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Sex Differences in the Sixth Grade: An In-depth Study of a Neglected Learning Factor in Reading

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SEX DIFFERENCES IN THE SIXTH GRADE: AN IN-DEPTH STUDY
OF A NEGLECTED LEARNING FACTOR IN READING



A Thesis
Presented to
the Graduate Faculty
Central Washington State College



In Partial Fulfillment
of the Requirements for the Degree
Master of Education



by
Gail Purvis Johnson
July, 1970

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

The knowledge explosion currently taking place in our chaotic, constantly changing world has made skill in reading more important than ever before. Gates considers it an urgent necessity and says that this need to learn so much more in so many varied fields has brought with it a demand for both children and adults to learn to read better today than was required in the recent past. He goes on to mention the increasing importance of developing widely informed, well-read, intelligently active citizens who, incidentally, will be having more leisure time to pursue reading for enjoyment and self-improvement (35:3-4).

DeBoer and Dallmann have called our present period the Age of Communication and add that reading, as one of the major lines of communication, is essential to the continued existence of our social arrangement. It is humanity's link to the past as well as to the future (24:3-7).

Professionals appear to be in agreement concerning the importance of developing lifelong habits of enthusiastic reading. It is stressed that ardent, efficient readers must be developed to adequately cope with the present era of mobility and rapid change in our cybernetic, technological world. Reading has not yet been replaced by technology, however. It is still many things to many people and is able to meet needs which newer media cannot satisfy. As Gray and Rogers express it:

It is an indispensable factor in modern life, interwoven with work, recreation, and other activities of young people and adults. Its great value lies in two facts: printed materials provide the most illuminating and varied records of human experience that are now available; and they can be examined and restudied time and time again at the reader's convenience in acquiring clear understandings, in developing rational attitudes, and in reaching sound conclusions. Some of these values cannot be attained so effectively through other media because the individual is not free to pause and deliberate at will (41:8).

At the same time that reading is being acknowledged as a vital, necessary skill for the world of today and tomorrow, our public schools are being criticized for their lack of success in the field of reading. There is no scarcity of evidence that the need to improve the teaching of reading is essential. An English teacher in Kentucky feels reading is ignored by youth because it is rejected even by teachers (94:13). Bond is concerned over the narrowness of interest and disturbing lack of taste in reading material preferred by graduates of our schools. He feels that reading interests and tastes fall far short of what would be desirable (11:302-3).

These and other criticisms of our school reading programs seem justified and quite reserved in view of the fact that 7 percent of the sixth graders in our country are not ready to read any books above the second-grade level (8:114-122).

We do have many children with reading problems or disabilities. They come in a wide variety and may be average in other scholastic areas: or "slow learners" from the regular classroom going to a remedial reading group; or they may be bright. Although these children with reading problems represent a wide range of intelligence; there is one common factor that stands out and that is the preponderant number of boys, as compared with girls, in any group of children with reading disabilities.

....Carl Delacato, a specialist in the neuro-psychological field, states: "The evidence indicates that boys have reading problems in a four to one ratio to girls" (26:45).

It is lamentable that many children fail to learn to read adequately. That a disproportionate number of these failures are boys indicates a need to investigate possible causes for the striking difference between the sexes in this learning area. It is true that many studies have stated statistics, such as the one just given; but these studies seldom discuss the "how" or "why" in any depth.

J. D. Heilman did a study utilizing 482 girls and 464 boys (ten year olds) that measured many aspects of reading and one point in his conclusion mentions that the total reading score favored the girls. Specifically, the girls were superior on language usage and significantly superior on spelling (48:47-62).

Stroud and Lindquist conducted an intense study using over three hundred schools with 50,000 pupils as the data source. This study covered a number of years of testing with the Iowa Basic Skills Test and tested grades three through eight on reading comprehension, word study skills, vocabulary, basic language skills and arithmetic skills.

The authors state:

Girls have maintained a consistent, and on the whole, significant superiority over boys in the subjects tested, save in arithmetic, where small insignificant differences favor boys (93:657-667).

Appendix A shows the mean difference in reading comprehension for boys and girls in grades three through eight. Although these studies show that sex differences do exist in the total learning area and are particularly obvious in the reading area; it is unfortunate that the

superiority of girls, as compared to boys, is merely stated. It appears that within the voluminous literature related to reading problems, research concerning sex differences is often done in conjunction with a primary investigation of other learning factors. When mentioned, sex differences may be rendered insignificant by being the topic of perhaps a sentence or a paragraph within a sizable study. Sex differences, as an important learning factor, have often been neglected.

The researcher believes it would be dichotomous to acknowledge skill and enjoyment in reading as valuable assets within our society while glibly accepting the fact that approximately three-fourths of all problem readers are boys. Concern for the differences between the sexes in the reading area has prompted the following questions:

1. If there is an obvious difference between the sexes in the area of reading achievement, why is it that sex differences are not considered a pertinent learning factor?
2. What factors might be involved in causation and therefore, worth investigating?
3. More specifically, how do boys differ from girls in their response to the situation called "learning to read?" Is there a relevant developmental or related neurological difference?
4. What factors within the school situation might be significant? Do reading programs accommodate possible differences in interests and attitudes between the sexes? How important is the teacher's attitude?
5. If sex differences are taken into consideration as a learning factor, how viable might this be in planning grouping procedures and could accommodation for sex differences be a part of planning for provision for individual differences?
6. Just what can be done to alleviate the problem?

This study will investigate these questions and Chapter I will be concerned with the first two. The next three questions will be discussed in Chapter II while question number six will be covered in Chapter V.

Because literature concerning sex differences is existent but often spotty and disjointed, with relationships not clearly decipherable; an extensive, thorough study will be necessary in order to present a cohesive paper connecting the various factors involved. In addition, the extent of literature reviewed must be quite large since personal opinion and judgement are not enough to provide administrators and classroom teachers with the accurate information and motivation necessary to consider and utilize the topics to be discussed. The following factors are deemed relevant to the problem that boys, in particular, experience in reading: (1) sex differences, (2) developmental traits and neurological factors, (3) teacher preferences, (4) reading programs, and (5) grouping procedures. The results of the experimental study, run in conjunction with the review of the literature, will also focus on these factors. Any attempt less than this would not answer the questions posed by the investigator and would only be duplication of the aforementioned literature concerning, but not truly concerned with, sex differences as a learning factor.

Reading has been chosen as the subject for focus because of its vital importance to all other learning and also because sex differences in reading interests and abilities are so striking.

Although studies concerning children and their problems in reading infrequently mention sex differences, and then often in an incidental manner, definite differences in reading ability, interest and achievement between boys and girls have been reported, as witnessed by the two studies previously cited. These studies were concerned with general, or average, school populations and certainly warrant attention on that basis.

Fewer studies investigate reading disabilities in connection with the above average student, although these cases also exist, while the field of special education quite frequently notes trends regarding sex differences and reading problems.

Jackson selected 300 advanced readers and 300 retarded readers in grades two through six and found 59 percent of the girls were among the advanced readers with 63.3 percent of the boys in the retarded group. Jackson stated: "The data reveals a statistically significant difference between the sexes in relation to reading ability" (52:113-131).

Missildine picked thirty retarded readers at random from the files of a clinic and found that twenty-five of the thirty were boys (70:266) and Johnson analyzed thirty-four full-time cases being tutored at the Temple University Reading Clinic and found 67 percent of these cases were boys (54:572).

Many other studies report a preponderance of boys as remedial reading cases. The studies just mentioned are included in Appendix B which condenses data concerning sex differences and remedial reading.

It appears conclusive that there is a difference between the sexes in the area of reading achievement. Furthermore, if the not uncommon assumption is accepted that boys and girls are to be treated as though equally prepared for junior high school, then sex differences are being ignored in practice as well as in learning theory literature.

Perhaps there is a relationship between the lack of primary literature and the absence of consideration for sex differences as an important learning factor. Tyler reminds us that other parts of the world do consider sex a factor in learning although our schools persist in sorting children chiefly by age (97:1217).

Arthur Heilman, one of the leading authorities in the field of reading, says our society tends to assume that there are no differences between the sexes in the ability to learn and suggests that this attitude may stem from the following factors:

1. Standardized achievement tests are built and used on the basis that the "norms" are equally adequate for both sexes. Reading readiness tests use the same problems and the same norms for both sexes. This is also true of reading tests and achievement tests used throughout the grades.
2. American schools in their actual practice have rejected the idea of any sex difference in learning to read, since both boys and girls enter school at the same chronological age.
3. Since the American schools recognize no sex differences, it is a simple matter to assume that there are none (47:346-8).

Heilman also suggests that we hear less about sex differences because comparison studies compile inconclusive data which tend to show no real differences between boys and girls. Even though not really compatible these studies are compared and treated as though they were. He poses the following five questions as criteria for determining comparability:

1. Do the studies deal with the same age group?
2. Are the sexes equated on M.A., I.Q., past experience, etc.?
3. When grade level is the criterion, is C.A. equated within the grade level?
4. Are the measuring instruments comparable?
5. Are the statistical procedures in both studies comparable (47:347).

Terman and Tyler also state that: "Intelligence tests in use today are not adequate for establishing differences in intelligence between the sexes" (96:chapter 17).

Beyond possible chagrin when sex differences are neither included nor considered relevant, this omission has significance for education

in general. If sex differences are important but largely ignored, the validity of norms for standardized tests is questionable.

Even though our schools and standardized tests operate from a hypothesis of no sex differences, many educators are aware of a difference in the way boys respond as compared to the response of girls in identical learning situations. Perhaps educational researchers, too, have been influenced by the anthropologic findings that most sex behaviors are learned. By observing different behaviors in each of the sexes in various cultures, anthropologists have been able to show that sex-typed behaviors are clearly not biologically determined. Probably the most well known work in this area is Male and Female, by Margaret Mead (67).

Rosenblith and Allinsmith state in The Causes of Behavior:

The anthropological evidence that many or most sex differences are learned has led some psychologists to act as if sex differences did not really exist; that is, as if they were not "real," only learned. They even formed their research samples by including males and females together as though sex would not affect the results (83:251).

For whatever reasons sex differences are not generally considered a pertinent learning factor, some professionals have still expressed concern and made hypotheses as to causation in regard to the differences between boys as a group and girls as a group in learning fundamental reading skills. The following are some of the frequently mentioned hypotheses and are relevant to the factors being investigated in this paper.

1. Boys and girls mature at different rates and some phases of growth are closely related to reading.
2. Although boys are definitely less physiologically mature, maturation cannot be hastened through stress or training....

Advocates of the organismic age concept attempt to show a relationship between rate of development in many phases of growth, both physical and mental, and reading ability.

3. The school environment and curriculum are more frustrating to boys than to girls.
4. Basal reader materials are less motivating and satisfying to boys than to girls.
5. Most primary teachers are women (47:358-62).

Many experts consider the first hypothesis, dealing with developmental rates, to be the key factor. For this reason, as well as for the valuable information obtainable, a pilot-study was initially run, prior to the planned experimental study concerning sex differences in reading with the same sixth grade population used for both studies. This pilot-study confirmed the findings of Lewis Terman, J.P. Guilford, and others in showing a high positive correlation between the physical, mental and social aspects of development. The pilot-study is further discussed in Chapter III: but it should be here noted that the questionnaire used (see Appendix C) also revealed a relationship between developmental rate and interest in reading.

Sex differences will be investigated through both a review of the related literature and an experimental study with the results reported within this paper. Although the question of sex differences is rarely, if ever, considered a major learning factor or even as a part of providing for individual differences; perhaps it definitely should be. Have educators missed something very important just because it is so obvious?

Statement of the Problem

The fact that girls as a group do significantly better in school than do boys as a group has been well documented. The fact that boys constitute 70 to 90 percent of all remedial reading cases makes sex differences particularly visible in the area of reading--an area acknowledged by almost everyone as being vitally important, particularly in today's world.

The incongruency implicit in these statements is reflected in the vague, elusive literature concerning sex differences and learning. It is believed that investigation of the several possible factors involved in the problem concerning the extreme rate of failure for boys in reading will divulge helpful information and also focus attention upon sex differences as a neglected, yet important learning factor. This will necessitate intensive, thorough research into the areas of: sex differences, developmental and neurological factors and the school situation itself, including: teacher preferences, reading programs and grouping procedures.

Information gleaned from the investigation of the literature will be utilized within an experimental study designed to determine whether awareness and provision for sex differences, in reading, will make a significant difference in the percentile ranked scores of two groups of sixth graders during a five month period.

The Hypothesis

The purpose of this study is to investigate the problem involving the disproportionate number of reading failures among boys, as compared to girls, through an extensive review of the literature encompassing

the several possible factors involved and also to determine by experiment, whether accommodation for sex differences, within reading groups, will make a significant difference in percentile ranked reading scores.

The research hypothesis will be stated as a null hypothesis:

There will be no significant difference in the comparable mean reading scores, expressed as percentile ranks, of students grouped according to sex and those students not grouped according to sex. As the reading group composed only of boys will be provided with more time spent on skill development and more masculine reading materials; their reading scores, when tested the second time, will not be significantly higher than the second test scores of the control group composed of equal numbers of boys and girls.

Although randomly selected, both groups are ability based and are on differentiated, individualized reading programs.

The Significance of the Study

Chronological age, intelligence quotient, socio-economic background, and even physical condition are among the various learning factors often used to explain an individual's behavior or rationalize the placement or performance of a group. Although research shows that behavioral sex differences do exist with even three-year old children able to distinguish and identify with one sex role or the other (15:232-242); it is still very seldom that sex differences is considered a significant factor in alleviating educational problems and/or testing educational theory.

This point of view is reflected in the research literature on sex differences, as related to educational problems, which is often minor

and indirectly presented. Seldom are causes investigated or connections made. Problems relating to sex differences may be presented; statistics are often quoted; occasionally a hypothesis or two is made or various factors may be suggested, but usually these statements are tucked within different studies. One might easily end up with bits and pieces. The main objective of this paper is to collect, connect, and present these bits and pieces in order to form a gestalt.

Behavioral sex differences do exist and do affect the "teach-learn" process, as shown by the fact that boys fail reading in a ratio of four to one over girls (26:45). This paper will be significant because it will investigate several factors related to the problem and will present them in an orderly, chronological manner with the intent of creating awareness, providing information and suggesting solutions. It is realized that these objectives will necessitate a lengthy review of literature, but if all probable factors are not examined, only another segmented paper would be contributed.

A statistical investigation of the problem, including the various factors researched, will also be necessary to prove that sex differences is an important element worthy of consideration in the learning process in general and as an implement in the provision for individualization of instruction.

The initially conducted pilot-study was significant in serving as a background-observational device for the experimental study. It also confirmed the previously found correlation between physical, mental and social development as well as revealing a relationship between developmental rate and rate of interest in reading. Perhaps its biggest value

was in providing information concerning reading interests and problems for this particular sixth grade population (P=62).

It has long been recognized that teachers do a better job of teaching and reciprocally, students do a better job of learning, when the teacher knows and understands the learner as much as is possible. One purpose of this study is to promote better understanding and awareness of the normal, natural sex differences, with the hope of revealing some viable insights. The experimental study will be significant since it will investigate the reasons behind this disparity between boys and girls in reading achievement, within a classroom situation. Finally, there is always a need for additional knowledge in any educational area and it is believed that a clarified view of sex differences as an important learning factor, and also as an element in individualizing instruction, will be of value to educators, parents, and social workers.

I. LIMITATIONS OF THE STUDY

The Situation

Both a preliminary pilot study and an experimental pre-test-post-test control group study were conducted at a new, open concept elementary school located in a residential suburban area just inside the city limits of Auburn, Washington. Team teaching is utilized throughout the school from kindergarten through sixth grade. There are no letter grades given and the atmosphere is often described as "relaxed." Most of the children realize they are attending a "new type" of school where new ideas are being used and they have become accustomed to having many visitors wandering through the school and observing the program. Community support and enthusiasm is generally

high but the newness of this particular situation may limit, or alter, any studies conducted, especially during the school's first year of operation (1969-70).

The population of Auburn is approximately 17,000 and very unstable due to the cutting back of the work force at the nearby Boeing Aircraft plants. Enrollment at all Auburn schools is down and student mobility at this newest elementary school is particularly high.

The Subjects: Pilot-Study

The subjects for the preliminary pilot-study were the entire sixth grade class enrolled at South Auburn Elementary School during the month of September, 1969. In this team teaching program, there are no self-contained classrooms and the number of sixth graders enrolled fluctuated widely throughout the school year. In this first month of school, sixty-two were enrolled and data was collected from all of them: thirty-two boys and thirty girls.

The results of this pilot study confirmed the positive correlation shown by Lewis M. Terman and others between the physical, mental and social aspects of development: the larger, healthier boy or girl will tend to score in the upper levels of a standardized intelligence, or academic aptitude, test and will also be socially more accepted by his peers. Apparatus utilized included: teacher-rated health records and growth charts; the Lorge-Thorndike Scale testing abstract intelligence: verbal and non-verbal; a student-rated questionnaire including a socio-metric device and a mini-interest inventory. An Interest and Activity Poll, such as the one devised by Albert J. Harris, may also be used. A copy of this is included in the Appendix as is a copy of the questionnaire used.

The pilot-study not only verified the correlation between physical, mental and social growth for this particular sixth grade population, it also showed a relationship between the correlated developmental rate and the rate of interest in reading as an activity. Children who rated "high" in the three interrelated aspects of development also showed a "high" interest in reading and were rated "high" in the number of books owned, with girls, as a group, leading boys. Conversely, children scoring in the lower levels, developmentally, also showed lower interest in reading, with fewer books owned. No significant relationship could be shown for children in the middle group. Socio-economic status was not taken into consideration and this could be a limiting factor.

The pilot-study will not be reviewed again as it was only a preliminary, observational procedure intended to define the population for the experimental study to follow and also, to reveal and/or clarify specific problems in the developmental and/or reading areas. As such, it was successful and since physical, mental and social development were positively correlated for this population; generally, only one developmental factor was then used for further grouping throughout the year. This may or may not have been a valid procedure.

"Average" in this population meant the child had an intelligence quotient within the range of 90 to 110.

Although the pilot-study was encouraging to the researcher and sped continuation on to the experimental study, it may have been limiting to have one study immediately following another.

This sixth grade population may or may not be representative of sixth graders across the state or across the nation.

The Subjects: Experimental Study

The subjects for the experimental study were again the sixth grade population enrolled at South Auburn Elementary School in Auburn, Washington. The study was conducted over a period of five months from October, 1969 through March, 1970 and this length of time may have been too long. There is the distinct possibility of the Hawthorne Effect occurring since reading groups other than those involved in the study were more flexible in their membership during this five month period.

All subjects in the study were close to an "average" rating in that their Lorge-Thorndike Intelligence Quotients fell within a range of 92 to 116. This means two children were over the designated upper limit of 110: one boy with an I.Q. of 111 and one girl with an I.Q. of 116. This random sample had the criterion of mental development in common, if for practical purposes, the I. Q. range may be defined as "average." An I.Q. range of 92-116 may or may not be accepted as a valid definition of average mental ability. If acceptable, when the subjects are divided into groups, the groups could then be considered ability-grouped.

It should also be noted that the Iowa Tests of Basic Skills was used both as a Pre-Test and as a Post-Test although only the reading section was utilized for the Post-Test.

The last factor that may have had a limiting effect concerns the size of the sample. Initially, twenty-four students were randomly selected and formed two groups with twelve members each. During the five month period, four subjects were eliminated from the study due to transferring to other school districts within the state. The girl with the I.Q. of 116 transferred to Seattle in December, 1969 and then

re-entered South Auburn in February, 1970 but she did not re-enter the experimental study. She was placed in another reading group as it was determined at the onset of this study that data would be collected only from those beginning, completing, and ending the experiment. Therefore, the study was completed with twenty subjects: fifteen boys and five girls, in two groups with ten members each.

II. DEFINITION OF THE TERMS

For the purposes of this study, the terms listed below were defined in the following manner:

Sixth grader. A male or female person with a chronological age ranging from 10 years, 10 months to 12 years, 11 months.

Puberty or Pre-adolescence. The maturing of the sexual functions, marking the beginning of adolescence.

Peer Group. The surrounding group of same age-mates which influence and direct the behaviors of each group member.

Growth. An increase in size.

Development. Increasing complexity or differentiation in the functions of organs and tissues (1:51-60).

Maturation. The process of growth and development itself, as contrasted with the learning process.

Sex Role. The psychological characteristics behavioral patterns that are typical of one sex in contrast to the other sex; consists of socially defined and expected behavior according to male or female status (15:232).

Language. The ability to use symbols for purposes of communication. This ability is a developmental function--one of four abilities which have their period of maximum development in human beings at predictable ages (33:114).

Reading. Visually perceiving and reacting to written symbols by putting words together to form concepts (65).

Basal Reader. A textbook, usually part of a graded series, used for instruction in reading (23:1-32).

Trade Book. A book published for the purpose of giving the reader pleasure and stimulating his interest in reading for pleasure. Trade books are used extensively in the individualized reading program (38:56-8).

Grade Level. Refers to the level of development of the average or middle pupil in designated grades (8:122).

Slow Learners. Children with I.Q.'s from 75 to 90 who are in the regular classroom but have difficulty keeping up with the average speed of the class (25:152).

Hawthorne Effect. The influence of social and psychological factors other than the independent variable in experimentation (20:116-22).

Standardized Test. Standard tests where norms of performance have been made available and of which the consistency and validity have been determined and are known to be high. The Iowa Tests of Basic Skills (I.T.B.S.) form "B" was utilized in this study.

Significant. Meaningful or important unless specified as:

Statistically Significant. $(p) = .05$. The probability that the result is due to chance is .05 or 5 times out of a hundred.

Organismic Age. The average of age scores on height, weight, mental age, dentition, grip and various physical growth factors (73:436-7).

Visual-Perceptual Problem. A behavior pattern which influences performance and represents a distorted response in the manipulation of visual space. Perception is behavior. The meaning of sensory stimuli is acquired only by doing something with the sensory stimuli. Perception is organized in terms of movement responses and is limited by the nature of the system. Visual development is an outgrowth of motor development, and it can replace movement. Vision will be as adequate as its movement patterns. Vision is a light sense that generates movement patterns to bring meaning to the object of regard. In order for learning to take place the following skills are necessary: (1) Object constancy, (2) The ability to recognize differences in direction, and (3) The motivation, improvement, sorting, and collection of incoming signals or stimuli (19:122).

Teaching. A process of making decisions about human behavior (55:41).

Learning. Not simply a change in behavior but a relatively permanent change in ability to perform or in behavior potential that may be manifested only in some long-delayed change in behavior (55:40).

Gestalt. A synthesis of separate elements that constitutes more than the sum of the parts. (Standard College Dictionary: Harcourt, Brace and World, 1968)

Anoxia. A condition characterized by a defective or insufficient oxygen supply to the body (26:45).

Reading Retardation. The difference of Reading Age (mental age is interpreted as a child's reading potential) from Mental Age (66:97).

Lag. A slowing of the different stages of development (33:105).

Average. As an index of mental development, for the experimental study, "average" means an I.Q. score between 90 and 110. "About 50 percent of children have I.Q.'s between 90 and 110, which is considered the average range" (43).

Equilibration. Self regulation; a fundamental factor in development as stressed by Piaget.

III. SUMMARY

Everyone agrees that reading is a vital and necessary skill in today's world and many people are concerned with the failure of our schools to teach children to read. Criticisms are seen as valid. Considering the multitude of factors and possible causes constituting a generalized reading problem, the fact that approximately 75 percent of all remedial readers are boys seems glaringly noteworthy. Although several studies have shown that girls do score significantly higher on tests of language usage, spelling, reading comprehension, word study skills and vocabulary (93:665); seldom, if ever, are sex differences seriously considered in attempts to improve our reading programs.

Behavioral sex differences do exist and boys do lag behind girls scholastically, particularly in the reading area. As a learning factor, sex differences have been neglected even within the voluminous literature related to reading problems and when mentioned at all; it is generally as an insignificant and minor factor, often in conjunction with a study of another learning factor. If it is not practical to prepare each pupil individually for the seventh grade, would not awareness and provision, where applicable, for sex differences be helpful?

A series of questions to be discussed in Chapter II is presented concerning sex differences in relation to the following topics: developmental traits; neurological factors; teacher preferences, reading programs; and grouping procedures.

Since sex differences are generally only considered with one of these factors, it is deemed essential to do a thorough investigation of all five in order to present a complete picture with useful information.

The focus is on reading because it is the subject most important and basic to all other learning; it is also the area where the most striking sex differences in learning occur. Quotes from a few studies are presented to reinforce the latter statement.

Among the possible causes presented for sex differences in reading, it is noted that the initial one, dealing with the different maturation rates, is considered by several experts to be the key factor. Along these lines, the pilot-study conducted by the author confirmed the correlation found by Terman, between physical, mental, and social development. A relationship between reading interest and maturation rate was also revealed.

A null hypothesis is assumed after the Statement of the Problem which reviews the fact that boys constitute 70 to 90 percent of all remedial reading cases, as compared to girls. The extensive review of the literature, over the several possible factors related to the problem, is justified by the fragmented research on sex differences now available. In addition to the literature researched, another source of information will be the report of the experimental study which will be conducted

to determine the effects of provision for sex differences, in reading, within a classroom situation.

Since sex differences are usually represented only indirectly in research literature, this paper is seen as significant because it will investigate the several factors related to the problem and present the information with any established relationships that may appear. This collection of fragments with connections of possible causes and effect will contribute a more complete picture. Awareness and knowledge derived from both the research reviewed in Chapter II and the results of the experimental study, as reported in Chapter IV, are seen to be of value to all people that will come into contact with children.

The Limitations of the Study describes both the situation and the subjects involved in the pilot study and in the experimental study, and is followed by the Definition of Terms used throughout the paper.

IV. ORGANIZATION OF THE SUCCEEDING CHAPTERS

Chapter II will review the literature relating to:

1. Sex Differences
2. The Sixth Grader:
 - a. Characteristic Developmental Traits
 - b. Neurological Factors
3. The School Situation:
 - a. Teacher Preferences
 - b. Reading: Programs, interests and attitudes, and Basal versus individualized.
 - c. Grouping

Chapter III will give the procedures involved in conducting the study including the collection and treatment of the data.

Chapter IV will show the findings and interpretation of the data gathered.

Chapter V will contain the summary and conclusions of the study. It will include relevant recommendations for further study and for classroom implementation.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Introduction

Just as we cannot overemphasize the importance and value of reading, we must not overlook the disproportionate number of reading failures in pupil populations which Spache says reaches a ratio of five or eight boys to one girl (90:26). Teachers are aware of sex differences in many areas and can hardly ignore the startling dissimilarities between girls as a group and boys as a group in reading achievement. Yet sex differences as an important learning factor is often neglected. In the introduction to How Children Fail, Allan Fromme said: "Only by showing again and again what the child in the classroom is doing can we come to understand how he learns and how he fails to learn" (32:xi). Have teachers seen boys fail reading so often that it is accepted as a matter of course?

George Leonard, in his book, Education and Ecstasy, reminds teachers of their obligation and responsibility when he states: "Learning itself is life's ultimate purpose. Anyone who blocks learning, especially in a small child, is guilty of an enormous crime" (58).

Like Leonard, John Holt believes education and our schools must change and that learning should be both joyful and meaningful. He believes that schools scare, confuse and bore children thus encouraging them to act stupidly and he states: "Nobody starts off stupid!" (50:161-169).

Another gentleman concerned with schools and failure is

William Glasser who places a priority so high on reading as a necessary skill, that he feels his philosophy of involvement, relevance, and thinking, as embodied in his book, Schools Without Failure, cannot possibly succeed unless the reading problem is first resolved. He says that both teachers and the children recognize the major academic failure as being: failure to read. He goes on to say that skills, especially communication skills, are of prime importance in elementary school and that reading is the most important skill for future academic success (39:86-94). Dr. Glasser appears to be that rarity today: a progressive psychiatrist with futuristic views who believes strongly in children acquiring fundamental skills.

As a sixth grade classroom teacher, this researcher is also concerned with skill acquisition, particularly in a subject area as essential as reading. The rate of failure for boys in reading, is well documented, but the reasons WHY are not always so well documented. An investigation of pertinent factors is indicated and would include: sex differences; the child-developmentally and neurologically; and the school situation including teacher preferences, the reading program and grouping methods.

Problems created by sex differences would be resolved by individualized instruction but, although educators talk about providing for individual differences; this is a large, perhaps sometimes impossible, task. Van Dalen says that American educators will almost all agree that a good educational system will provide for individual differences and yet many of our schools today do not provide for these individual differences (100:162).

The reasoning behind the organization of this chapter might be summed:

1. There are characteristic sex differences.
2. There are characteristic developmental traits.
3. There are factors within the school situation that may influence either success or failure in reading for boys and/or girls.
4. Of course, there are individual differences.
5. Being aware of one, two, and three will help teachers to a better job of providing for four.

With this rationale in mind, the chapter will be divided into the three general categories of: sex differences, the sixth grader, and the school situation. There are appropriate sub-topics and obviously, some overlapping may occur but an orderly sequence will be attempted.

I. SEX DIFFERENCES

Differences between the sexes have been a prime topic of conversation since the beginning of mankind but it has been only since the end of the nineteenth century that research by qualified investigators has taken place. At that time, the big question was whether women's intelligence was or was not on an equal basis with men's. This era was followed by an emphasis on the question of personality differences while the last twenty years or so have seen the emphasis shift again to where it now is concerned with the concept of developmental differences (97:1217).

Leona Tyler gives a brief review of the research history on sex differences in the Encyclopaedia of Educational Research where she also says that any questions concerning male versus female intelligence will

never be settled because intelligence tests do not measure just native ability. Instead, they measure native ability combined with all successive learnings and these learning experiences are different for boys and girls, even if they grow up in what appears to be an identical environment (97:1218).

In her book, The Psychology Of Human Differences, Tyler states that girls do better in school than boys and cites female superiority in the areas of manual dexterity, verbal fluency, rote memory and clerical aptitude. This means girls consistently excel in English, spelling, writing and art. Boys are superior in the areas of spatial relationships, problem solving and mechanical aptitudes which causes them to excel in mathematical reasoning, history, geography, and science (98).

Albert Harris states that girls mature earlier than boys in that they tend to reach puberty earlier; they also talk earlier and do a larger volume of talking than do boys(43). Tyler adds that it is a biological fact that girls mature more rapidly than do boys and therefore girls are farther along than boys during their first eight or nine years in school (97:1219). This is confirmed by Harold Seashore who compared a large number of scholastic aptitude tests and found that girls, as a group, produced significantly higher validity coefficients than did boys, as a group (86:261-70).

It appears well established that sex differences do exist and they do affect performance in school for boys and girls. Why? Are these differences biologically based or culturally based? One may make either choice, as research will back up both points of view.

The cross-cultural survey by Barry, Bacon and Child confirmed a cultural rather than a directly biological nature of differences. In the 110 cultures surveyed, they found differentiation of sexes to be unimportant in infancy but, during childhood, the pressure was applied towards nurturance, obedience and responsibility for girls and self-reliance and achievement striving for the boys (4:327-32).

Daniel Brown concurs with the cultural viewpoint as he emphasizes the learning of sex roles in our changing, contemporary culture. He found that children will distinguish between male and female by their second year and will definitely prefer one sex role or another by their third year. He also comments on the lack of flexibility that boys have in their sex-role choices. Girls may wear masculine apparel, such as shirts and pants; girls may have masculinized names, such as Jackie or Billie; and girls may play with toys associated with boys, such as boats, cars, erector sets, etc. but if a boy should wear girls' dresses, have a feminized name or play with dolls; he is severely censured (15:232-42).

Dorothea McCarthy believes that sex differences in language development may be partly constitutional but her stronger emphasis, also, goes to the culturally based theory (64:159). Here again, the important point is that differences in language development do exist and do give girls the advantage in school.

In Child Care and Development, Louise Ames mentions a few sex differences that would be culturally cultivated such as: girls are more aware and interested in color than boys (2:90) and girls tell more realistic stories while boys tend to balance out their realism in stories with more fantasy (2:81). While she states in one section of

of her book that the different behaviors boys and girls exhibit is usually due to our expectations (2:25), she also dwells at length on the physiological differences between the sexes. Boys are less strong physically both before birth and in the following childhood years; for every 100 females, 130 males are conceived but so many more males abort that the live birth ratio is 106 males born for every 100 females (2:363). Also, boys tire earlier when playing (2:25) and more boys than girls suffer from diabetes between the ages of three and eleven (2:356). The final blow to the male ego is the fact that women live five to seven years longer than do men. As Dr. Ames concludes this section of her book, she quotes, and appears to heartily agree with, Madeline Gray in The Normal Woman who said that superior strength is a "built in" advantage for women (2:363).

Perhaps the most prominent and relevant finding in the area of sex differences is the evidence that personality traits are linked together differently in male and female. Differences in personality organization are due to the differences in the developmental processes. Factor patterns differ when ability or personality measurements are to determine the existence of behavioral sex differences as a fact. What are the implications for education?

Shaw and McCuen found that the origins of underachievement in school are not the same for boys as for girls. The underachievement behavior pattern for boys begins in the first grade but does not begin until the sixth grade for girls (87:103-9).

Differences in interests and activity preferences show up at an early age and many studies, such as the one by Oetzel, have shown that

boys are more active and more aggressive than girls from preschool age up to adulthood (72:123).

Tyler's 1956 comparison of the reading interests of English and American children was positively reinforced by Gaier and Collier's 1960 investigation of American and Finnish children and their reading interests. Both studies indicate that nationality differences, within our Western culture at least, are less influential than are sex differences (34:431-51).

Sex differences do exist in the areas of development, ability, motivation, interest and general personality and whether they are biological or cultural is not of prime importance. Research appears to favor the culturally based theory although one might agree with Freud who said, "Anatomy is destiny." (2:27). Either way it must be kept in mind that the variability within each sex group is tremendous and being cognizant of sex differences is no substitution for being aware of individual differences and needs. Tyler says that the implication of the research findings concerning sex differences for education mean that attention must be paid to subtle as well as obvious influences on development if each individual is to make his maximum contribution to society. In sum she states:

The solutions to problems raised for education by sex differences will most likely come through more extensive individualization of the whole educational undertaking. When it becomes possible to recognize a variety of kinds and levels of achievement in students of both sexes, and to plan individual learning experiences directed toward individually planned goals, sex differences, like the many other kinds of differences between persons, will enrich rather than complicate the work of the educator (97:1220).

II. THE SIXTH GRADER

At every grade level, teaching methods will be more effective if the teacher can understand the learner as fully as possible. It is important for teachers to be familiar with developmental patterns characteristic of all levels in order to understand what has gone on previously and what may be expected in the future. A developmental point of view is advocated by many authorities as a key factor in understanding the learner, particularly in reference to any reading problem. Piaget believes that the stage of development can help explain and account for learning although learning does not explain development nor is it to be confused with spontaneous development (78).

Bruner also acknowledges value in a theory of development but believes it must be linked to theories of knowledge and instruction in order to be most effective within the educational process (16). It has been observed that boys tend to mature later than girls and various comparison studies have found this to be true. Frank Pauley has said that boys usually develop in nearly all respects more slowly than girls (76:1-9). This lag should have implications for our school system in general and our curriculums specifically but, like other discrepancies between the patterns of boys' behavior and girls' behavior, this anomaly is also ignored.

Since all aspects of development affect the rate of learning, a developmental point of view seems especially practical in reference to the sixth grader. It is commonly accepted that the ability range among pupils will increase with each successive grade level and the sixth grade is unique in that the range of development is greater there than at any other elementary school level. Wrightstone conservatively

estimates it to be between seven and eight years (105-13). The wide span of ability within the sixth grade not only represents levels of instruction with which to contend; it also represents a different span of interests. A child in the sixth grade but reading at a first grade level is not interested in the things that interest a six-year old child in the first grade. Of course, this is applicable in a reversed situation and points out the value in understanding characteristic developmental traits.

Characteristic Developmental Traits

The sixth grade can be an enigmatic level as many of the children are fast approaching puberty with the concurrent rapid physical and psychological changes. Social changes are also evident as one-sex peer groupings often begin the change to two-sex peer groupings. These factors in combination with the previously mentioned wide range of ability and maturity levels may cause confusion for some children at a time when mastering instructional skills can be very important before taking that big step to junior high school.

Perhaps we should first distinguish between the terms growth and development. They are not the same thing nor do they proceed in an orderly, sequential pattern: "A knowledge of variability in human nature and development is important in understanding the concept of growth--defined as an increase in size--and development--defined as the increasing complexity or differentiation in the functions of organs and tissues" (1:51-60).

Gesell is more elaborate as he describes development:

Development is more than a concept. It can be observed, appraised, and to some extent even "measured" in three major manifestations:

anatomic, physiologic, behavioral. Behavior signs, however, constitute a most comprehensive index of developmental status and developmental potentials (36:225).

One way to describe traits characteristic of late childhood is to describe the developmental tasks to be performed during this period. Havighurst says developmental tasks are those tasks an individual must learn; successful achievement of which leads to happiness and success with later tasks, while failure leads to unhappiness and difficulty with later tasks. He adds that these tasks arise from three sources: physical maturation, cultural pressure and individual aspirations or values (46:215-23).

Corey and Herrick use the term 'developmental task' to describe the "lessons children learn as they grow up" while the function of the teacher is viewed as assisting the child in accomplishing his developmental tasks (22:3-13).

Certainly it is desirable to match teaching methodology to the specific developmental needs of the child. To understand the behavior of children, awareness of the specific stage of development with its characteristic traits and tasks is essential. The relevance of Jean Piaget's developmental theories to the education of children is well recognized. Understanding his profound, penetrating theories should make teaching more appropriate and effective at all grade levels. In The Origins of Intelligence in Children, Piaget describes the stages of mental development:

The child in the late middle years will have passed through:

1. The sensorimotor period - birth to about 18 months.
2. Pre-operational representation stage - the child's thought

processes aren't yet reversible and therefore, the child's knowledge isn't systematized.

3. The concrete stage - wherein the child can perform mentally, actions he has previously carried on in actuality.

The child may still be in the concrete stage or he may be about

to enter to fourth stage of:

4. Formal operations - pre or beginning of adolescence, now, he can construct theories and make logical deductions as to their consequences without the necessity for empirical evidence (78).

The four main factors involved in the transition from stage to

stage are:

1. Maturation (the increasing differentiation of the nervous system)
2. Experience (with the physical world)
3. Social transmission (involving encounters with other human beings)
4. Equilibration or self-regulation (78).

Equilibration is a fundamental factor for Piaget and the implications of self-regulation for education mean that students should be allowed a maximum of activity of their own. At the pre-adolescent level, children are able to proceed experimentally with systematic variation of factors (78). Conservation is an ability characteristic of middle childhood and means being able to grasp mentally those aspects or relationships of a phenomenon that remain constant over transformations in appearance. Conservation attainment appears at about seven years of age and seven seems to be the turning point in terms of mental development according to Piaget (78).

In his book, Six Psychological Studies, Piaget discusses the stages in the mental development of children and claims that every

explanation of human behavior includes some form of his equilibration theory (79). The section on "Childhood From Seven to Twelve Years" discusses the following aspects of mental development:

1. The Progress and Socialization of Behavior: wherein the child is liberated from his social and intellectual egocentricity. Along with his progress in the area of social behavior, there are transformations of individual action that appear to be both causes and effects of this progress. The important thing is that the child becomes capable of at least rudimentary reflection and reflection is defined as internal deliberation, or a "discussion conducted with oneself."
2. The Progress of Thought: at 11 to 12 years, the child recognizes the constancy of volume, cause and effect by means of identification, rational assimilation (structuring of reality by reason itself.) He may now possess rational concepts of the fundamental ideas of order, continuity, distance, length, measurement, etc.
3. The Rational Operations: Intuition is the highest form of equilibrium attained by the thinking of young children and corresponds to the concrete operational thinking of middle childhood. Operation is some kind of action whose origin is always perceptual, intuitive (representational) or motoric. Operation applies to many diverse realities: logical operations, arithmetic operations, geometric, mechanical, physical, temporal operations, etc.

The transition from intuitions to operations is completed when two actions of the same kind can be composed into a third action of the same kind and when these various actions can be compensated or annulled - reversible.

Sum: A child's thinking becomes logical only through the organization of systems of operations which obey the laws common to all groupings:

1. Composition - 2 operations combine to give another operation of the grouping.
 2. Reversibility - every operation can be inverted.
 3. The direct operation and its inverse gives rise to an identical or null operation.
 4. "Groups" - operations can combine with one another in all kinds of ways.
4. Affectivity, Will, and Moral Feelings: All of the above attest to the profound transformations that occur in affectivity during middle childhood.

Mutual respect leads to new forms of moral feeling distinct from initial external obedience: Younger children refuse to concede that a new rule in a game could be a "true rule." But, the older child will accept a rule as true if each child adapts it; "a true rule is merely the expression of a mutual agreement."

The older child also starts to comprehend the implications of lying, and deceit among friends is considered more serious than lying to adults (79).

Better understanding of the child and his behavior through awareness of his developmental stage, trait, or task is one point of view. There are others and John W. M. Whiting of Harvard University described several various points of view in analyzing children's behavior in a concise, perceptive manner when he said:

Various positions have been taken as to the major determinants of a child's behavior. Gesell and Piaget, taking a developmental point of view, say the most important thing to know in order to predict a child's behavior is how old he is; Freud and his followers would insist that the most important determinant of a child's behavior is his life history, especially his relationship with his father and mother; the learning theorists would insist that a knowledge of previous rewards and punishments for the particular behavior in question is what is needed. The Gestalt school, as exemplified by Lewin, Baldwin, and Barker and Wright, would take an ahistorical approach and insist that a knowledge of the situation, that is, the setting and instigation, is the thing to have; and, of course, the anthropologists would insist that if you don't know what society the child is a member of, you can't predict a thing (102).

Whiting did go on to cite the factor of whether the child is a male or female as having some weight and he concluded by saying there was probably a grain of truth in each of the positions.

Descriptions of behaviors or traits characteristic of any particular age group is considered part of a developmental point of view. The following comments add to a general portrayal of the sixth grader by describing traits characteristic of this age level.

Bienenstok says that behavior standards for this age group are set by the peer culture and that a satisfactory adjustment to their peer group is one of the major tasks in the child's development (6:313-19).

Hurlock goes further and states that that influence of the peer group is the most marked developmental characteristic of late childhood. She adds that learning to live in a social world is difficult for a child as he changes from a self-centered, selfish individual to a cooperative, well-adjusted member of a social group composed of his peers (51:145-157).

There are more anger-provoking situations in late childhood than in early childhood because the older child has a stronger desire for independence (106:80). At the same time, the older child learns that violent emotional expressions are unacceptable to his peers and therefore; he acquires strong motivation to learn to control the outward expression of his emotions (27:33). This motivation does not carry over to home situations however. If the group approves and condones behavior that is in direct contradiction to adult standards, the older child will accept the group's opinion uncritically. Resulting misbehavior and parental friction is seen as an attempt by the child to throw off the restrictions of adult authority (92:271-85).

The home and the parents do influence the child's attitude toward minority groups. Harris found that antiminority prejudices are not based on the personal experiences of the child but instead, reflect the home and cultural pattern (44:169-81).

Factors influencing the selection of friends include: pro-pinquity, chronological and mental age, and personality traits (71:281-6).

Social isolates, or children who are socially unacceptable to their peers, are usually quiet, reserved, and withdrawn or of the aggressive, antagonistic type. On the other hand, the leader of the group represents the group's ideal, with extroversion being more marked than introversion (59).

Physically, late childhood is often a period of slow, uniform growth and imaginary illness is not uncommon. Girls generally surpass boys in physical skills involving the finer muscles such as: painting, sewing, handwriting, weaving and hammering (81:149).

By analyzing children's conversational patterns, Maddock found that slang and swear words are an important part of the older child's vocabulary. Secret language is also very popular and may be written, verbal, or kinetic. The older child talks less about himself and his family and more about his outside interests but when he does talk about himself; the older child usually indulges in boasting, especially about his skill and strength in games. Boasting is very common between the ages of nine and twelve, particularly among the boys (61:216).

Thus, we have briefly reviewed Piaget's theories and stages of mental development; we have seen how influential the peer group is-- socially and emotionally; one theory of physical development and one study concerning language patterns have also been presented. These comments are all helpful in understanding sixth graders, in general, but what about the sixth grader and reading?

Terman and Lima found that the height of reading interest often comes around the twelfth year, when it is not unusual for both boys and girls to read books at the rate of one a week. At the sixth grade level,

marked sex differences in reading interests develop as well as differences resulting from the intellectual level of the child (95: Chapter 3).

Regardless of intelligence, almost all American children enjoy reading the comics, according to Witty. Sex differences in interest exist, but he found that both boys and girls, of upper elementary school age, read an average of 12.94 comic books every week (103:101-4).

In Developmental Psychology, studies by Lazar and Lipscomb confirming a correlation between mental ability and reading interest and achievement, are cited. Lipscomb investigated the reading of sixth grade children and obtained a correlation between the number of books read and the I.Q. independent of reading achievement. Lazar found that the amount of reading done by dull children was measurably less than that done by bright children. Also, those children who were bright, but low in socio-economic ratings showed as much interest as the other bright students although their choices were of an inferior quality (57).

Development does affect learning and knowledge of these characteristic traits can aid understanding and anticipation of behavior patterns. Information regarding specific reading problems should include an investigation of neurological factors; but before discussing possible causes and cures, one question could be raised: Considering the normal, natural, yet different rates of development, how might a classroom teacher identify a disabled reader? Bond and Tinker assert that: "No child should be considered disabled in reading unless there is a discrepancy between his learning capacity or general performance and his reading performance" (10:168). Capacity and performance are key words in a neurological approach to learning especially when diagnosing and prescribing for reading problems.

Neurological Factors

If "Reading is the most important subject of all that a child needs to master" (99:1) and Harris states that boys constitute at least two-thirds of the less severe reading disability cases and approximately 90 percent of the severe cases (43:27); the following question then seems legitimate: Could there be neurological differences between the sexes that might help explain why so many more boys than girls fail to learn to read adequately?

Any inquiry into neuro-developmental factors could well begin with Piaget who believes that neurological development and organization of the organism are key factors in language and reading development. He emphasizes the importance of perceptual activity which he maintains has been neglected by the too static Gestalt theory of form. In brief, his theory is: Reflex patterns form the basis for intelligence and they are reinforced through use and are assimilated because of the development of higher levels of accommodations. In other words, mental faculties develop as they are used and the impressions received enable the intelligence to grasp even more involved concepts, in a sort of constant upward spiraling (78).

Piaget's book, The Origins of Intelligence in Children, was previously mentioned in reference to stages of mental development. This book is recommended reading for any educator, particularly the six sequential stages dividing the growth of intelligence:

1. The use of reflexes.
2. The first acquired adaptations and primary circular reaction.
3. Secondary circular reactions and the child's procedures for prolonging spectacles interesting to him.

4. The co-ordination of secondary schemata and their application to new situations.
5. Tertiary (3d in order of time or rank) circular reaction and the discovery of new means through active experimentation.
6. The invention of new means by mental combination (78).

Cognizance of these stages would aid in locating and identifying the stage of skill development relevant to the learning deficiency. McLeod advocates this analysis as a first step when planning objectives in a remedial reading program. He goes on to say that a behavioral analysis, with what the child can do described in terms of the actual specific operations he cannot do, makes it possible to locate the fault, go back beyond that point to a stage where growth was healthy, graft remedial experiences onto the healthy development and move on from there (66:7-14).

A study by James Reed: "The Ability Deficits of Good and Poor Readers" is a comprehensive appraisal of verbal functions, visuo-motor abilities, psycho-motor skills, tactile-perceptual functions, and motor functions. Dr. Reed found very little difference in the reading difficulties between younger and older children although younger children have more trouble with perception while older children have more problems with reception and expression of the symbolic significance of language symbols. He also stresses the point that reading impairment must be viewed as representing a complex of deficits. Although this study is concerned with age more than sex differences, it is included because the final statement may be considered controversial by some educators and is directly opposed to several current theories:...."the results suggest that relatively pure motor abilities have little to do with reading skills.

These data offer no justification or support for training children in motor activities with the expectation that their reading will be improved" (82:134-9).

After finding no literature revealing a positive and significant correlation on a cause and effect basis between visual-perceptual dysfunction and poor reading performance, Dr. Howard Coleman evaluated eighty-seven children, in grades one through six with reading deficits, for visual and visual-perceptual development. As could be expected in any group of children with reading problems, the preponderance of males to females was almost two and one-half to one. Dr. Coleman offers as an explanation for this, the fact that males of this age are neurologically and developmentally delayed as compared to the female. After several tests in fourteen areas, it was found that almost fifty percent of the sample did have visual-perceptual or visual dysfunctions severe enough to handicap their learning. Also, the study supported the concept that there are significantly higher numbers of boys than girls in grade school with this problem. He continues by saying that as our most efficient sensory receptor, vision occupies a position of predominance since visual-perceptual awareness correlates highly with reading test scores. Knowledge of visual-perceptual deficits could lead to correction through therapy and compensation by matching the teaching methods with the developmental needs of the child (19:116-21). The author sums up his argument by stating that a significant percentage of the children who fail in grade school are of normal or above average intelligence and"somewhere along the line we have not succeeded in determining all of the factors necessary to permit and allow for maximum development

of intellectual capacity as measured by academic achievement. It is the author's contention that a thorough analysis of the visual-perceptual aspects of the child will aid in an understanding of his educational potential, reveal hidden disability, and establish a basis for compensatory educational techniques to aid in overcoming these deficits without the loss of ability or ego strength: (19:121).

Dr. Ray Wunderlich is a neurologist who believes in taking a developmental approach to all learning disorders. He defines children with learning disorders as children who have failed to master appropriate developmental tasks. Since at least twenty percent of the children in early primary grades read below grade level, he makes a plea for alteration of the neurological problem through: visual-motor-perceptual training programs, physical therapy, indicated medication, or reduction in environmental stress (104:38-43).

Perhaps one of the more interesting neuro-psychological approaches is advanced by neurologist, Dr. Carl Delacato in his book, The Treatment and Prevention of Reading Problems. Dr. Delacato makes a connection between the fact that boys have reading problems in a four to one ratio to girls with the fact that boys heads are larger at birth than are the heads of girls. Since the newest brain cells are the most easily damaged under anoxia (lack of oxygen), and since boys heads are larger at birth, he reasons that the birth process might be more difficult or that more time might elapse between leaving the dependence of the mother and beginning breathing. If some anoxia were present, only the highest level, phylogenetically recent, cells would be damaged without affecting other cells at all. He states clearly his belief that "the child with a

severe reading problem might possibly have suffered some anoxia and hence brain damage either during birth or subsequent to it" (26:45). He also says it is a well established fact that the newest cells phylogenetically are the cells dealing with association and language and these are the cells most vulnerable to anoxia. Although a three minute lack of oxygen can intellectually incapacitate a human being totally; a one minute lack could damage these vulnerable cells without resulting in the gross motor and intellectual disabilities symptomatic of anoxia. As further evidence, he cites the facts that boys' births are slower than girls' births; that there is a great similarity between the language symptoms of the obviously brain damaged child and the child with severe reading problems; and that considering these facts in connection with one another, rather than separately, will help to explain why four times as many boys than girls have reading problems. Dr. Delacato advocates intra-uterine oxygen level tests during birth as a potential preventive measure of even a slight degree of anoxia (26:46).

Delacato certainly believes that neurological differences explain the anomaly between the sexes in learning to read. His suggestion of intra-uterine oxygen level tests during birth is worthy of consideration, as are the other suggestions and observations that have been presented. But what of some workable plans for teaching children who now have severe reading disabilities?

Bookbinder and Flierl report success with a plan for children who are not candidates for Special Education but must be taught "differently" within the curricular framework of their classrooms because of severe reading disabilities. A programmed remedial reading

method was developed in a "Basic Skills Class." Students spent one and one-half hours daily in this class with the remainder of the school day in their regular elementary classroom. Each word was taught with a structured, programmed approach using a multi-sensory approach with much over-learning. Related class activities provided opportunities for use of the learned words in meaningful reading situations. Initially, all candidates for the class were boys and not only did they make progress in their reading skills, but ratings in their change of attitude by classroom teachers were also favorable (9:146-7).

In the article, "Language Training: A Form of Ability Training" Marianne Frostig and Phyllis Maslow suggest a balanced program for aiding the maturing process. Although other programs geared toward speeding up the maturation process have concluded that this is not possible within the normal limits of environmental opportunity because the gains made did not last (8:115), this article differs with that opinion, but then; the environmental opportunity is vastly widened. The Illinois Test of Psycholinguistic Abilities (I.T.P.A.) is evaluated and correlated with the Frostig Program for the Development of Visual Perception in a program involving the child, teacher, doctor, psychologist, and parent. A developmental point of view, with all psychological functions considered, is stressed as basic to all forms of ability training. Although I.T.P.A. is valuable as a testing instrument to set up programs for language training, it is pointed out that the test and the program need to be supplemented by other evaluative and educational measures. This article is an excellent example of the integration of evaluation, program, and training in language and perceptual skills (33:15-24).

The studies presented in this sub-section are a small example of approaches currently being taken to aid the student with reading problems. Since some experts feel that neurological questions concerning remedial reading programs are still not fully answered by research (66:7-14), it is suggested that a periodical, such as the Journal of Learning Disabilities, be regularly consulted.

III. THE SCHOOL SITUATION

Francis Keppel is quoted in the foreword of The Torch Lighters - Tomorrow's Teachers of Reaching on the importance of reading: "Teachers and parents alike agree that if a child does not learn to read well, many doors will forever be closed to him. Everyone says something ought to be done about it" (3:ix).

What that "something" is, is not always clear; but where that "something" should be done and by whom, is not often questioned. In Reading for Today's Children, Nila Smith places the responsibility squarely upon our schools (89). Our world of rapid change, with multi-volumes being printed daily requires efficient, enthusiastic readers and Smith makes an excellent case for this as she points out the reasons why all Americans should be concerned with producing better readers. She discusses the population explosion and its effect on education and teachers; while emphasizing the need for all of us to be efficient readers of science, mathematics and the mass media of newspapers and periodicals that require critical analysis. With the current socio-economic revolution, people want to better themselves and therefore she emphasizes the value of speed reading to keep up with the rapid changes and to keep abreast with the individual's personal areas of interest.

This is a national concern she continues, and the schools must take the increased responsibility for developing the special abilities and capabilities of each individual child. If we are to develop each individual to his highest potential and also meet the increasing desires for self-improvement; she feels that there is really no choice: The American youth of today will have to read better than they were reading even yesterday (89:Chapter 2).

Acceptance for the responsibility of developing each child to his highest potential would necessitate examination of the school situation.

The school situation bears examination not just because it must produce better readers for tomorrow. The problems of today warrant attention on their own: Sex differences are evident in reading interest and achievement even when the boys and girls involved are comparable in mental, physical and social development. This makes something within the school situation suspect. The supposition is, that neurological dysfunctions aside, the school situation in conjunction with reading problems, must be examined.

George Spache says that under the present organization of most of our schools, there is no way of adequately recognizing the fact that girls are successful in reading because of their physical and verbal superiorities; nor is it possible to deal with it by differentiated instruction (90:9). What factors then, involved with both reading and sex differences, are either being dealt with or ignored in the classroom?

One, we have seen that there is a neurological-maturation rate difference between the sexes that is largely ignored when planning and implementing instructional objectives.

Also, reading programs and materials have frequently been accused of not accommodating sex differences in attitudes and/or interests (75:25-6). This topic will be discussed in the next section of this paper.

Lastly, we have seen that personality sex differences exist. Since several studies have shown that teacher approval is an important school factor resulting in better learning and over-all adjustment (68:385-96), a valid question might be: Do teachers prefer the behavior resulting from one personality type or the other? The teacher, as an important variable in the school situation, and the teacher's attitude toward sex differences in behavior, will be examined in this section.

The Teacher

Feshbach tested and confirmed the hypothesis that teachers place a higher value on orderly, cautious, conforming behavior as compared with untidy, assertive, independent behavior. A four by two factorial design, varying personality cluster by sex, was used. Two hundred forty female student teachers, divided into two groups, used a Situation Test constructed especially for this study containing sixteen story situations depicting boys and girls exhibiting different personality clusters. Since some behaviors are sex typed, the sex appropriateness of the cluster influenced the teachers' judgements. As an example: independence received less favorable ratings when displayed by boys or girls, but it was even less acceptable in girls because of incompatibility with the accepted female role. On several intellectual and social dimensions, the student teachers preferred the rigid, conforming, dependent, passive child as compared to the flexible, nonconforming, independent, assertive

child. The most positively perceived student was the rigid, conforming girl (31:126-132).

The significance of the Feshbach study might best be illustrated by a statement from The Development of Sex Differences, by Eleanor Maccoby; wherein studies assessing intellectual competence and personality characteristics in children consistently showed that the more intellectually competent child will behave in a more independent and nonconforming manner (60).

One might question the use of student teachers in the Feshbach study and wonder if the results would have differed with the use of more experienced personnel. The story of the class who made amazing achievement gains on a standardized test after a year with a teacher who was assuming their relatively high locker numbers were their I.Q. scores, is an old one. Robert Marum tells a more recent, documented story that might cause one to think experienced teachers would be no more correct than student teachers in assessing achievement.

In a South San Francisco school, Dr. Robert Rosenthal and his associates conducted a study that some educators consider to be one of the most significant and revealing educational research projects in the last ten years. They first gave the Flanders Test of General Ability to the entire student body; but, they gave a phony title to the teachers and said the test was the "Harvard Test of Inflected Acquisition." Then, they randomly selected twenty percent from every class and told the teachers that, on the basis of the Harvard Test of Inflected Acquisition, these were the potentially gifted students. When they came back to the school to readminister the Flanders Test, eight months later, they got some of the most significant I.Q.

changes ever recorded (63:1). Teachers may be incorrect in assessing ability or in pairing behavior traits with intelligence, but the pertinent point is that the increase in I.Q. scores, in this San Francisco study, ranged from 20 to 40 points. In one grade the average gain, in I.Q. scores, was 25 points and all that the researchers had done was change the expectancies that teachers had for students. This is important and seems a valid illustration of the research indicating that measurements of self-esteem correlate more closely to achievement than do measurements of I.Q. (63).

Most elementary school teachers are women and it is probably true that girls do have an easier time identifying with and relating to women teachers (47:361-2). Studies have shown that boys show more aggression than girls (72) and since schools, as represented by the teachers, frown upon aggressive behavior (31); the complaint that teachers favor girls appears to be a legitimate one. As Terman states, "There is ample indication that some sort of 'halo' effect operates in the classroom to give girls higher teacher ratings or grades than would be merited on the basis of objective achievement test results" (96:1088).

Charles St. John, in "The Maladjustment of Boys in Certain Elementary Grades," reinforces Terman's remark on the "halo" effect by saying: "The girls excel less when achievement is measured by standard tests than when it is measured by teacher marks" (91:659-72).

Meyer and Thompson investigated the relative frequency of women teachers' approval and disapproval evaluations of sixth-grade male as contrasted with sixth-grade female pupils. Using the discrepancies in attitude between males and females in our culture toward aggressive behavior as the variable, the hypothesis was that boys, who are more

aggressive and nonconforming than girls, would receive more disapproval contacts from their teachers than would the girls. They also collected data relevant to the children's perceptions of their teachers' attitudes towards boys and girls to find out if the children were aware of their teacher's attitudes towards boys and girls to find out if the children were aware of their teacher's attitudes towards them. Statistical data analysis supported the hypothesis concerning the boys. In all three schools observed, the boys received reliably more disapproval from their teachers than did the girls. In addition, both the boys and the girls nominated more boys for disapproval items, thereby indicating that they were aware of their teachers' attitudes toward them (68:395). The results of this study were interpreted as being consistent with the idea of a sex difference in attitude towards aggressive behavior and the conclusion was drawn that teachers attempt to "socialize boys by means of dominative counter-aggressive behavior" (68:396).

Boys are at a disadvantage in the school situation because of sex differences: developmentally, they mature later than girls and not only do schools not take this into consideration; but teachers really prefer feminine behavior anyway. How valid is the additional complaint that reading programs do not accommodate sex differences in interests or ability?

Reading

If every teacher could have but one wish granted it might very well be the wish that each and every child be successful in reading. Reading is vital to each child's scholastic progress. There are few activities outside of school without some reading involved and none in which reading

skill would not eventually prove to be a valuable asset. Yet, too often one child is seen doing well in school and enjoying reading while another child--perhaps with the same basic ability--dislikes reading and does poorly in school.

Several studies have been cited that stress the importance and value in being a skillful reader while several other studies have cited the anomaly between boys as a group and girls as a group in that process called, learning to read. This section will review literature on elements in reading such as: The Program; Interests and Attitudes; and The Basal versus the Individualized Program. Perhaps some relationships will appear between the objective and problem as stated in the first sentence, together with sex and developmental differences, all in conjunction with these various aspects pertaining to reading.

Reading: The Program

"Meet individual differences. Children do not learn at an equal rate. Use concrete experiences. A child is motivated by personal involvement. A reading program should be constantly adapted to each child's capacity to learn, his current readiness for learning reading skills and his special interests" (23:13). How often teachers hear these statements. Yet in actual classroom practice, many teachers have three or four groups of children, with eight to twelve in each group. The boys and girls are reading the same stories and learning the same skills. This practice is not consistent with the above theory and a conscientious teacher cannot help but feel a dissatisfaction with the current reading program. How, then do we bring theory and practice into harmony?

Most reading programs strive to accomplish:

1. A basic sight vocabulary;
2. Competence in using a variety of word recognition skills;
3. Integration of communication skills;
4. Development of a genuine desire to read; and
5. Comprehension of a wide variety of materials (101:59-76).

Nancy Larrick speaks for many recognized authorities in reading and education when she states:

Certainly an adequate reading program should provide for development of reading skills and also the encouragement of reading for pleasure. A reading program should be evaluated from time to time with the following questions in mind:

1. Are these students moving on to reading for pleasure, information and refreshment?
2. Will they develop broad individual personalities because they are reading stimulating books?
3. Will their reading help develop a better sense of values?
4. Are they learning to evaluate what they read and to select quality literature?(56)

In some programs, word attack, comprehension, critical analysis, vocabulary building and similar skills are stressed to the exclusion of almost everything else in the reading program. Too often, a pressure that eliminates any pleasure in reading is created. At the opposite pole, there are some reading programs that appear to stress only interest, on the theory that if children will just read, they will soon learn all they need to know about reading. But if schools are to develop better readers, programs must combine skill building with an interest and pleasure in reading, for as Jerome Bruner put it: "We get interested in what we get good at" (16).

Children must be introduced to many books so that they may discover what books can do for them. "Lifetime pleasure in good books comes from repeated discovery that reading--many kinds of reading--can bring satisfaction" (56:XVIII-XIX). Children need to learn that some books should

be purposely read, some lightly, some seriously, and others only scanned. Francis Bacon (1561-1626) once said: "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested; that is, some books are to be read only in parts; others to be read but not curiously; and some are to be read wholly and with diligence and attention." Children, and teachers, must learn that skimming a book has its place and knowing when and how to skim is also a comprehension skill (10). Alfred North Whitehead set a friend, who was overly impressed with the size of his library, at ease by saying:

"I read very slowly. Sometimes I see myself referred to as a well-read man. As a matter of fact, I have not read a great quantity of books; but I think about what I read, and it sticks. Speed is not for me. On the other hand, some of my reading is 'skippy.' Last night, for example, I was reading that book in your lap on the Jesuits, but finding, at the beginnings of successive chapters that he was still on the same aspect of a subject whose point I had already grasped, I did not hesitate to skip" (80:140).

Bond and Wagner list the following kinds of reading necessary for satisfactory comprehension:

1. Reading for factual information.
2. Reading to organize.
3. Reading to evaluate.
4. Reading to interpret.
5. Reading for appreciation.
6. Reading to skim (10:344-76).

Just as there are many "kinds" of reading to be learned, there are many "kinds" of methods to teach reading. Reading authorities are in agreement that when it comes to teaching reading, there is no one best method. Dr. Jeanne Chall states that every reading specialist, no matter what the allegiance, will assure us that no reading method can ever be a panacea. She mentions the individualization and pacing necessary and how all experts will agree on the importance of recognizing

the fact that different children must learn in different ways (17:302-7).

DeBoer and Dallmann also stress the normalcy of the differences in children and how these differences increase as the children get older. They state that although differences of opinion about reading methods have been sharp and the debates sometimes acrimonious, there is agreement that:

....No one method is best for all children under all circumstances, that children differ widely in the kinds of instruction they need. It seems clear also that a wide variety of approaches must be used in order to get best results with most children (24:6).

Interest and Attitude

Emphasis has been made of the importance of building both skill and interest in the intermediate reading program. "While it is true that children rarely love to read unless they can read well, it is equally true that children rarely learn to read well unless they enjoy reading" (35:11).

Gertrude Hildreth stresses the complexities of reading as requiring thinking, questioning, anticipating, puzzle and problem solving processes. She also stresses the need to keep in mind that a child cannot be taught anything that he does not want to learn. A child must have a desire to read and this desire may change with every reading confrontation. The interest of the child must be found before the teacher can successfully motivate him to read with enthusiasm, she states (49:544-49).

The need to develop interest in reading is voiced by many professionals. Harris remind us that the children of today are the adults of tomorrow and the habits, interests and tastes formed during childhood

determine to a great extent the adult reading patterns of the future. He adds that a good reading program among other things should place a very strong emphasis on developing a lasting interest in reading which will help create life-long enthusiastic readers (43:466-7).

Dr. Nila Smith also emphasizes the importance of interest as she comments on the statements of favorable learning conditions from all schools of modern psychology. The stimuli to action are variously called desire, purpose, incentive, motive, goal seeking or drive. Regardless of the terminology, the stimuli spring from interest and form attitudes (89:409).

Heilman also mentions attitude when he says that every aspect of our educational program is positively related to the ultimate goal of producing efficient readers and that in this respect; the child's early attitude toward reading is important and can influence his reading habits for life (47:9-10).

Larrick, too, feels that the elementary years are crucial in the forming of many lifelong habits and attitudes, especially reading habits and attitudes (56:XVIII).

We know there is a high correlation between reading ability and success in school. We realize children need a good background in the necessary skills and that the reading program must also take into consideration their interests in order to develop a love of reading for pleasure. We all know what "interest" means but what exactly do we mean when we speak of "attitude"? Certainly it is an important aspect in any learning situation, particularly in reading.

Irwin Berg defines attitude as: "...a mental and neural state of readiness, organized through experience, exerting a directive or

dynamic influence upon the individual's responses to all objects in a situation with which it is related" (5:206).

There is an interrelationship between attitude and response. A teacher should be aware of the power of attitudes to influence response because the attitudes of children are flexible and can be changed. "This contains one of the most important implications for education. Desirable attitudes should be formed or strengthened and undesirable ones redirected while the child is young" (14:70).

In the book, Scales for the Measurement of Attitudes, Marvin E. Shaw and Jack H. Wright say that attitudes "seem to be drive-produced responses which elicit motives and thus give rise to overt behavior" (88:10). Here again, behavior or response is the result of a former state of mind. They continue, "attitudes, the end products of the socialization process, significantly influence man's response to cultural products, to other persons, and to groups of persons." This might be interpreted to mean that attitudes influence a child's response to the school, the teacher, and to groups of persons such as his classmates (88:6-9).

Shaw and Wright also suggest how changes in attitude can be made:

If the attitude of a person toward a given object, or class of objects, is known, it can be used in conjunction with situational and other dispositional classes of objects. To the extent that principles governing the individual's reactions to relevant objects are known, they may be used to manipulate the individual's reaction to relevant objects (as is exemplified in psycho-therapy, education, and propaganda) (88:1).

Attitude influences interest and leads to feelings of success.

Attitudes influence behavior and since reading is one form of behavior; it is affected by attitude. Forming positive attitudes toward reading

is important for success in school. Which method capitalizes on individual interests and provides the most opportunity for success?

There are several methods available in the various reading programs now used in elementary schools. Perhaps a long, critical look at our reading programs is in order. Are we teaching individuals to read?

There are many reading programs advocated by qualified authorities. Many studies have indicated that if a given program is presented to the student in the manner for which it was programmed, most of the students will learn the basic fundamentals of reading. The following is a brief, and only general, overview of some of the reading programs currently being utilized. It is recognized that there are several adaptations as well as reading programs with their own names which will fall into the type of program being described. There may also be a few programs which do not fit under any of these being discussed. For a more thorough discussion of the following programs and many others, Learning to Read, The Great Debate is recommended as well as several others listed in this paper's bibliography. Both the Basal and the Individualized Programs will be discussed further in this section.

(ITA) The Initial Teaching Alphabet, The Unifon, and Moore's Responsive Environment Programs all have the similarity of an adjusted alphabet or an adaptation of spelling to the sound of a word. The sponsors of each program claim efficiency and distinction for their particular program. The spelling is based on either the actual sound or the child's concept of the sound and they all revert to conventional spelling and reading instruction after initial reading concepts have been mastered.

The Phonics Program advocates teaching of phonics prior to and/or with initial reading instruction. Children are taught phonics through auditory and visual exercises with consonants usually taught before vowels. Phonic principles are developed inductively from sight words, associating sight with sound. Generally all phonics programs are designed to be used with existing Basal Readers and conclude with the primary grades.

The Basal-Phonics Program as a complete program is gaining acceptance with several leading authorities as revealed by the number of publishers making innovations in their Basal Reader series. This program is a combination of phonics as well as word recognition and review of the story from the Basal Reader.

Basal Readers have made some changes by updating the content to catch and hold the interest of the reader. Many of them are multi-ethnic texts and illustrations now picture society as integrated. They have also included more word attack skills since 1950. Basal Readers agree on the main steps in instructional procedure but differ on the emphasis of objectives. All try for a balanced program and use one series in sequence. Materials cover every grade level and include readiness materials, preprimers, primers, first readers, workbooks, manuals and teaching plans. Basal programs teach: phonics, structural analysis, use of context clues and use of the dictionary.

Linguistic Approach is a program that emphasizes word structure. Teaching the recognition of alphabet symbols and their names and sound patterns is stressed. There are wide differences among proponents of this method. Some stress word structure, while others emphasize sentence structure and grammar and some stress both. Almost all proponents suggest a more sophisticated program of instruction with growth and ability.

Language Experience Approach is an integrated program embracing all the language arts skills. The philosophy holds that the child is more influenced by using and understanding oral language than by skill in attacking new words since reading is seen as expressed ideas. Ideally, the language experiences are to be developed at home and at school.

Programmed Reading is structured to be self-paced and so designed to meet the individual need for growth and strength. Phonics and linguistics are stressed.

The Montessori Method stresses early learning and individual self-pacing. The process is to identify and write the letters of the alphabet and recognize the sounds of the letters. It is based on self-inquiry in a one-to-one situation with the chief emphasis on the individual as he relates to his environment of reading symbols.

Individualized Reading is identified by the emphasis on the individual student. The program is designed to meet the student's needs while his rate of progress and interests dictate the reading materials to be used. Trade books, magazines, and newspapers are often used in this program with its philosophy of seeking, self-selection and pacing. (See Appendix E, "Teachers Ask About Individualized Reading.")

In every one of the recognized reading programs, skill building is included in a direct or indirect manner. The interest factor is built in through types of stories, pictures and other non-manipulative means which do not lend themselves well to variation without losing the identity of the program. Therefore, the interest factor may be limited. It would appear that the more direct skill building involved in a reading program, the less stress on gaining and holding interest, and

conversely; the more the interest factor is considered the less emphasis there is on skill building.

Basal versus Individualized

Two comments, by one man, seem pertinent to a discussion of the Basal Program and the Individualized Reading Program. Willard C. Olson illustrates the spread of reading ability in an average classroom with a table of statistics. This table reveals a reading ability span of nine years in a sixth grade classroom with the range being from second grade to the eleventh grade. The teacher has an impossible task of meeting these reading needs with one Basal text although Olson made the first noteworthy statement when he said that some simplification will occur when educators accept the idea that the task of the school is to teach children rather than grades (75).

He further stated that, to provide the help necessary for greater growth, the teacher should take each child where he is and give him the opportunity to seek appropriate experiences under social conditions which also maintain his eagerness, zest, confidence and pride in successful achievement at his own level (75:89-98). The most zealous advocate of an individualized reading program could not have described this program's goals any better.

George Spache notes that although at least ninety percent of the schools in our country now use Basal reading series as the foundational material for reading instruction, many reading authorities and teachers have serious doubts about Basal readers, especially the manner in which they are used by most teachers. He comments that these readers are often criticized as being sterile and lacking in appeal and interest to

boys. He wonders about the reality of a steady diet of reading about well-to-do, saintly child characters. When tying this in with the number of reading failures among boys, he poses the following question: "How much is the tone of the Basal content contributing to the common identification by boys of reading as a feminine activity and their consequent resistance to learning to read (90:25-6)?"

Since our problem concerns the high rate of failure among boys in reading and since interest is a key factor in learning to read and liking to read, this seems to be a valid, pertinent question.

As already stated, two studies have shown that sex differences are greater than even nationality differences when it comes to the reading interests of boys and girls (34). As many teachers have suspected, sex differences in reading interests grow even more marked in the intermediate elementary grades, especially for the boys. Boys interests tend to be more limited albeit more unusual. Girls read more ordinary stories but the range of topics is wider. They will read the books favored by the boys but the reverse is very seldom true (90:166).

If reading materials do tend to be more feminine, this could be an important factor in the high rate of failure for boys in reading. To the extent that children identify with characters in books, the study made by Child, Potter and Levine could be relevant. In their article, "Children's Textbooks and Personality Development," they found definite differential treatment of the sexes. Women are portrayed more often as central characters. Categories of behavior are sex-typed in children's textbooks, with boys shown as aggressive and active while girls and women are seen as sociable, kind and timid (18-43-53).

Unfortunately, if boys are limited to any one reading series, Basal or otherwise, their chances of finding more masculine stories in topics of interest to them, will be limited.

The Basal readers are also often criticized for their lack of provision for individual differences. Since the program is written for the great mass of average students, it is correspondingly inappropriate for both the slow and the gifted readers (90:26).

In an article entitled, "Individualizing Reading," Frances Maib states that for years educators have understood the concept of individual levels of ability existing among students in every classroom. Teachers who have looked for a method to meet these individual differences have had to conclude that regimented instruction has failed. A more efficient approach is needed; an approach that will recognize the variations in individual status, growth patterns, past experiences, physical and mental endowments, plus all the hopes, desires and interests that make up a child's personality and ability (62:99-108).

Individualized instruction, in any subject area, is not the same thing as "teaching students individually." Thorwald Esbensen explains it as follows:

An instructional system is individualized when the characteristics of each student plays a major part in the selection of objectives, materials, procedures, and time. It is individualized when decisions about objectives and how to achieve them are based on the individual student. One does not simply say that a system is or is not individualized, however, for it is not a black or white matter. Rather, one tries to identify the nature and degree of individualization (29).

Although grouping is discussed in the following section, comparison of a Basal and an Individualized Program in the areas of grouping and interest might further illustrate the points made here.

Teachers attempt to meet individual needs in various ways and one way is through grouping. The ability grouping method usually divides boys and girls into three sections: high, middle, and low. But does this method meet every need?

What does a teacher do with a dozen children before her, all supposed to be looking at the same page of the same book? If one child reads or speaks, that means that eleven are waiting. The individual differences between a dozen children are enormous. In reading ability, forty children will spread over five to seven grades. A third of them will spread over two or three grades. How can the group method work in that situation (28:456)?

In the ability grouping method, the teacher chooses the books for the children to read. Each child is expected to complete the Basal readers and their corresponding workbooks. As the children complete one Basal, they are given a standard reading test. The interest may be high in the top group, for they read the stories first. But the middle and low groups are deprived of the element of surprise for they have already heard the stories read and discussed.

In the individualized reading method the children read at their own level from trade books that they have chosen. Instead of reading before a peer group, the children read to the teacher or to a friend. They set their own pace, plan their program and goals every two weeks, and need not become frustrated because they cannot keep pace with the others. In place of fear or criticism there is the growth of self-confidence and pride.

High interest is a characteristic of the individualized reading method, for each child chooses his own book. Dolch mentions the children's reaction to the self-selection of books. "Children are passive

toward a book chosen for them but they are active learners in attacking a book that they want to read" (28:14).

Children are often apathetic when forced to read in a Basal series that is neither relevant nor interesting to them. "Labels" are necessary in the ability grouping method and no matter which names are chosen, the children are always aware of their position within the class. The low group is reading a book that all the other children have finished. Peer competition is a pressure in ability grouping and is removed in an individualized reading program.

Even more important is the interest in reading that is shown and the satisfaction gained by the reader in an individualized program. "Liking to read is the most important learning that any child can secure from the school" (28:143). Interest and self-satisfaction cannot help but be limited in the basal-ability grouping method, as most of the children will read only the required books in the regular sequence. The individualized reading program has better results. As Henry Sartain concluded: "Children read more books under the self-select plan" (84:515). The Individualized Reading Program can establish positive attitudes toward reading by providing a feeling of self-progress, individual success, satisfaction and a high interest in reading. Positive attitudes plus high interest in reading will combine and lead to reading skill and success within our school system. This is of utmost importance to our boys, of all intellectual levels, who currently lack interest and/or are failing reading.

Grouping

School grouping practices, as exemplified by the most commonly used

school group: the reading group, are often archaic. As an established practice, grouping children is here to stay. The controversial issue in this regard involves the relative merits of different ways of grouping children for the most effective and desirable learning.

Throughout this paper, it has been directly or indirectly implied that one of the most critical problems in education is the need to deal with the ever-widening range of individual differences among the children in our schools. Although awareness and provision for sex differences does not mean instruction is individualized any more than grouping does; these are both tools that may be utilized.

As human beings, our lives are spent in groups and educators must realize the importance of the ability to be able to interact effectively within groups. Few would debate that learning does take place in groups and that people in a group must necessarily learn something from each other. But, the extent to which and in what ways grouping children does or can make a difference in what they learn, and for what purpose, should be further investigated. More teachers must realize the importance of adequate knowledge about group situations of different kinds and the various functions they can perform.

Mary-Margaret Scobey said, "Recent concern about grouping is reflected in numerous experiments. Schools are reorganizing traditional grade-level grouping and teachers are exploring new ways of differentiating instruction by classroom grouping" (85:152).

Educators are trying many devices in an attempt to meet individual differences in ability, including programmed material designed to help each student progress at his own rate, especially in the reading, arithmetic and spelling skill areas. But as Bradford and Mial say:

It no longer seems necessary to debate whether productivity depends on individual talent or group development. We know that the individual must sometimes work and create alone, and we know equally well that groups can often produce results no aggregate of individuals could separately achieve. Another fear --that pressure to conform may submerge the individual--continues to be a real one, but not many people today suggest that individualism can be defended by resisting a serious concern for groups and how they function....One of the important social insights of our day is that the deliberate, conscious study of forces operating in a group can increase the chances that individual resources present in the group will be discovered and developed (13:147).

Concern has also been focused on our traditional methods of grouping children and Robert Bills asks two pertinent questions:

Have we really shown concern for the individual learner? Have not our concerns been for learning rather than learners, teaching rather than teachers....achievement rather than achievers (7:7)?

Another vital question is, "What is there about groups so important for the development of learning in the individual?" This researcher can find no answer better than the one given by the man who posed the question: Raymond Payne:

A group, sociologically defined in essential form, is two or more people in interaction. "In interaction" means that the members are reciprocally influencing each other, and that the action of one is affecting and at least partially determining the (response) behavior of the other (s). Understanding the person in his group aspects, requires, therefore, sociological approaches. Stimulus-response theories alone will not suffice since the person is interacting, not simply acting, and his actions are in response to (or are motivated by) group situations, not simply to stimuli. Further, the person's actions in the group situation is dependent upon his perceptions and definitions of that situation and, it must be remembered, these are themselves determined by the interaction of group definitions and the individual's relevant sets, not simply by the latter alone (77:155).

Some of the more common questions asked by classroom teachers might include: What are the relative merits of ability grouping as compared with heterogeneous grouping? Should grouping methods vary

according to the subject being taught? What are the values of grouping children according to need, interest, friendship, special abilities or difficulties? Phrased this way, grouping children according to sex would be another way of justifying grouping according to need, or special difficulty, since the objective is to find and eliminate the factors causing boys to do so poorly in reading.

Julia Gordon reminds us also of the human value factor and its importance in a program of education in a democracy, a form of government committed to ideal of individual worth. She advocates studying groups in terms of enhancing the values we hold for human beings and warns against rigid grouping procedures that might hamper the development of the maximum potential within each individual child. She says we fall short, in practice, of demonstrating concern for individual human beings (40:10-13).

How are classrooms today organizing children for instruction? Obviously, practices within individual classrooms vary but some are more prevalent than others. The most commonly used grouping pattern for instruction in reading in the elementary grades, for example, involves dividing a heterogeneously grouped classroom into three ability groups for rapid, average, and slow achievers. Alice Miel reports: "This three-group plan has enjoyed wide popularity, with teachers' manuals and books and courses on the teaching of reading giving much help in implementing it" (69).

There is a wealth of research literature concerning the relative merits of various ways of grouping children for instruction. A very few studies have been completed dealing with the effects of grouping

procedures on pupil attitudes, self-concepts, interests, learning motivation and other social behavior factors. Fewer still deal with sex differences although Gale Jensen in "The Social Structure of the Classroom Group," notes that the sex composition of an instructional group will influence the group progress, individual achievement and the emotional atmosphere of the group (53:362-74). Most of the research literature deals with the relative effectiveness of grouping according to ability versus heterogeneous grouping of children and the greatest number of studies are within the field of reading achievement.

An extensive experimental study was directed by P. M. Hartell, with fifth and sixth graders divided into two groups. The 687 children in Group A first had instruction under homogeneous grouping followed by instruction under heterogeneous grouping. The grouping was based on results of Stanford achievement tests administered in December. A differentiated course of study was used for each of three subgroups during the homogeneous period. The heterogeneous group had the usual course of study with no experimental attempts at individualization. After five months under each condition, achievement tests were administered and the actual gains under each plan were computed. There were no significant differences between the gains made by the students when homogeneously grouped and when grouped heterogeneously (45).

Walter Borg, too, found no statistically significant differences large enough to suggest more than a slight advantage for one grouping system over the other and even this slight advantage was not consistent from one grade level or ability level to another. The investigator concluded: "Therefore, it is our conclusion that the decision to employ ability grouping or random grouping must be based upon considerations

other than achievement" (12:441).

Willard Olson sums up the results of the majority of the studies researched by this author when he tells us that:

Surveys of achievement demonstrate that no matter how children are grouped, they still learn in accordance with their individual abilities (74).

It appears that children do learn at their own level, no matter how grouped. The implications for this study are twofold:

1. No research was discovered that attempted grouping by sex, in reading, in order to overcome the problems that boys have in an approximate four to one ratio, compared to girls.
2. If the method of grouping makes no significant difference in achievement rates, then grouping by sex will probably do no harm.

For the purposes of this study, grouping will be the vehicle used within the experimental study to demonstrate information gained from the investigation of relevant literature.

To those who would still maintain that ability grouping is the only logical way to meet individual differences, the following assumptions, from the Association for Childhood Education International, might be questioned:

1. That grouping children according to ability can actually be accomplished is an assumption increasingly difficult to accept as true.
2. That testing or measuring instruments can adequately measure a child's ability and/or his learning potential is an assumption in need of continuous reexamination.

It is not this researcher's premise that grouping according to sex will solve the problems boys have in reading. Nor is it suggested that awareness of sex differences will automatically provide for individual differences. This would be as fallacious as rationalizing ability

grouping as having taken care of individual differences. As John Greene points out, we as teachers have often hoped to find ways of dealing with the complex task of teaching which could accomplish in some easier and more effortless manner than has thus far been discovered. We would be well on the way to attaining this goal if we could teach thirty students as if they were one. Homogeneity, Dr. Greene maintains, is an endeavor in this direction. He continues:

Teachers have thought that ability-grouped children would be so much alike that they would not have the problem of individual differences. It is the matter of meeting individual differences that takes so much time, energy, and effort in everyday teaching. However, teachers of the so-called "homogenized groups," who were led to believe that ability grouping would make for easy teaching, have had a rude awakening. In reality, human differences exist in any group.

....We should not be lured into complacency and think that the task of the teacher is made easier by a device such as homogeneous groupings; we cannot disregard the basic law of nature that each child is a "custom-made" job (42:7-8).

A century of research on grouping children has been conducted.

It can be disheartening to read of Albert Harris, in the fourth edition of How To Increase Reading Ability, advocating division of a class into two groups for reading: "those who can do the normal reading for the grade, and those who cannot. In an average class it is usually desirable to place about two thirds of the class in the upper group and about one third in the lower group. The upper group can use reading material normal for the grade, and the lower group preferably should use a reader of a difficulty level appropriate for the average child in the group" (43:124).

Yet, twenty-two years ago, Walter Cook concluded that the more effective the instruction, the more individual differences are provided for, the more heterogeneous instructional groups must become. He saw

the problem as being one of meeting the needs of individuals within groups of widely varying ability. In 1948, he made the following suggestions that are still appropriate in 1970:

1. The size of classes must be reduced to not more than twenty-five pupils.
2. The practice of reporting to parents on cards should be abandoned in favor of personal conferences two or more times each year after the teacher has studied the pupil.
3. The primary basis for grouping children should be physical and social development since these are the most obvious criteria of status in childhood groups. A child should live and work in the group he most obviously belongs with, one which accepts him and which he accepts.
4. There must be grouping within classes on the basis of status and needs in specific learning areas. These groups should be flexible as to size and duration and specific in purpose.
5. The practice of labeling school books by grade should be discontinued. A code number indicating to the teacher the difficulty of the material is sufficient.
6. A wealth of instructional material should be provided. It should have a range of difficulty, interest appeal, and content commensurate with the range of abilities and interests of the class. It should be in the classroom and workshop, not in the library or other special rooms (21:141-8).

It is generally agreed that one of the first goals, in our American system of education, is to give every child the maximum opportunity for the fullest development of his potential in order that he may live a creative, useful life in our democratic society. To provide learning situations directed toward this goal is recognized as an important objective of the total program of education. Throughout life, learning does take place in groups and classroom groups cannot be avoided if for no other reason than the large numbers of children in our schools. The classroom group can be one of the most important learning experiences in the life of a child. If participation in the group fulfills his developing needs,

he can become an active learner and on his way to becoming a responsible adult. It is believed that awareness of sex differences in maturation rates, interests and abilities will be helpful in fulfilling these needs. Surely, the importance of grouping methods and the possibilities for individual growth through the group are self-evident.

IV. SUMMARY

The topic of failure, as related to the unfortunate fact that so many more boys, than girls, experience failure in reading, is discussed in the introduction. Individualized instruction would solve the problems created by sex differences. Therefore, it is reasoned that teachers could do a better job of providing for individual differences if they were aware of: sex differences; developmental traits; and school situation factors. These are also the topics to be reviewed in this chapter.

The first section on "Sex Differences" confirms the fact that behavioral sex differences do exist and do affect school performance, as is seen by the results of several studies. The most prominent finding in this area is the evidence that personality traits are linked together differently in male and female (97:1218). Whether sex differences is biological or cultural is not as important as the fact that girls have different interests and excel scholastically over boys.

The second section presents a picture of the "Sixth Grader" in terms of developmental tasks and traits. The terms: growth, development, and developmental task are defined and Piaget's stages of mental development are described. The descriptive comments add to a generalized picture and point out that the child's role within his peer group, as

well as its influence on him, are key factors in understanding the sixth grader. The developmental point of view is substantiated in the second sub-section concerning neurological factors and the reading problem.

Studies relating to neuro-dysfunctions are submitted including Delacato's theory that birth anoxia with boys is connected to their severe reading problems (26:45-6). A description of workable plans for teaching children with severe reading problems closes this section; also the suggestion is made that a relevant periodical be consulted pertaining to the latest developments involving neurological factors in remedial reading.

The third section: "The School Situation" views a world of even more rapid change, with more knowledge and information available, as requiring better readers. The responsibility rests with our schools. This, plus the fact that today's reading problems are still not solved, indicates an examination of the school situation. Focus is placed on "The Teacher" as an important variable in the learning situation; specifically, the teachers preference in behavior patterns. Studies reveal the following:

1. Two hundred forty female student teachers preferred the rigid, conforming, dependent child as compared to the flexible, nonconforming, independent, child; most preferred: rigid, conforming girl student.
2. Another study states: the intellectually competent child behaves in an independent, nonconforming manner.
3. By changing the expectancies teachers had for students, I.Q. scores were raised an average of 25 points over an eight month period.
4. Teachers do favor girls because they are less aggressive and the final study showed teachers giving more disapproval contacts to sixth grade boys than to sixth grade girls.

It would appear that boys are at a disadvantage in the school situation because of sex differences.

"Reading" is the topic for the second sub-section under The School Situation. Elements discussed include: The Program; Interest and Attitude; and the Basal versus the Individualized Program. A program that stresses skill building and learning to read for pleasure is advocated. Interest is a key factor; attitude is defined and its relationship with interest is discussed. Forming positive attitudes toward reading and using personal interest as motivation, is important for scholastic success. Comparison is made of the Basal Program, as the most widely used program and as the one criticized for contributing to boys' lack of interest in reading, and the Individualized Program, as the program advocated by the author to remedy reading problems in general and specifically, to create an interest in reading for boys.

The last sub-section is on "Grouping" and it is felt that the classroom group has the potential of being one of the most important learning resources in the life of the child and invaluable experience for the future since his entire life will be spent as a member of different groups. It appears that children learn at their own level no matter how grouped. Although homogeneous grouping does not mean provision for individual differences, it is believed that awareness of grouping methods can be one tool toward providing individualized instruction in the same manner as can awareness and provision for sex differences in abilities and interests.

CHAPTER III

PROCEDURE OF THE STUDY

The procedure of the study followed a sequential pattern: Initially, the library research investigated the possible factors involved in the problem of sex differences as exemplified by the discrepancy between the large number of boys, compared with girls, who fail to learn to read adequately. A pilot study followed the library research and preceded the experimental study which tested the hypothesis. The pilot study as well as the procedures involved in the experimental study are described in this chapter.

Pilot Study

In September, 1969, South Auburn Elementary School in Auburn, Washington had a total sixth grade population of sixty-two students: thirty-two boys and thirty girls. The entire population, involved in a team teaching situation at this new, open-concept elementary school, was utilized for the pilot study conducted during the month of September, 1969.

The pilot study commenced the experimental study by serving as a one month period of observation. It was useful in defining the group and clarifying problem areas in reading. Since it also confirmed physical, mental, and social development as being positively correlated, only one of these areas would be used as a criterion for a group, whether heterogeneously or homogeneously formed, in any area. Please see pages 14 and 15 for any further information on the results of the

pilot study. It should be noted here, however, that the indicated degree of interest in reading was retained as pertinent, helpful information for the experimental study.

I. PRE-TEST

The Iowa Tests of Basic Skills, (I.T.B.S.), was administered to the same sixth grade population, in the same situation, during the second week of September, 1969. This test battery covers all subject areas, including work-study skills and modern mathematics, a recently added optional area. The I.T.B.S. yields percentile ranked scores and grade equivalents for every child, in each tested area, as well as a composite percentile ranked score for each child.

The I.T.B.S. results were returned and tabulated on October 15, 1969. The reading percentile ranks were designated as the Pre-test for the twenty-four subjects randomly selected for the experimental study. Randomization is considered by many researchers to give adequate all-purpose assurance of lack of bias between groups (37:362). Using a Table of Random Numbers from Elementary Statistics by Kloom and Linquist, (Appendix "C", pp. 512-17) eighteen boys were selected from a total of thirty-two boys, and six girls were selected from a total of thirty girls.

Since four students were eliminated from the study because of transferring to other school districts, twenty students completed the experiment and their Pre-test reading percentile ranked scores are listed on Table I: Raw Score Data For Group X and Group Y, page 82. Data used in this study were compiled, then, from twenty students: fifteen boys and five girls.

Experimental Test Design

<u>Test Design:</u>	<u>"Pre-test - Post-test Control Group" Design</u>		
	Pre-test	Treatment	Post-test
Experimental Group	T_{1_e}	X	T_{2_e}
Control Group	T_{1_c}		T_{2_c}

$T_{2_e} - T_{1_e} = D_e$ (Difference between pre-test and post-test experimental group scores)

$T_{2_c} - T_{1_c} = D_c$ (Difference between pre-test and post-test control group scores)

II. GROUPING PROCEDURES

The experimental study commenced on the third Monday in October, 1969, following the return of the I.T.B.S. results and random selection of sixth grade subjects. Since data were compiled from twenty subjects, only these twenty, not the initial twenty-four, will be discussed.

Two groups with ten members each were formed. The experimental group was composed of ten boys while the control group was composed of five boys and five girls. The intelligence quotient for all twenty students would be considered "average" since the range was from a top of 111 down to 92, according to their Lorge-Thorndike scores. Both groups had in common the criterion of mental development and could be considered ability grouped.

It was felt that control of the "teacher" variable would best be handled by having the same teacher in charge of both groups, although Group X was never present when Group Y was in session and vice versa. This was handled in the following manner: Reading was

scheduled from 9:00 to 10:00 a.m. daily and although the rest of the daily schedule was fairly flexible; all the teachers on the team were quite adamant about this time allotment and only a bomb threat in January altered it. On Mondays and Wednesdays, Group X remained in the sixth grade pod, for reading, while Group Y adjourned to the gymnasium, with another teacher, for a variety of reading activities, labeled "Drama Club." On Tuesdays and Thursdays, Group Y remained in the sixth grade pod for reading while Group X adjourned to the gymnasium for "Drama Club." On Fridays, reading was held in large group formation for various audio-visual activities: television ("Cover-to-Cover"), read-aloud storytime, use of the video-tape machine for sharing of books, films, etc.

Therefore, the same teacher spent the same amount of time--two hours per week--with each group, in the same location. Both groups were on an individualized reading program, having access to the same materials and keeping the same type of record charts. Both groups were involved in planning the program; setting up the "ground rules," which basically consisted of: we will read, during reading period; supplementing the room library by bringing books, magazines, and newspapers from home; and deciding on evaluative procedures--as mentioned, there are no letter grades given at South Auburn Elementary School. Reading completed, opinions, and activities were charted by each student, on their individualized reading records. These records, plus those kept by the teacher, formed the basis for the individual conferences which were an ongoing part of the program for both groups. These conferences were to be held at least bi-monthly with each student. This was the

minimum, but they were generally held more frequently and often on an informal basis at other times during the school day.

Students selected their own material to read, chose their own follow-up activities from the job-card file or bulletin board display, and kept their own records which also included any reading done outside of school. Diagnostic testing was included in the program, as well as occasional study-skill sessions, as the need arose.

Both groups had access to the room library which contained: Basal and supplementary readers for levels three through nine; a vast array of paperbacks; hardback classics and other favorites; current "youth" and "adult" magazines; a set of Reader's Digest Skill Builders and many other books and miscellaneous items donated by the students. They were free to visit the school library whenever they wished. The school library is considered an exceptionally fine one because of the variety of materials available and also because of the competent librarian, who not only loves children and books but is able to bring the two together.

The classroom contained a permanent reading bulletin board, kept up-to-date by a rotating, student committee; a "Book Tree" with leaves for every book read and "Top Tenner Club" certificates for every ten books read; and a file box of book summaries written by, and for, sixth graders.

The experimental study ran for five months until March, 1970, and both groups spent a minimum of two hours each week in this environment, for that length of time.

Group X

Although both groups were on an individualized reading program and shared the procedures as outlined above, there was some differentiation. The experimental Group X was composed entirely of boys. These boys had the ten lowest percentile ranked reading scores of the twenty subjects and more teacher time was spent with them on basic reading skills, during both skill sessions and individual conferences. Two diagnostic reading tests were given to this group during the five month period, as compared to only one given the control group. Group X also had more teacher direction in choosing books and had more masculine materials plus several "high interest-low vocabulary" series made available.

As indicated on Table I, Group X had a mean reading percentile rank of 22 in October, 1969. The first diagnostic test was given this group immediately. After a discussion on if/why it would be important and valuable to them, personally, to be able to read well, the results of the diagnostic test were gone over in general by the entire group of ten boys and later on a more personal basis during individual conferences. Several of them volunteered to stay in during their recess time to confer over the areas they needed to work in. Buddy-tutoring sessions were set up in a few cases. Teacher-directed skill sessions were set up in the various areas with the option of not attending if this did not seem to be an acknowledged area of need. Attendance was 100 percent with several boys attending skill sessions where they were not expected by the teacher. Individual conferences, too, were diagnostically oriented. Interest in the books, chosen especially for them, was high and they were very well received. Later

after introductory trips to the library, the practice of bringing books to the boys was discontinued, in order that they might discover interesting books themselves. A private exception was made for one boy who would not voluntarily pick up a book on his own, for four of the five months. He would, however, read almost any book brought to class for him and would share it during his conferences.

The second diagnostic test was given Group X in early January and was also a learning device for both students and teacher. Study skill sessions were re-designed and attendance was lower. It was appropriate that several of the boys exhibited more independence and self-direction at this time.

Group Y

As indicated on Table I, Group Y had a mean reading percentile rank of 51.4 in October, 1969. In the environment described under "Grouping Procedures," this group of five boys and five girls was more self-motivating and self-directed than Group X. Skill development was fostered through the use of job cards in the form of activities. It was expected that everyone would choose one card and complete that task weekly. In one unusual circumstance, this was not completed but for the most part; the majority of the group finished more than one card every week.

The one diagnostic test given this group in early January, was again a learning device for both students and teacher. Job cards at that time were added and revised to meet new needs.

III. POST-TEST

On March 20, 1970, the I.T.B.S., reading form only, was readministered to the twenty students comprising the two reading groups in this study. This was the same form used in September although their chronological ages were a factor in computing the new reading percentile ranks, since this is a standardized test. The study had been initiated the third week in October. The experimental and control reading groups were organized for a period of five months. The culminating activity was the administration of the Post-test on March 20, 1970, just prior to Spring vacation. All sixth grade reading groups were reorganized following Spring vacation and when the test results were returned and shared with each individual student in April, 1970; all twenty students involved in the study had been dispersed to various other reading groups.

IV. COLLECTION AND TREATMENT OF THE DATA

It would be redundant to describe the procedures used for the collection and tabulation of both the Pre-test and Post-test data since identical procedures were used for both. Therefore, the researcher has included only the description of the data collection and tabulation for the Pre-test.

Procedures for Collection of Pre-test Data

After the results of the standardized test (I.T.B.S.) were returned, the previously randomly selected students were given a number in order to maintain as much objectivity as possible. Each number was preceded by either a "g" for girl or a "b" for boy.

The boys with the lowest percentile ranks formed the experimental group (X). They were ranked in order with the highest score at the top and the lowest at the bottom. The remaining students, an equal number of boys and girls, formed the control group (Y) and were also ranked in order with the highest score at the top and the lowest score at the bottom. Table I shows the order, by percentile rank, of the reading scores for each group. The average percentile rank for each group was found by summing the rank scores in each group and dividing by the number of students in that group. Thus, the arithmetic mean was found by the formula (100:337):

$$X = \frac{\sum fx}{N}$$

The mean for Group X and Group Y is listed below the total on Table I. This table shows the ranking of students in Group X and Group Y; their Pre-test reading scores in September, presented in percentile ranks according to the results from the standardized test (I.T.B.S) given; and the average Pre-test percentile rank for each group. The March Post-test scores and group averages are listed in the next column.

Treatment of the Data

In order to further objectivity, the Pre-test data was tabulated by a fifth grade teacher. The sixth grade teacher in charge of both X and Y reading groups only knew that Group X was composed entirely of boys with the lowest percentile ranked reading scores and that Group Y was composed of an equal number of boys and girls with the boys, at least, scoring higher than any member of Group X. Furthermore, this

teacher knew that all of the randomly selected children fell within the average range of I.Q.'s.

At the end of the five month period, the sixth grade teacher in charge of the two reading groups tabulated the Post-test data and evaluated the results of both the Pre-test and Post-test.

Since the students were randomly selected, the Randomized Group Design was an appropriate instrument to use. The t test was used to compare the mean scores of the Pre-test and Post-test of Group X with the mean scores of the Pre-test and Post-test of Group Y to determine if there was a difference, and if this difference was significant.

CHAPTER IV

FINDS AND INTERPRETATION OF THE DATA GATHERED

A total of twenty students completed the study: Group X consisted of the ten boys with the lowest percentile ranks in reading and Group Y consisted of the remaining five boys plus five girls.

All scores are in the form of percentile ranks as reported by the Iowa Tests of Basic Skills.

This standardized test was administered in September, 1969 as the Pre-test and again in March, 1970 as the Post-test. Table I shows the ranking of students in Group X and Group Y, their Pre-test scores and Post-test scores, as well as the total Pre-test and Post-test scores for each group.

The scores for each Pre-test and Post-test were averaged. The mean average for each Pre-test and Post-test for Group X and Group Y was found. Table I shows the mean average of the scores of these four tests.

It is easily observed that the boys in Group X made a larger gain in percentile points over the boys and girls in Group Y. It should also be noted that the boys within Group Y made an average mean gain of three point eight points as compared to the average mean gain of five points by the boys in Group X. Therefore, the boys in Group X gained one point two points more than the boys within Group Y.

TABLE I

RAW SCORE DATA FOR GROUP X AND GROUP Y
(READING SCORES IN PERCENTILE RANKS)

GROUP X			GROUP Y		
STUDENTS	PRE-TEST	POST-TEST	STUDENTS	PRE-TEST	POST-TEST
b-1	39	39	g-1	-69-	trans.
b-2	31	36	g-2	62	64
b-3	30	37	b-3	-61-	trans.
b-4	29	30	b-4	59	62
b-5	27	32	g-5	56	59
b-6	23	28	b-6	55	59
b-7	14	23	g-7	53	53
b-8	12	20	b-8	51	52
b-9	-11-	trans.	b-9	49	55
b-10	--9-	trans.	g-10	47	48
b-11	8	15	b-11	42	47
b-12	7	10	g-12	40	45
TOTAL	220	270		514	544
MEAN	22	27		51.4	54.4
GAIN +/or					
LOSS -		+5			+3

b = boy

g = girl

trans. = transferred

Other observations may be made from Table I. All but two students showed a gain from Pre-test to Post-test, and these two students retained the same score. Since the testing instrument used was standardized, with chronological age considered; one might not expect much difference in scores presented as percentile ranks over a five month period. Therefore, one concern was eliminated when it was observed that no student showed a loss in score from Pre-test to Post-test.

Table I shows that the Pre-test average mean for Group X is twenty-two and the Post-test average mean for this group is twenty-seven. This is an over-all gain of five percentile points for Group X. The Pre-test average mean for Group Y is fifty-one point four and the Post-test average mean for this group is fifty-four point four. This is an over-all gain of three percentile points for Group Y. Therefore, although the average percentile rank for Group X was less than half the average percentile rank for Group Y in the Pre-test; Group X gained two more points, over-all, than did Group Y from Pre-test to Post-test.

Table II is provided to show the results of the data gathered according to the Experimental Test Design as given in Chapter III, page 75.

While the gain of five points made by Group X as compared with the gain of three points made by Group Y is shown in Table I, Table II shows the difference in the Pre-test and Post-test scores, for each group, according to the test design. Whether the gain of five points made by Group X is significant compared to the gain of two points made by Group Y, will be discussed following the presentation of Table III.

TABLE II

DATA SUBSTITUTED IN EXPERIMENTAL TEST DESIGN

PRE-TEST/POST-TEST CONTROL GROUP DESIGN

	<u>Pre-test</u>	<u>Treatment</u>	<u>Post-test</u>	<u>Difference</u>
Experimental Group "X"	22	X	27	5
Control Group "Y"	51.4		54.4	3

FINDINGS: "X" - "Y" = +2 (gain of "X" over "Y")

TABLE III

t SCORE OF SIGNIFICANCE OF GROUP X AND GROUP Y
FOR PRE-TEST AND POST-TEST

Groups Compared	<u>t</u> Scores
Group X Pre-test to Group X Post-test	-2.243249*
Group Y Pre-test to Group Y Post-test	-1.018832
Group X Pre-test to Group Y Pre-test	-4.523824**
Group X Post-test to Group Y Post-test	-2.748077*

* Significant at a five percent level of confidence.

** Significant at a one percent level of confidence.

After the mean average for each test was found, it was necessary to find other information necessary to compare these tests and groups by the use of the t score. The following formula was used to find the t score for the Randomized Group Design (100:380):

$$\underline{t} = \frac{MY - MX}{\sqrt{\frac{\Sigma yx^2 + \Sigma yy^2}{N_x - N_y - 2} \left(\frac{1}{N_x} + \frac{1}{N_y} \right)}}$$

The findings of the t scores are presented in Table III. The purpose in obtaining the t score was to compare the mean averages of the Pre-test and Post-test for Group X and Group Y to determine if there was a difference, and if this difference was significant.

The t score findings are a comparison of two groups of ten students, for a total of twenty students. The formula for computing the degrees of freedom for the groups measured is:

$$df = (NX + NY) - 2.$$

NX means the number of students in Group X; NY means the number of students in Group Y. Therefore, twenty minus two equals eighteen, for the degrees of freedom.

The Null Hypothesis is rejected when the probability of the event is five times in one hundred or smaller ($p=0.05$). A t score of 2.101 is necessary for a five percent level of confidence, and a t score of 2.878 is necessary for a one percent level of confidence when eighteen is the degree of freedom (100:465). The five percent level of confidence means that in a similar study different findings would be due to chance not more than five percent of the time

while the one percent level of confidence means that different findings would not be due to chance more than one percent of the time (100:373).

Table III shows that differences did exist. The t score of Group X Pre-test compared to Group X Post-test (-2.243249) was significant at the five percent level of confidence. The t score of Group Y Pre-test to Group Y Post-test (-1.018832) was not significant. The t score of Group X Pre-test to Group Y Pre-test (-4.523824) was significant at a one percent level of confidence. The t score of Group X Post-test to Group Y Post-test (-2.748077) was significant at a five percent level of confidence.

The t scores show that both groups were significantly different at the beginning of the study and Group X made significant growth. Group Y did not make significant growth but the two groups were still significantly different at the end of the study but at a five percent level, rather than a one percent level of confidence. The Null Hypothesis would be rejected, according to the findings and interpretation of the data gathered.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The following paragraphs contain the summary of the study: both the relevant literature and the grouping experiment; the conclusions based on this summary; and also the recommendations for further research and classroom implementation.

Summary

The primary purpose of this study was to determine three things: (1) What effect behavioral sex differences have upon the learning situation; (2) What factors are involved in any problems created, or influenced, by sex differences; and (3) Would provision for sex differences, in the area of reading, make a significant difference in the percentile ranked scores of two groups of sixth graders during a five month period?

The experimental study was initiated by a pilot study during the month of September, 1969. The experimental study, itself, was conducted from October, 1969 through March, 1970, in order to determine whether accommodation for sex differences would make a significant difference in percentile-ranked, reading scores. Both studies were conducted in Auburn, Washington and employed the sixth grade students from South Auburn Elementary School as subjects. The Pre-test and the Post-test for the experimental study utilized the reading section of the Iowa Tests of Basic Skills. The grouping procedure was designed to test the effectiveness of the accommodations made in this study for

sex differences in reading achievement. The factors considered and provided for in the study are the same as those investigated in the initial review of the literature: developmental traits, neurological factors, teacher personality preferences, grouping methods, and reading programs and materials.

Conclusion Based on the Review of the Literature

The review of the literature yielded the following conclusions:

1. Sex differences is a neglected learning factor in spite of the fact that approximately 70 to 90 percent of all remedial readers are boys.
2. Sex differences are important to achievement and adjustment since they cause boys to lag behind girls scholastically and therefore; they should be considered in both learning theory and practice.
3. Any one, or all, of the factors investigated create and/or reinforce the disparity between boys and girls in the reading area, in the following manner.
 - a. Personality traits are linked together differently in male and female thereby causing sex differences in personality organization and resultant behavior (97).
 - b. Developmental and neurological studies point out the fact that boys do mature later than girls (76), although our schools make no accommodation for this male maturation lag (47).
 - c. Boys tend to be more aggressive and dominant than girls (72) and teachers prefer passive, dependent, feminine-typed behavior (31).
 - d. Boys and girls differ in their reading interests (34) but today's reading programs are criticized as sterile and lacking in appeal to boys (90).
 - e. Sex differences are not a consideration in grouping procedure although the group is an important learning resource in the life of a child (13).

4. Therefore, it must further be concluded that boys are at a general disadvantage in the school situation and their high rate of failure, in reading, is understandable and lamentable.
5. Since problems created by sex differences would be resolved by individualized instruction (97), sex differences are a worthy consideration in any attempt to provide for individual differences.

Conclusions Based on the Experimental Study

The experimental study provided for sex differences in ability and interest, within a classroom grouping situation, with the following conclusion: The deleterious effect for boys in the reading area, caused by existent sex differences, can be accommodated and compensated for by a reading program geared to the specific needs of elementary school boys with special consideration given to differences in maturation, personality, ability, and interests.

This conclusion is based on the fact that success was shown in the experimental study as indicated by the significance difference made in the percentile ranked scores of the two groups of sixth graders who participated in the five month study. The following are the statistical conclusions from the study:

1. On the basis of the findings and interpretation of the statistical data, the Null Hypothesis is rejected. Although both groups were significantly different, at a one percent level of confidence at the beginning of the study; the experimental group made significant growth while the control group did not. The two groups were still significantly different at the end of the study but at a five percent, rather than a one percent level of confidence.
2. The Pre-test of Group X was significantly different from the Post-test of Group X at a five percent level of confidence.
3. The Pre-test of Group Y compared to the Post-test of Group Y was not significantly different. The Post-test score was higher than the Pre-test score but this may have been due to chance.

4. The significance of the Pre-test for both groups has already been noted as being significantly different at a one percent level of confidence.

These t score comparisons are considered one of the most important parts of this study. It was the intent of this study to provide administrators and teachers with valid evidence, as well as convincing research, to support the inclusion of sex differences as a practical learning factor with various elements to be considered for daily classroom use. It is concluded that the t score findings do provide such valid information.

Recommendations for Further Study

1. The conclusions derived from the literature reviewed indicates a need for further research into each of the individual factors believed to cause and/or influence sex differences in learning.
2. The researcher recommends that further research conducted in this area, utilize larger samples and also cautiously control both the random sampling and teacher variable.
3. Further research will not only focus attention upon sex differences as an important learning factor in areas other than reading; this research is necessary as an important component in the larger area of individualizing instruction.
4. More research is deemed necessary concerning the specific interests of boys and girls in the reading area.

Recommendations for Classroom Implementation

1. Among the recommendations Heilman makes for alleviating the problem of sex differences in our schools are the following: staggering entrance to school; the ungraded primary; less pressure on children

learning to read--especially boys; and more emphasis on psychological assessment, particularly since he feels that boys as a group would profit a great deal from earlier diagnosis and guidance (47:363-4).

This researcher concurs with these recommendations and adds the following based on personal observations made during the experimental study:

2. Nothing pleases a concerned teacher more than the sight of boys and girls contentedly, comfortably situated around the classroom --in corners, on the floor, etc.--absorbed in reading to the point where groans of dismay greet the announcement that it is recess time. It may seem a minor point and facilities may not always be adequate; but it is recommended that during the time allotted for pleasure reading, comfort be considered with freedom to sit according to individual choice permitted. Children seem to particularly enjoy a special corner all their own.

3. Another heartwarming sight is that of formerly apathetic, or even belligerent, boys becoming excited and enthused about a book they have chosen or already read. This, too, was observed and the recommendation must be made that this type of accommodation for sex differences, including differentiation in grouping methods, skills stressed, and materials presented, should begin in grade levels earlier than sixth.

4. Rather than insist they work on the sixth grade level, use of primary materials and special education methods is recommended. There are beautiful picture books and easy readers that even sixth graders enjoy. Use "Word Matcho" games, "Word Dominoes," rhyming dictionaries, "secret messages" with diacritical markings, or "Fun with Glossary" games.

5. It has been observed that many teachers are not aware of the problem boys experience in reading, or may not be aware of the extent of the problem. It is even more common to find teachers unaware of the causes or effects related to problems spawned by sex differences. The recommendation that all teachers become cognizant of the expected, normal sex differences in personality, maturation, interests, and resultant responses cannot be stressed too strongly. Teachers should also be aware of the fact that many studies show a personality preference, by teachers, for feminine-typed behavior.

6. Since the values implicit in knowing and understanding the learner are well recognized, it is believed that teachers should also be well-versed in the characteristic developmental traits and tasks appropriate to the age group dealt with. Development affects learning and knowledge in this area can often help a teacher anticipate problems before they arise and deal with behavior that could otherwise be baffling. Recommended understanding of characteristic traits, for example, would help a sixth grade teacher recognize the importance and influence of the peer group at this age level as well as foresee, with less surprise, the occurrence of swearing and slang words, which Maddock observed to be an important part of the older child's vocabulary (61).

A knowledge of both sex differences and developmental traits is necessary in order to fully understand, by comparison, the significant sex differences that affect the "teach-learn" process.

7. When confronted with a learning problem, it must be recommended that any physiological-neurological factors be checked out, particularly those concerning eyes, ears, or motor coordination. A discussion with the school nurse is often informative and helpful.

8. Once a teacher understands sex and developmental differences as well as any possible physiological factors involved; it is recommended that a few minutes be taken to reassure parents of boys with learning problems that maturation differences are to be expected and do not necessarily mean that the child is "slow."

9. Knowledge of the factors involved in sex differences is helpful and relevant in attempts to provide for individual instruction and it is recommended that provision for sex differences be a portion of these attempts. Sex differences do spotlight the need for more extensive individualization of instruction. Perhaps Johannes Pestalozzi best summarized the problem in 1802 when he said, "To instruct man is nothing more than to help nature develop in its own way, and the art of instruction depends primarily on harmonizing our messages, and the demands we make upon the child, with his powers at the moment."

10. Although homogeneous grouping does not automatically mean provision for individual differences, it is recommended that teachers be aware of grouping methods and the possibilities for individual growth within the group. The ability to be able to interact effectively within groups is well recognized and the classroom group has the potential of being one of the most important learning experiences in the life of a child, if participation fulfills his developing needs. Again, it is believed that awareness of sex differences in maturation rates, interests, and abilities will help fulfill these needs and the classroom group is seen as one more tool to be used toward providing individualized instruction and individual self-growth. It is also suggested that grouping be used to develop pupil interaction skills in many other areas.

11. Teachers must become fully aware of the importance that personal interest plays in developing ardent, zealous readers. There is a need to be aware of the development of interest and attitude which will stimulate the desire to read. Teachers are responsible for providing adequate and appropriate reading materials for every student. This is viewed as necessary in order to stimulate interest and personal plus social growth through reading. Students need to be surrounded by reading materials in order to develop a love for reading. Supplying reading materials is not as difficult as it may seem, and among the various sources are: government programs, charitable organizations, school and public libraries, and student donations from home. Other ideas include a book fair or student book club.

12. Use of interest inventories is also recommended as a means of stimulating interest in reading through use of personal preferences. A Teacher's Guide to Children's Books, by Nancy Larrick, gives a sample of a good inventory check which could be used as a guide. Examples are also included in How To Increase Reading Ability by Albert Harris.

(See Appendix F)

13. It is recommended that teachers invest the time in various room arrangements designed to promote greater interest in reading. Even simple bulletin boards have rewarding results as children realize that reading is considered important enough to warrant an entire bulletin board. Numerous books and reading displays also promote interest and result in more books read as will a convenient, special reading area where children are permitted to select and read when their other work is completed.

14. A wall chart, on which children record the books they have read, is another attention and interest getter. Charts may be in a very simple form or in the form of a thermometer, a book tree with leaves, a bookcase to be filled, a mountain to be climbed or a race to the moon with stops to be made at various planets. There are numerous types of incentives for reading more books and only the imagination of the teacher limits the use of these incentives in motivating a child to read more. Wall charts can be used for the entire class or smaller ones may be used for groups or individuals.

15. As teachers, we would have children "hooked on books" as Daniel Fader so aptly phrased it. Just as he would have every high school teacher be an English teacher, through his philosophy of "saturation and diffusion" (30:10-17); every elementary school teacher can be considered primarily a reading teacher. It is recommended that reading not be considered an isolated block in the curriculum but rather, as one aspect of the total language experience. Reading is one of the communication skills and it should be kept in a natural relationship to listening, speaking and writing. All these experiences are necessary for effective communication and participation in our society.

16. In the reading area specifically, a well-organized Individualized Reading Program, with provision for comprehension skill development is recommended. Positive attitudes toward reading can be established by providing feelings of success, self-progress, satisfaction and a high interest in reading. This type of program is advocated as a remedy for reading problems in general and particularly, to create an interest in reading for boys and help solve their specific problems.

17. It is recommended that teachers at least investigate the means and methods of individualizing reading with or without the use of Basal readers. Various individualized reading programs should be seriously studied with the aim of adapting reading instruction to an individualized approach. Individualized reading programs are not finely defined and may be unique with each student and teacher. The remaining recommendations would help individualize any current reading program. (See "Teachers Ask About Individualized Reading," Appendix E.)

18. When this researcher asked a sixth grade class what subject was most important to them now and would be considered the most valuable when they were no longer in school, by group consensus; they unanimously agreed on reading. Boys and girls do recognize the advantages in being a skillful reader and many of them are already aware of the pleasures in reading as an activity. For these, and other, reasons it is recommended that the class be included in planning an individualized or interest-centered reading program. The idea can be introduced by the teacher with an explanation given as to how it would generally work; but the children must be involved in the planning. They will feel then that this is their program and when they take part in setting it up there is less confusion later concerning the procedures. It is important that everyone understand the requirements and methods involved in the activities to be set up, which might include: pantomimes of book titles, poetry or choral readings, a class or school paper, writing a creative story to be read aloud or illustrated, or keeping a class diary or scrapbook. The boys and girls will come up with an almost inexhaustive list of activities, themselves.

19. Records are essential for evaluating progress and children are very interested in keeping their own records and evaluating their progress. It is suggested that the children be included in the record keeping part of their reading program, also. A sample for keeping the student's record is included in Appendix D. The reading record chart should be kept in a special notebook or folder and it is recommended that reading done outside of school also be included.

20. It is important that children understand the record keeping procedure and also what the individual conference will require. At conference time, children will need to be prepared to discuss their reading. Each child is to work at his own speed without peer pressure or the frustration of trying to either keep up or wait patiently for the rest of the class to catch up. Teachers can provide for a minimum of interruptions during individual conferences by emphasizing that each conference is to be private. It is also recommended that a monitor be appointed to assist in handling minor details during conferences.

21. Follow-up activities are necessary for diagnosing and solidifying comprehension and may include such activities as: dramatizing, rewriting, or illustrating a story or perhaps transposing prose to poetry. It is suggested that these activities be put in the form of job cards, to be selected by the student. Two or three students may wish to work together and perhaps share an activity with the rest of the class. All activities are to be recorded on the student's personal record chart.

22. In addition, to recording activities, a daily record of what the student has read must also be charted. This recording can be made in the form of a log or diary and this, too, excites the student's

interest as he observes his daily progress. It is recommended that all types of reading be considered legitimate and recorded in the daily log.

23. The teacher must also keep a record chart for each child to be used during the individual conference. At this time the student should be prepared to discuss the book or story he is reading, describe activities, express opinions, and perhaps read a specific portion aloud to the teacher.

When the teacher and student discuss his reading, it is suggested that questions emphasize: how, why, and what--what does this story mean to me, the reader? This type of questioning requires the student to think about, analyze and evaluate his reading.

24. There are several ways to develop and strengthen skills in a program of this type and programmed reading materials are recommended. One good and economical program is the Science Research Associates Reading Laboratory. This is a multi-level program that provides immediate feedback, a maximum of independence and allows for individual pacing. It generally maintains the interest of the student and provides an adequate record-keeping system for students to record their progress. These records may also be used by the teacher during conferences.

These recommendations deal with information found in the study and are not intended as a delineation of a reading program but should be construed only as ways and means of providing reading instruction to meet the needs of the individual child. The material presented lends itself easily to any reading program designed to meet the needs of children on many levels of interest and ability.

Reading programs must be organized to allow every child success and pleasure in his reading activities as well as development of skills and growth in reading ability. Reading must be interesting, appealing and profitable to all students if they are to develop to their greatest potential. Responsibility for solving today's reading problems, as well as producing better readers for tomorrow, must rest with our schools.

This study has shown that sex differences in reading ability can be compensated for by a school program specifically geared to meet different needs in ability and interest. Although the focus has been on reading, it seems logical that sex differences in general personality, development, teacher reactions, motivation and interest would have significance and direct or indirect application to all learning situations. Certainly, awareness and provision for these differences will help teachers and school administrators implement a general program of individualized instruction. Therefore, it is finally recommended that sex differences be considered an important learning factor involved in the planning and fulfillment of all educational objectives.

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APPENDIX A

SEX DIFFERENCES IN READING COMPREHENSION
 AS MEASURED BY THE IOWA EVERY-PUPIL
 TEST OF BASIC SKILLS

Grade	Mean Differences (all favoring girls)	Significance Ratios
3	2.12	2.57
4	2.75	3.38
5	1.29	1.77
6	.30	.39
7	.10	.14
8	.47	.50

Source: J.B. Stroud & E. F. Lindquist. "Sex Differences in Achievement in the Elementary and Secondary Schools," Journal of Educational Psychology, XXXIII (1942), p. 657-67.

APPENDIX B

DATA SHOWING AUTHOR, YEAR OF PUBLICATION,
 NUMBER, AND PER CENT OF BOYS AND
 GIRLS REPORTED AS REMEDIAL
 READING CASES

Study	Year Published	Number of Cases		Percent	
		Boys	Girls	Boys	Girls
Elanchard	1936	63	10	86	14
Young	1938	37	4	90	10
Preston	1940	72	28	72	28
Missildine	1946	25	5	83	17
Shapiro	1947	31	9	76	24
Axline	1947	28	9	76	24
Vorhaus	1952	178	47	80	20
Johnson	1955	23	11	67	33
Fry	1959	163	39	81	19

Source: Arthur Heilman. Principles and Practices of Teaching Reading.
 (1967) Charles E. Merrill Books, Inc., p. 356

QUESTIONNAIRE

APPENDIX C

This is NOT a test. It will be a help to me if you will answer these questions. Your answers will be completely confidential so please be as honest as possible when answering. I will go over the questions and the Rating Scale with you before we begin. Thank you.

Rating Scale: 0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5
 Poor Below Average Above Average Excellent
 Average

Name _____ Sex _____

Birth date _____ Age _____

Height _____ Weight _____ Health (use our scale) _____

Days of school missed last year? _____

Who do you admire most in this classroom? _____

What boy would you choose to help you with your school work? _____

What girl would you choose to help you with your school work? _____

What boy would you like to invite to a party? _____

What girl would you like to invite to a party? _____

What are the favorite books (or book) you have read? _____

What kinds of books do you like best? _____

What books do you plan to read in the future? _____

How many books do you own? _____

How much reading for pleasure do you do in an average week? (Include magazines, cereal boxes, newspapers, etc.) _____

Of all the things you do, where on our scale would you rate reading as an activity? _____

THANK YOU, very much.
 Mrs. Johnson

TEACHERS ASK ABOUT INDIVIDUALIZED READING

from:
The Reading Center
The University of Akron
Akron, Ohio

The assumption is made that the teacher is familiar with the philosophy of Seeking, Self-selection, Pacing. Also, that the teacher knows the purpose of individual and group conferences as well as the purposes of sharing. He knows the kinds of records to be kept by the pupil and the teacher but he does have problems. The following "hints" are solutions that have been found to be practical:

1. Prepare the room (have a special place for work with an individual child) and train the children for independent activities: some will be group activities while the basic activity will be silent reading of a self-selected book. Expose the children to books: read to them, tell them about famous authors, introduce them to book review sections in newspapers and magazines, take them to the public library. Find the reading level of each child, by testing--standardized or informal.
2. To develop independence in self-selection of books:
Help in the selection of the first or second book.
Have frequent conferences with him.
Give him encouragement.
Accept his choice even if you may not consider it a good one.
Expect and understand if the child changes his book frequently.
Use group activities and/or the buddy system when necessary.
3. Listen to children when they talk about books and read their book reports. Ask questions at pupil conferences which will give you a clue to the content of the book: "What part of the book would you like to read which would tell someone who hasn't read this book what the story is about?"
4. Encourage varied tastes and interests:
Conduct group and class guidance lessons on choosing books and on varying book choices.
Have children keep a category list of books they have read.
Remind children from time to time to change their "Diet."
5. Use the Basal reader as one of the books on the book shelf; the child may read all or part of it. It can also be used to provide the class with a common experience for a particular lesson. (i.e. a class skill lesson on outlining or summarizing.)
6. For the slower readers: keep reading period short at the beginning; a good part of the period should be concerned with talking about books and teacher reading; use class or group lessons for skill lessons; relate other language arts activities to the reading program; keep directions simple.

7. To teach skills in this program:

Through individual and group conferences, become aware of pupil needs in work attack and comprehension skills.

Keep records of pupil needs; plan individual, group, or class lessons to meet these needs.

Have pupils make their own dictionaries of new and interesting words—have them use them in sentences or illustrate them graphically.

Give them something to read for: a part which would make a good T. V. program, a funny or exciting part that they might want to read aloud, a section that proves truth is stronger than fictions, etc.

8. Questions to ask to check on pupil comprehension and attitudes:

Do you like the story so far? Why?

Who is the hero of the story? What is he like?

Do you admire any of the characters in the story. Why?

Did you come across any interesting facts that you never knew before?

Can you pick out the main ideas of the story?

Do you know anybody who reminds you of one of the people in the story?

Do you think you would have finished the story in another way? How?

Did you ever read a story that resembled the one you just read?

Is the author writing about people who are living today or people who lived a long time ago? How do you know?

Would you like to have a friend like the character in the story?

Have you ever read other stories about animals? Do you think the author likes animals?

Would you like to visit the country you have just read about? How do you think the people live there? Do you think they have as much fun as you?

Would you like to read some books by the same author? Why?

Can you read some passages to us and try to imitate for us how they spoke?

How did you happen to select this book?

Why did the author write this book? Why did he choose this title?

If you wanted to recommend this book to a friend, what would you tell him about it to make him want to read it?

Is there anything in this book that you would like (or not like) to happen to you?

INTEREST AND ACTIVITY POLL

Devised by Albert J. Harris

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Name _____ Girl or Boy _____ Date _____

The purpose of these questions is to find out what kinds of things boys and girls of your age like and what kinds of things they dislike.

1. Who is your favorite movie star? _____
2. Who is your favorite radio star? _____
3. Who is your favorite T.V. star? _____
4. Who is the greatest man in the world today? _____
5. Who is the greatest woman in the world today? _____
6. What is your favorite T.V. program? _____
7. What things do you like to do most in your spare time?
 - (1) _____
 - (2) _____
 - (3) _____
8. What famous man or woman would you like to be like? _____

9. (a) About how many comic books do you read in a week? _____
(b) What comic books do you like best?
 - (1) _____
 - (2) _____
 - (3) _____

10. (a) What magazines do you sometimes read?

(1) _____ How Often? _____

(2) _____ How Often? _____

(3) _____ How Often? _____

(b) What do you like most in a magazine? _____

(c) What do you like least in a magazine? _____

11. How many books have you read in the last three months? _____

12. If you had \$1,000.00, what would you do with it?

13. What kind of stories do you like? Make an L in front of each that you like and a D in front of those you dislike or a ? if you don't know if you like it or not:

___ Science	___ Sport	___ Spy	___ Romance
___ Love	___ Crime	___ Travel	___ Adventure
___ How to make things	___ War	___ History	___ Cowboy
___ Nature	___ Flying	___ Murder	___ Fighting

14. (a) About how many hours a week do you spend listening to the radio? _____

(b) What are your favorite radio programs? List them in order of your choice:

(1) _____

(2) _____

(3) _____

(4) _____

15. (a) About how many hours a week do you spend watching T.V.? _____
- (b) What are your favorite programs? List them in order of your choice:
- (1) _____
- (2) _____
- (3) _____
- (4) _____
16. (a) What newspaper do you read most? _____
- (b) What other paper do read sometimes? _____
- (c) Make a (1) in front of the part of the newspaper that you usually read first. Now make a (2) in front of the part that you read second. Now make an (x) in front of any part that you sometimes read. Last make an (0) in front of any part that you never read.
- | | |
|--------------------------|-----------------------------|
| ___ Sports news | ___ War news |
| ___ Comic strips | ___ Fashion news |
| ___ Editorials | ___ Crime news |
| ___ Store advertisements | ___ Financial news |
| ___ Movies and theatres | ___ Radio and T.V. programs |
| ___ Political news | ___ Headlines |
| ___ Columnists | ___ News pictures |
| ___ Want Ads | ___ Market reports |
17. (a) About how often do you go to the movies? _____
- (b) Make an (L) in front of the kinds of movies that you like.
- | | |
|------------------------|----------------------|
| ___ Adventure pictures | ___ Comedies |
| ___ Love stories | ___ Sad pictures |
| ___ Musical pictures | ___ Murder pictures |
| ___ War pictures | ___ Western pictures |
| ___ Travel pictures | ___ Cartoon pictures |

(c) Name three pictures that you liked the most in the past year.

(1) _____

(2) _____

(3) _____