reading books in November of 1960 for the purposes of having more reading material available and to build up more continuity in the program.

Group 8B used the Reader's Digest as supplementary material with the World of Endless Horizons, published by the American Book Company, as its basic text. This group used two over-lapping textbooks in addition. One was previously used in Group 7B, and the other in Group 8A.

Table IV, Page 31, shows the reassignment of the textbook series and supplemental materials available during the 1964-1965 school year. As mentioned on Page 28, this reassignment of textbook series was done earlier and made the material content of the program much easier for the teachers to plan thereafter. The Reader's Digest Skill Builders and Science Research Associated Reading Laboratories were purchased in the summer of 1964. This added valuable supplements to the program for the 1964-1965 school year.

TABLE IV

READING TEXTBOOKS AVAILABLE IN SNOQUALMIE ELEMENTARY SCHOOL DURING THE 1964-65 SCHOOL YEAR

Grade Level	Number of Series	Additional Series Available Since 1959-1960
4A	5	-3
4B	5	0
5A	5	3
5B	4	2
6A	5	2
6B	5	3
7A	4	3
7B	4	1
8A	4	2
8B	4	3

A comparison of Table IV, Page 31, with Table III, Page 29, has shown that reading groups 5A and 8B added a total of nineteen textbook series. Group 4A was minus three of the eight series available in 1959-1960, due to the retirement of overused textbook series. Group 4B neither added nor deleted any of the available textbook series. This gave the reading groups a total of sixteen additional reading series for use in the program.

Groups 4A and 6B also added Science Research Reading Laboratories while all groups, 4A and 8B, received the Reader's Digest Skill Builders. These supplementary materials were purchased in 1964-1965 and gave the teachers and individual students valuable learning aids that, assumedly, made the ungraded reading program more effective.

Procedures for Homogeneous Grouping

As has already been mentioned, students were assigned to a reading group commensurate with their abilities. These abilities and the per cents by weight each bore were (1) mental maturity, based on the California Mental Maturity Test, 45 per cent; (2) reading achievement based on the Stanford-Binet Achievement Test, 45 per cent; and (3) subjective measurement; based upon grades, 5 per cent,

and an analysis of each students' social maturity, 5 per cent. The latter evaluation was done by the students' home-room teacher.

When a student was doing above average work or below average work for his reading group, consultation between the principal and the reading group teacher determined a progression or regression of the student to a reading group that adequately challenged the students' ability. As a general rule, students were only moved in September and January unless it was definitely ascertained that earlier readjustment would be of benefit to the individual student. The reason for this was the fact that the California Reading Test was a major factor in determining progress of the students in January and the Stanford-Benet Achievement Test given in May, helped determine the September grouping for the ungraded reading program.

II. METHOD OF ANALYZATION AND SELECTION OF THE STUDY PARTICIPANTS

Method of Analyzation

The t-score for testing the confidence level of the obtained data was selected as the method to be used to analyze the data. The means, standard deviations, and t-scores, both obtained and required, were found for the

data for the matched pairs by groups. This was done with the subjective grades for the grade school and high school grade averages.

Selection of the Study Participants

The writer chose the criteria Fisher (8:Ch. VII) listed in his book on Statistical Methods for Research Workers for selecting the study participants. This was considered as being the best to use because one must control as many variables as possible.

Fisher listed sex distribution as the major block to be considered. He also stressed emphasis upon chronological and mental age; subjective grades from the permanent record cards; selection of the students from all grade and intelligence levels; and, selection of the students so that the subjective grades would be as diversified as possible.

It was felt that an experimental group should number as many individuals as can be matched under the covariance method. This view was also born out by Hillway (9:Ch. XII).

Using the above listed criteria, a sample was drawn from Snoqualmie Elementary School. This sample constitutes the experimental group. A corresponding partner was drawn from Fall City.

Since authorities, such as Fisher and Hillway, urged the selection of as large a sample as possible, the writer

perused approximately five hundred grade school permanent record cards, checking closely to match the variables, mentioned on Page 34. The variables, though somewhat wider in range, in some cases of matching than in others, appeared to have been done closely enough to make the research statistically reliable.

An investigation of the socio-economic backgrounds of each student was not done as the main industry in the area was based on logging and sawmilling and the range was probably minimal. A few parents of the students also worked in the airplane industry in Seattle. An approximation, by the author, of professional people in the district, averaged under two per cent; therefore, he felt he was within the safe margins of reliability when he assumed that the predominantly socio-economic group present in Fall City and Snoqualmie, Washington, were middle class with very little variation above or below this categorization.

III. DESCRIPTION OF DATA COLLECTION

The data for the selection of the study participants included material collected from three sources. They were (1) mental maturity based upon the California Mental Maturity Test; (2) individual overall achievement based upon the Stanford-Binet Achievement Test; and, (3) grades in the

subject matter based upon subjective grades in Science, Mathematics, English, Reading, Social Studies and Spelling as inscribed on the permanent record cards.

The standardized testing schedules of the district elementary schools were (1) the Stanford-Binet Achievement Test given in the first week of May of each school year; and, (2) the California Mental Maturity Test given early in May every third school year.

Other standardized tests were given within the individual elementary schools, but there was little standardization due to the right or principle of principal autonomy within each school.

Five years' records were allowed to accumulate. This, the investigator assumed, allowed adequate test and grade data to be on hand to validate the findings of this study.

The above listed criteria enabled the investigator to draw the experimental sample from Snoqualmie Elementary School and the control group from the Fall City Elementary School. In gaining a realiable sample for the two groups, data described in the following statements were the main concern of the author.

The participants were selected from classes that were graduated or would graduate from high school, if normal progression was maintained, from the years 1964 through 1967.

The students were coded in Tables V, VI, VII, and VIII, (Pages 38-41 respectively) starting with Table V representing the class of 1964, Table VI, the class of 1965, and so on. A description of the code follows:

Student AlME was from the class of 1964, male, and from the experimental group. Student AlMC, was from the class of 1964, male and from the control group. All codes were interpreted in this manner with the exception of the symbol F, which symbolizes female. The symbol A means the class of 1964; the symbol B, 1965; the symbol C, 1966; and, D, the class of 1967. The subjects were selected by classes by the author in an attempt to narrow the range of subjective grading in subject matter. This was done on the assumption that more of the selected participants would, by chance, have had more of the same instructors at the secondary level and, therefore, narrow the assumed errors that may have been made in the differences in subjective grading by the teachers.

The chronological age was then listed on each Table in years and months; two years of the Stanford Achievement Battery Medians in years; I.A. from the California Mental Maturity Test; and, grades for the years the participants were in the seventh and eighth grades, plus the average

TABLE V

DATA CONCERNING THE CONTROLLED VARIABLES AND THE STUDY PARTICIPANTS FOR THE EXPERIMENTAL AND CONTROL GROUPS FROM THE CLASS OF 1964

Student Experi.	Age	Stan. Ach.		Cal. MM	Grades			Student Control	Age	Stan. Ach.		Cal. MM	Grades		
	1959	1959	1960	1959	1959	1960	Avg		1959	1959	1960	1959	1959	1960	Avg
A1ME	12- 9	11.5	12.7	123	3.50	3.97	3.74	A1MC	12- 9	10.9	11.7	125	2.80	3.17	2.99
A2ME	12- 9	10.3	12.1	135	3.50	3.83	3.64	A2MC	13- 2	11.1	12.0	134	3.50	2.83	3.17
A3ME	13- 8	9.3	11.7	108	2.63	3.27	2.95	A3MC	12-10	7.3	10.4	106	2.83	2.17	2.50
A4ME	12- 8	8.2	10.1	105	1.70	3.50	2.60	A4MC	12- 9	10.2	10.1	103	3.03	3.50	3.27
A5ME	12- 9	8.6	10.0	108	3.10	2.97	3.04	A5MC	13- 2	7.3	9.8	108	2.63	2.00	2.32
A1FE	12- 7	7.7	11.1	102	1.67	2.13	1.90	A1FC	12- 8	9.3	10.5	106	3.37	2.70	3.04
A2FE	12- 8	10.3	10.7	110	3.43	3.17	3.30	A2FC	12- 8	9.7	11.3	114	3.23	2.83	3.03
A3FE	12-10	10.3	11.7	126	3.03	3.17	3.10	A3FC	13- 3	9.1	11.2	128	3.50	3.00	3.25
A4FE	12-10	7.2	8.8	101	1.87	1.17	1.52	A4FC	14- 7	7.2	9.2	95	2.13	1.27	1.70
A5FE	13- 4	9.6	10.1	118	3.63	4.00	3.82	A5FC	12-11	9.8	10.9	114	3.80	3.33	3.61
A6FE	13- 1	10.0	11.9	113	4.00	3.67	3.84	A6FC	12- 5	9.4	10.9	124	3.80	3.67	3.74

TABLE VI

DATA CONCERNING THE CONTROLLED VARIABLES AND THE STUDY PARTICIPANTS FOR THE EXPERIMENTAL AND CONTROL GROUPS FROM THE CLASS OF 1965

Student Experi.	Age 1960	Stan. Ach. 1960	Stan. Ach. 1961	Cal. MM 1959	Grades 1960	Grades 1961	Grades Avg	Student Control	Age 1960	Stan. Ach. 1960	Stan. Ach. 1961	Cal. MM 1959	Grades 1960	Grades 1961	Grades Avg
B1ME	13- 5	10.6	11.3	111	2.97	2.83	2.90	B1MC	13- 5	8.9	11.7	112	3.60	3.63	3.62
B2ME	12-11	8.0	7.7	103	1.67	1.47	1.57	B2MC	13- 4	7.3	7.7	93	2.60	2.20	2.40
B3ME	13- 7	7.6	9.7	100	1.70	2.53	2.12	B3MC	12-10	7.6	9.7	97	1.87	1.27	1.57
B1FE	13- 1	10.2	11.3	130	3.43	3.07	3.25	B1FC	13- 4	9.8	11.3	*	3.67	3.57	3.62
B2FE	12- 8	8.3	8.5	93	2.37	2.83	2.60	B2FC	12- 7	*	8.5	*	*	2.77	2.77
B3FE	12- 8	7.8	8.1	108	1.87	1.87	1.87	B3FC	13- 4	7.1	7.9	102	2.93	2.00	2.47
B4FE	13- 3	10.5	10.5	111	2.50	2.33	2.42	B4FC	12- 9	9.8	10.7	113	3.88	3.60	3.74
B5FE	13- 3	9.8	11.7	120	3.70	3.70	3.70	B5FC	12- 9	10.3	12.0	129	3.73	3.73	3.73
B6FE	13- 2	8.0	9.1	95	2.41	3.17	2.79	B6FC	12- 7	9.1	8.6	104	3.63	3.43	3.53
B7FE	12-11	7.0	7.4	*	1.27	1.47	1.37	B7FC	13- 5	9.0	10.8	105	2.83	2.23	2.53
B8FE	12-10	7.1	7.6	107	1.63	1.17	1.40	B8FC	13- 3	7.2	7.4	106	2.63	2.63	2.43

* Records Not Available

TABLE VII

DATA CONCERNING THE CONTROLLED VARIABLES AND THE STUDY PARTICIPANTS FOR THE EXPERIMENTAL AND CONTROL GROUPS FROM THE CLASS OF 1966

Student Experi.	Age 1961	Stan. Ach. 1961	Stan. Ach. 1962	Cal. MM 1959	Grades 1961	Grades 1962	Grades Avg	Student Control	Age 1961	Stan. Ach. 1961	Stan. Ach. 1962	Cal. MM 1959	Grades 1961	Grades 1962	Grades Avg
C1ME	13- 1	10.8	10.8	136	2.20	2.50	2.35	C1MC	12- 9	9.0	10.5	131	2.63	1.23	1.93
C2ME	13- 3	9.1	11.3	106	2.53	1.80	2.17	C2MC	13- 0	10.1	10.3	118	2.13	1.93	2.03
C3ME	13-10	6.7	8.8	92	0.83	1.10	0.97	C3MC	13- 9	7.2	7.7	97	1.70	1.20	1.45
C4ME	13- 2	9.0	10.4	110	2.07	2.00	2.04	C4MC	12- 8	9.3	10.5	115	2.20	2.03	2.12
C1FE	13- 5	7.4	9.2	98	1.73	1.80	1.77	C1FC	13- 4	6.6	7.6	90	1.93	1.77	1.90
C2FE	13- 8	6.3	6.9	93	1.83	1.43	1.13	C2FC	13-10	5.6	5.7	97	0.97	1.20	1.09
C3FE	13- 4	10.8	11.8	119	2.30	2.37	2.34	C3FC	13- 1	8.4	10.5	123	2.63	2.03	2.33
C4FE	13- 2	10.6	11.8	114	3.77	3.07	3.42	C4FC	13- 3	8.4	10.2	118	3.40	3.13	3.27
C5FE	13- 5	7.4	8.8	107	2.10	1.83	1.97	C5FC	12-10	7.7	8.8	107	1.97	1.73	1.90
C6FE	12-10	10.3	11.1	119	2.97	3.00	2.99	C6FC	12- 6	9.1	11.3	117	3.20	3.07	3.14
C7FE	13- 7	8.0	8.8	109	2.37	2.00	2.19	C7FC	12-10	7.6	8.8	106	2.47	1.92	2.20
C8FE	14- 3	7.0	9.1	101	2.00	1.41	1.71	C8FC	13- 9	7.9	9.4	122	2.00	1.33	1.67
C9FE	13- 1	10.1	12.3	125	3.70	3.47	3.59	C9FC	13- 2	10.5	11.4	126	3.97	3.33	3.65

TABLE VIII

DATA CONCERNING THE CONTROLLED VARIABLES AND THE STUDY PARTICIPANTS FOR THE EXPERIMENTAL AND CONTROL GROUPS FROM THE CLASS OF 1967

Student Experi.	Age 1962	Stan. Ach. 1962	Stan. Ach. 1963	Cal. MM 1959	Grades 1962	Grades 1963	Grades Avg	Student Control	Age 1962	Stan. Ach. 1962	Stan. Ach. 1963	Cal. MM 1959	Grades 1962	Grades 1963	Grades Avg
D1ME	12- 6	11.4	11.1	121	2.63	2.87	2.75	D1MC	13- 0	8.9	11.0	106	2.63	2.37	2.50
D1FE	13- 7	7.5	8.6	112	1.60	2.00	1.80	D1FC	13- 3	7.5	8.7	108	2.07	1.93	2.00
D2FE	12- 5	10.8	11.8	118	3.43	3.27	3.35	D2FC	13- 1	10.2	11.2	116	3.47	3.17	3.37
D3FE	13- 8	10.8	11.5	132	3.25	3.43	3.34	D3FC	12-10	9.0	10.5	126	3.57	3.17	3.32

grade point achieved for the years concerned. The grade points were based on a scale, 4.00 being an A, a 3.00 a B, and so on.

The variables of age, sex, battery median achievement scores, and mental maturity were used only for selection of the participants for the study and were not treated statistically in this investigation. The subjects were also matched as near as possible on grade point. The latter variable is further discussed on Page 43, Chapter IV.

All of the collection of the data was done at Mount Si High School. The information was gathered from either the grade school permanent record cards or master tests sheets that had been sent to and filed in the high school archives.

Since only subjective grades were analyzed, to prove or disprove the null hypothesis, the final determinant for the validation or invalidation assumedly requires no further discourse. This is the major purpose of the following chapter.

CHAPTER IV

THE FINDINGS OF THE RESEARCH

I. ANALYSIS OF THE RESULTS

Grade School Data

The data with regard to analysis by the t-score test of statistical significance for grade school subjective grades was presented in Table IX, Page 44. Only subjective grades were used for statistical treatment since the variables of sex, age, achievement test scores, and mental maturity were used for the selection of the matched pairs for the purpose of controlling as many of the variables as possible.

Scrutiny of the t column in Table IX showed none of the matched pair groups had any statistical significance. This would seem to indicate that the selection of the matched pair study participants was valid enough to warrant an investigation of the high school records and an analysis of their data. This was the purpose of Part II of this Chapter.

High School Data

The data concerning the subjective high school grades was presented in Tables X, XI, XII, and XIII on Pages 45-48.

TABLE IX

MEANS, STANDARD DEVIATIONS AND T-SCORES
COMPILED FROM GRADE SCHOOL SUBJECTIVE GRADES

Class	Means		Standard Deviations		t's	
	E	C	E	C	Obtained	Required
1964	3.0436	2.9654	.775	.590	.6623	2.84
1965	2.3627	2.9463	.771	.734	.7858	2.84
1966	2.2130	2.2061	.735	.543	.4321	2.80
1967	2.8100	2.78	.730	.665	1.2283	9.92

Note: This Table should be read as follows: t's equals T-score; E equals Experimental Group; and, C equals Control Group.

TABLE X

SUBJECTIVE HIGH SCHOOL GRADES AND GRADE AVERAGES FOR THE CLASS OF 1964

Student	Grades 1961	Grades 1962	Average
A1ME	3.50	3.50	3.50
C	2.25	2.30	2.28
A2ME	3.33	3.51	3.42
C	2.82	2.75	2.79
A3ME	3.62	3.31	3.47
C	0.90	0.91	0.91
A4ME	1.80	1.92	1.86
C	1.75	1.94	1.85
A5ME	2.00	2.25	2.13
C	1.95	2.06	2.01
A1FE	2.05	1.99	2.02
C	2.83	2.74	2.79
A2FE	2.42	2.40	2.41
C	2.50	2.38	2.44
A3FE	2.58	2.59	2.59
C	2.33	2.56	2.45
A4FE	1.85	1.98	1.92
C	2.00	1.06	1.53
A5FE	2.58	2.78	2.68
C	2.58	2.51	2.55
A6FE	3.33	3.38	3.36
C	3.02	2.97	3.00

TABLE XI

SUBJECTIVE HIGH SCHOOL GRADES AND GRADE AVERAGES FOR THE CLASS OF 1965

Student	Grades		
	1961	1962	Average
B1ME	3.10	3.16	3.13
C	2.73	2.78	2.76
B2ME	1.90	1.60	1.75
C	1.50	1.62	1.56
B3ME	1.05	1.43	1.24
C	1.05	1.46	1.26
B1FE	3.10	3.16	3.13
C	3.04	3.16	3.10
B2FE	1.75	2.24	2.20
C	1.23	1.57	1.40
B3FE	1.90	2.32	2.11
C	1.95	1.98	1.97
B4FE	2.67	2.57	2.62
C	2.83	2.46	2.65
B5FE	3.13	3.29	3.21
C	3.17	3.25	3.21
B6FE	2.13	3.19	2.16
C	2.30	2.57	2.44
B7FE	1.60	1.80	1.70
C	1.92	2.24	2.08
B8FE	2.20	2.65	2.43
C	2.15	2.33	2.24

TABLE XII

SUBJECTIVE HIGH SCHOOL GRADES AND GRADE AVERAGES FOR THE CLASS OF 1966

Student	Grades 1963	1964	Average
C1ME	2.65	2.58	2.62
C	0.75	1.05	.90
C2ME	2.20	2.19	2.20
C	1.96	2.12	2.04
C3ME	1.55	1.45	1.50
C	1.05	1.03	1.04
C4ME	2.20	1.97	2.09
C	1.29	1.37	1.33
C1FE	1.65	1.67	1.66
C	1.80	1.46	1.63
C2FE	3.19	3.21	3.20
C	1.54	1.49	1.52
C3FE	1.70	1.69	1.70
C	1.35	1.20	1.28
C4FE	3.50	3.53	3.52
C	2.67	3.00	2.84
C5FE	3.00	2.73	2.87
C	2.62	2.07	2.35
C6FE	2.75	2.68	2.72
C	2.85	2.67	2.76
C7FE	1.82	1.78	1.80
C	1.25	1.43	1.34
C8FE	1.82	1.78	1.80
C	1.67	1.60	1.64
C9FE	3.22	3.40	3.33
C	2.70	2.59	2.65

TABLE XIII

SUBJECTIVE HIGH SCHOOL GRADES AND GRADE AVERAGES FOR THE CLASS OF 1967

Student	Grades 1964	1965	Average
D1ME	3.15	3.21	3.18
C	1.55	0.87	1.21
D1FE	2.60	2.38	2.49
C	1.26	1.20	1.23
D2FE	2.95	2.75	2.85
C	3.55	3.44	3.49
D3FE	3.59	3.45	3.52
C	3.00	2.86	2.93

The Tables were listed in numerical order, chronologically, by graduating classes beginning with the class of 1964.

Column one listed the match pairs; columns two and three, the grade point averages for the ninth and tenth school years; and, column four, the grade point average for the two years with which the statistical analysis was concerned.

For the purpose of clarity and ease of reading, the author listed the second member of each matched pair with the symbol C; meaning the corresponding member of the matched pair from the control sample.

Table XIV, Page 50, comprised the data concerned with the t-test of statistical significance for analysis of the high school subjective grades for the ninth and tenth years of school.

Perusal of Table XIV showed that none of the comparisons were statistically significant at the .01 level of confidence.

TABLE XIV

MEANS, STANDARD DEVIATIONS AND T-SCORES
COMPILED FROM HIGH SCHOOL SUBJECTIVE GRADES

Class	Means		Standard Deviations		t's	
	E	C	E	C	Obtained	Required
1964	2.6690	1.8293	.661	.620	.1332	2.84
1965	2.3360	2.2427	.644	.662	.0302	2.84
1966	2.3850	1.7938	.670	.665	1.2283	2.80
1967	3.010	2.2150	.190	1.17	.7155	2.98

Note: This Table should be read as follows: t's equals T-score; E equals Experimental Group; and, C equals Control Group.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

I. SUMMARY AND CONCLUSIONS

The hypothesis tested in this study was that on the basis of subjective grades, there was no significant difference in accelerated achievement in high school between students who were grouped heterogeneously for reading instruction in grade school and those grouped homogeneously for reading instruction. The statistical analysis of the data showed that the null hypothesis was validated and the investigator accepts the resultant insignificance of difference as being true.

The conflict of opinions concerned with the aforementioned methods of grouping for reading instruction was not clarified to any degree of certainty.

II. IMPLICATIONS AND RECOMMENDATIONS

The results of the study may have important implications in regard to homogeneous grouping for reading instruction. Further needed research in this area would include (1) investigate possible increased divergence of the range of achievement rather than issuing the measure of central tendency as the evaluator; (2) a study of better

methods for use of textbook series and supplemental materials, particularly when the ungraded reading program is implemented; (3) research the possibility of using more teachers to lighten the pupil-teacher ratio in the reading groups, particularly in the lower reading levels where remedial reading help requires more individualized instruction; and, (4) more adequate teacher preparation in the areas of planning for the program and/or more adequate teacher preparation for instruction through improved educational competence.

It would appear that in order to insure a somewhat more successful homogeneous program, the principal and teachers could cooperatively plan the fall reading groups in the late spring.

Another factor important to further research in this area is the research director's administration and filing of relevant data. It is imperative to valid research that a systematic sequential filing method be followed by all of those involved in the collection of the data.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Anderson, Richard C. "The Case for Non-Graded Homogeneous Grouping," The Elementary School Journal, 62:197, January, 1962.

2. Bloom, Alice D. "A Comparative Study of the Continuous Growth Program and a Traditionally Grouped Program in Bellevue, Washington Public Schools." Unpublished Master's Thesis, The University of Washington, Seattle, 1960.

3. Brown, Frank B. The Non-Graded High School. Englewood Cliffs: Prentice Hall, Incorporated, 1963.

4. Buckley, Evelyn C. "The Effects of Achievement Grouping on Fourth Grade Reading." Unpublished Master's Thesis, The University of Washington, Seattle, 1955.

5. Bushnell, Henry E. "An Evaluation of Criteria for Homogeneous Grouping in Junior High School." Unpublished Master's Thesis, The University of Washington, Seattle, 1940.

6. Dolbear, A. E. "Metamorphoses in Education," Popular Science, 39:750-51, October, 1891.

7. Douglas, Malcom P. Reading and Nongrading in the Elementary School. Claremont, California: Claremont Reading Conference, 26th yearbook Claremont Graduate School Curriculum Laboratory, 1951.

8. Fisher, R. Statistical Methods for Research Workers, 13th Edition Revised. New York: Hafner Publishing Company, 1958.

9. Hillway, T. Introduction to Research. Boston: Houghton-Mifflin Company, 1956.

10. McKee, Paul G. The Teaching of Reading in the Elementary School. Boston: Houghton-Mifflin Company, 1948.

11. Mazurkiewicz, Albert J., Editor, New Perspectives in Reading Instructions: A Book of Readings. New York: Pitman Publishing Company, 1964.

12. Menold, William E. A Personal Interview with Menold, Principal of Snoqualmie Elementary School, Snoqualmie, Washington, June 25, 1965.

13. Ploghoft, Milton E. and Schuster, Albert H. The Emerging Elementary Curriculum: Methods and Procedures. Columbus: Charles E. Merrill Books, Incorporated, 1963.

14. Ramsey, W. "An Evaluation of a Joplin Plan of Grouping," The Journal of Educational Research, 55 (Number 10): August, 1962.

15. Russell, David H. Children Learn to Read. Boston: Ginn and Company, 1961.

16. Skapski, Mary K. "An Ungraded Primary Reading Program: An Objective Evaluation," Elementary School Journal, 61:45, October, 1960.

17. Smith, Nila B. Reading Instruction for Todays Children. Englewood Cliffs: Prentice-Hall, Incorporated, 1963.

18. Tunley, T. R. "Johnny Can Read in Joplin," The Saturday Evening Post, 230:108, October 26, 1957.

19. Williams, Pauline L. "Some Group Reading Results," Chicago School Journal, 55:567-72, August, 1963.