

THE RELATIONSHIP BETWEEN MENTAL ABILITY  
AND READING ACHIEVEMENT

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## CHAPTER I

### INTRODUCTION

#### Purpose of Study

The purpose of this study is to determine, by actual classroom experiment, the relationship between mental ability and reading achievement; and to ascertain the best methods of increasing reading ability. In the accomplishment of this purpose, the writer made an intensive study of factors other than intelligence in the reading process, and studied causes of reading disabilities. The fifth-grade children in the elementary school of Perrin, Texas, were tested and their reading difficulties analyzed. Different methods of increasing their reading abilities were used according to the types of difficulties.

A secondary purpose in connection with this study was the critical evaluation of a testing program. Standardized tests had never before been used in the Perrin County Line School. The superintendent used this study to determine the value of such tests in giving the teachers a better understanding of the abilities and problems of each individual child.

### Procedure

In an effort to determine the factors involved in the reading process and the causes of reading disabilities, a survey was made of many books and periodicals written in this area of research in the past twenty years. After the factors and causes were ascertained, different methods of remedial instruction were studied, and some were used in actual classroom procedure.

The pupils of the fifth grade were given standardized tests to ascertain their degree of intelligence, their achievement in reading, and their individual difficulties in reading. These tests with other data such as cumulative records and anecdotal records were used as a basis for diagnosing the reading difficulties of each child. After a period of initial and remedial instruction based upon individual and group needs, the pupils were again tested to determine the degree of their improvement.

### Organization

This report is organized according to the following plan:

Chapter I consists of an introduction to the study including a definition of the problem and the procedure used in carrying on the investigation, together with a review of related studies and professional opinion.

Chapter II presents a resume of factors other than intelligence which influence the reading abilities of children.

Chapter III discusses the most important causes of reading disabilities. Methods of determining these difficulties are also discussed.

Chapter IV gives in detail the writer's specific methods of determining each child's reading difficulties and the causes when possible. Classroom techniques and procedure in dealing with each type of disability, whether with a group or an individual, methods of ascertaining progress, and the outcomes of each method, are given.

Chapter V presents case studies of each child, pointing out his individual reading difficulties, the remedial methods used, and the extent to which these difficulties were overcome. The relationship between reading ability and reading achievement is given in each case.

Chapter VI is a summary of the study, including conclusions and recommendations that appeared to be logical outcomes of the investigation.

#### Related Sources of Study

Reading is a vitally important part of an education, so there is no wonder that a great amount of study and research has been devoted to reading. When Gray's summary of Investigations Relating to Reading appeared in 1925,



it listed 436 titles. New titles have since been added at the rate of more than one hundred each year. A large portion of this study has been devoted to the specific problems of the inferior reader. Betts recently published a bibliography on the Analysis, Prevention and Correction of Reading Difficulties, listing 1,186 titles.

Chester C. Bennett states the purpose of his book, An Inquiry into the Genesis of Poor Reading, thus:

It is an inquiry into the genesis of poor reading. Specifically an attempt is made to analyze the reading background and the general life-adjustments of a group of children who were making slow progress in learning to read in the primary grades, with especial reference to factors which might be exerting a causal influence upon their difficulty; and to discuss the nature and implications of their problems.

The Psychology and Teaching of Reading by Dolch explains how children learn to read and discusses the factors involved in the reading process. It is written to help the individual teacher to use the results of scientific studies in reading in forming her own conclusions as to teaching methods.

In the normal child's experience, there comes a time when "reading to learn" replaces "learning to read." The emphasis shifts from learning the mechanics to a wider and more functional use of developed skills. Lee made an attempt to identify this turning point in her study, Importance of Reading for Achievement in Grades 4, 5, and 6.

She brought out evidence through her testing that reading ability equal to that achieved by the average fourth-grade child is a critical minimum with which a pupil can often do passable work even through the sixth grade.

Deficiencies in Reading Ability by Clarence Truman Gray deals with the various problems of reading methods from the standpoint of scientific diagnosis. It assists a teacher in determining the difficulties of pupils below the standard for their grades and in using methods of instruction which will meet the needs of these pupils. The plan set forth involves both reading tests and modified forms of laboratory experiments.

Aside from the many causes of difficulty to be found in occasional individual cases -- such causes as low mentality, defective vision, scholastic immaturity, etc. -- there is one significant fact which makes intelligible the difficulty of teaching and learning to read. This is the fact that reading comprises highly complex abilities that are not easily detected and observed.

This is the conclusion of Arthur I. Gates in his book The Improvement of Reading. He sets forth a plan of diagnosis which he developed during eight years of research. He demonstrates the utility of the intrinsic method of teaching -- the system of diagnosis and follow-up instruction.

Typical problems in the teaching of reading are discussed by Harris and others in Supervision and Teaching of Reading. The authors set up standards for reading

achievement, suggest methods of reaching the goals, and provide actual information which helps teachers to work out a reading program.

The schools of today have had to enlarge their boundaries to take in many things besides a subject curriculum. They must teach the pupils all the essentials for complete living. According to Pennell and Cusack these essentials are broad information, ability to think for themselves, habits of acting for group good, and tastes to safeguard leisure. In their book, The Teaching of Reading for Better Living, they give suggestions for the teaching of reading which will enable children to acquire these essentials so that they may cope with the complex, changing world of today.

Orton advances the theory that language disabilities result from left-handedness, left-eyedness, mixed cerebral dominance or lack of dominance. Reading, Writing and Speech Problems in Children gives a detailed description of these conditions and their relationship to language disorders.

Witty and Kopel's book, Reading and the Educative Process, stresses the fact that the principles of remedial reading and of initial instruction are the same. They believe that whether procedures are initial or remedial, they should meet the child where he is in respect to abilities and interests and should guide him toward greater abilities and richer interests.

Many authorities agree upon the factors influencing the process of reading and upon the disabilities of poor readers, as shown by the tabulation on the following page. Most of them also agree that intelligence is the predominating factor which determines success in reading. In view of the progress already made in remedying disabilities, more attention must now be given to identifying disabilities when they first appear and to preventing such difficulties if possible.

DEGREE OF AGREEMENT AMONG AUTHORITIES AS TO THE FACTORS  
IN THE READING PROCESS AND CAUSES OF  
READING DIFFICULTY

Items of Agreement	Gray	Dolch	Hildreth
<u>Factors in the reading process</u>			
Word knowledge.....	x	x	
Eye movement.....	x	x	
Interest and attention.....	x	x	
Purpose and attitude.....	x	x	
Difficulty of material.....	x	x	
<u>Causes of reading difficulty</u>			
Intellectual.....	x	x	x
Visual.....	x	x	x
Auditory.....	x	x	x
Speech.....	x	x	x
Cerebral dominance.....			
Lack of opportunity.....		x	x
Use of wrong methods.....		x	x
Emotional difficulties.....	x	x	x
Environmental influences.....	x	x	x

Harris	Gates	Orton	Patterson	Pennell and Cusack	Witty and Kopel
			x	x	x
	x		x	x	x
			x	x	x
			x		
			x		x
x	x	x	x		x
x	x	x	x		x
x	x	x			x
x	x	x	x		x
	x	x			x
x	x				x
x	x	x			x
x	x	x	x		x
x		x			x

## CHAPTER II

### FACTORS OTHER THAN INTELLIGENCE IN THE READING PROGRAM

#### Word Knowledge

Reading is a process which is fundamental to nearly all learning, since reading materials are in constant use in most subjects. Because the classroom teacher directs most study situations, she should thoroughly understand the factors which are involved in the reading process. Children are good or poor readers for definite causes. A teacher should be able to analyze each case and to give the necessary help.

Regardless of the intelligence of a pupil, knowledge of word meanings is his acquired equipment. This acquired equipment depends upon two things:

First, all meaning originates with experiences. As a child has new experiences his vocabulary increases. New things and new ideas about familiar things become associated with words. These new experiences should be associated with word meanings. New mental pictures are connected with language, and the child uses them in further thinking.

Second, the child's vocabulary depends upon his experience with language. He reads of many things in his school

work, for example, in his geography and history, which he will never experience in real life; but from them he acquires a book knowledge of words.

The teacher needs to cultivate both of these sources of word meanings. The child should be given real-life situations so that his learning comes from direct experience. The meanings he learns from books will be interpreted largely from the meanings he acquires through actual experiences.

In addition to word meanings there are two other types of word abilities essential to reading success: word recognition and word analysis. Successful reading demands instantaneous recognition of a large proportion of words. If a child recognizes words slowly or looks at each word separately, good phrase reading is not accomplished. Dolch compares the child's ability to recognize words with an adult's ability to recognize acquaintances. We have to take a long look at those with whom we are not well acquainted. Others we are able to recognize by a fleeting glance. Children's reading of material with many new words is comparable to an adult's reading of technical material. A child may know the meaning of a word but read slowly because he does not quickly recognize the words. His knowledge of word meanings may not increase through practice in recognition, but his speed of reading will improve.



When a large amount of reading is being done, the vocabulary is not only being increased but old words are met time and time again.

Recognition span is being increased, number of fixations reduced, duration of fixations lessened, and regressive movements made less necessary. The entire movement for increased reading material in the school is focused as much on rapid recognition as upon enlarged vocabulary, since the emphasis is upon more books, of the same difficulty rather than of constantly increasing difficulty.<sup>1</sup>

Some causes of difficulty in word recognition are:

- a. Inadequate perception of the word.
- b. Too rapid introduction of new words for the child to become familiar with them.
- c. Too many words with similar elements introduced at one time. The difficulty with the "wh" and the "th" words . . . is known to every teacher.
- d. Too few associations of meaning -- too little "color" around the word. Aviation-minded children will have little difficulty in immediately fixing the words "propeller, airport, hydroplane," but may have great difficulty with such words as "enough, certain, order," etc.
- e. Overemphasis on word analysis. One should never regard learning as complete when the child has pronounced a word correctly once. The analysis of a word should always be followed by some sort of quick-recognition exercise.<sup>2</sup>

Most children are unable to analyze words by themselves. They need to be given methods and directions for analyzing new words.

The most common difficulty in word analysis, through either sounding or word-comparison methods, consists

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<sup>1</sup>E. W. Dolch, The Psychology and Teaching of Reading, p. 142.

<sup>2</sup>Donald D. Durrell, Improvement of Basic Reading Abilities, p. 290.

of the following phases:

In sounding methods:

- a. Inability to give sounds of many letters or blends.
- b. Sounding slowly or by such small units that there is no carry-over from one sound to the next.
- c. Looking away from the word and guessing on the basis of the last sound.

In sight methods:

- a. Incomplete observation of the word.
- b. Random guessing at the word from general appearance.

In either method:

- a. A slurring enunciation of a word or of a nonsense word that resembles the original.
- b. A resigned or helpless attitude toward any possibility of success at word solution.

A more detailed study of a child's errors in analysis will often reveal:

- a. Vowel errors, some phonetically correct and some incorrect.
- b. Consonant errors.
- c. Reversals of letters -- "b, d, p, q," and letter sequence difficulties such as "was" and "saw," "form" and "from."
- d. Addition of sounds -- at the beginning, middle, or end of the word.
- e. Omitting of sounds, as above.
- f. Substituting a whole word that is similar in form or similar in idea to the original word.
- g. Pronouncing nonsense words or words dissimilar to the original word in form or idea.<sup>3</sup>

#### Eye-movements

There is sufficient evidence to prove that the eye muscles of an experienced reader have a habitual jerk to the right. The length of movement and the timing are matters of habit. Eye-muscle habits may be compared to one's rate of walking. Both operations of muscular habits depend

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<sup>3</sup>Ibid., pp. 290-291.

upon conditions. One's rate of speed in walking may depend upon several factors. If we are in a hurry, we walk rapidly; if we are walking upon rough ground, each step is taken slowly and cautiously. The habitual jerk of the eyes is subject to changes according to the conditions of the reading, such as purpose or type of material being read.

If conditions are favorable, the eye muscles move like the leg muscles when walking with a steady "stride." The eyes move along the line with regular fixations and pauses. "The tempo and especially the regularity of these eye movements furnish indices to the efficacy of reading."<sup>4</sup> Any factor or difficulty discussed in this or the next chapter may have a tendency to disturb in some way the functioning of eye-movement.

A pupil may have a high intelligence and a broad word knowledge and yet not show his potential reading ability because of slow eye-muscle habits. Pressure to read faster may improve this situation. The limit of the habit is the intelligence and the word knowledge of the reader; therefore there is a limit to fast muscle habits. This limit can be extended only by increasing word knowledge, since native intelligence cannot be changed.

Regressive eye-movements are not bad habits of eye muscles. No muscular habit operates without some stimulus.

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<sup>4</sup>Chester C. Bennett, An Inquiry into the Genesis of Poor Reading.

Merely looking at a word cannot cause a regressive movement. The cause is mental. If a reader is conscious that he has not understood what he has read or has a vague uncertainty as to the pronunciation or meaning of a word, he looks back to re-examine it. The cause and the cure for regressive movements will be found by studying the mental aspect of the reading process rather than by studying muscular habits. Faulty eye-movements should be regarded as characteristics of poor reading and not a cause for it.

#### Interest and Attention

Reading is greatly aided by the intensity of interest and attention. Psychologically the situation is undoubtedly a concentration of nervous energy in the centers stimulated by the words read. Associations are more rapid and more extensive. The reader may read more rapidly or comprehend to a higher degree if he is interested. He may push his eye muscle habits or get wider associations. There may be fewer regressive movements because of greater attention. Throughout the Thirty-sixth Yearbook of the National Society for the Study of Education there is implied the thesis that there is a vital relationship between children's interests and their reading success.

A good reader is one who utilizes reading as a means of attaining personal and educational goals. He can derive knowledge and information from his reading which relate to

his problems and interests. The poor reader is unable to accomplish this. He needs to be given new experiences which will prove successful for him. He must learn to associate reading with experiences which are closely related to his needs and purposes.

The genuine principle of interest is the principle of the recognized identity of the fact to be learned or the action proposed with the growing self; that it lies in the direction of the agent's own growth, and is, therefore, imperiously demanded if the agent is to be himself. Let this condition of identification once be secured, and we have neither to appeal to sheer strength of will, nor to occupy ourselves with making things interesting.<sup>5</sup>

Thus it is important to identify children's interests, the utilization of which insures a better learning situation.

An interest inventory may be used when studying reading problems. It enables the teacher to understand better many problems and attitudes of a child, it establishes better teacher-pupil rapport, and indicates the types of subject matter most appropriate for the child. The Driese-Mooney Interest Inventory for Elementary Grades is good. Or the teacher may make an inventory similar to the one below if a standardized one is not available. The teacher can use the inventory as a basis for conversation. She can ask, in the casual manner of classroom conversation, such questions as "Do you like any of these?" or "Have you ever tried any of these?" or "How often do you do this?"

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<sup>5</sup>John Dewey, Interest and Effort in Education, p. 7.

By these questions she may ascertain whether the child is really interested or whether the interest manifested is merely a whim. If activities connected with the presumed interest have been carried on over a long period of time, the interest will not likely disappear even if the reading is difficult.

#### Interest Inventory

1. Hunting, fishing, camping, sailing, canoeing, hiking, scouting
2. Horses, cows, sheep, pigs, chickens, dogs, cats, rabbits
3. Flowers, gardens, trees, wild flowers, birds, stars, weather
4. Automobiles, airplanes, radio, wireless, railroads, bridges, construction
5. Carpentry, electricity, chemistry, photography, printing, signaling
6. Drawing, painting, carving, modeling, basketry, metalwork
7. Music, orchestra, piano, violin, dancing, dramatics, debating, speaking
8. Reading, poetry, stories, plays, mythology, Bible, biography, adventure
9. Collecting, stamps, stones, shells, bugs, flowers
10. Football, baseball, basketball, hockey, boxing, wrestling, track
- .....
13. Swimming, skating, riding, tennis, archery, acrobatics, bowling
14. History, geography, science, arithmetic, languages
15. What clubs do you belong to?
16. What do you intend to do for a living?<sup>6</sup>

Reading interests and preferences alone are not adequate guides. Data secured from interest inventories are frequently of value in determining the selection of appropriate books for poor readers. At the same time the teacher

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<sup>6</sup>Durrell, op. cit., p. 105.

should be sure that a child is not just blindly following an interest, for it sometimes proves to be immature and trivial if approached in this manner. His reading and related activities should contribute to desirable growth. An interest inventory may indicate that the major problem is to stimulate and develop new and more lasting interests.

Witty and Kopel state that one who develops a remedial reading program has two major obligations:

- (1) to provide an orderly, systematic series of silent and oral reading experiences in accord with the ability of each poor reader, and (2) to develop a series of reading and related experiences which will extend and intensify each child's interests.

The material should not be just something the child can read but it should be worthy of being read and should meet the individual and group needs. Witty and Kopel continue:

The successful teacher of poor readers, therefore, becomes a student of the way in which children grow, so that she may ascertain individual needs; in addition she becomes an intelligent participant in the culturally and socially significant activities of contemporary life, so that she may guide children to attain better social understanding and adjustment. Finally she cultivates familiarity with the realms of gold in children's literature old and new. In these ways she becomes expert in stimulating and guiding children's growth in reading.<sup>7</sup>

#### Purpose and Attitude

The reader's purpose is perhaps the most variable factor in the reading situation. There is a distinction between interest reading and reading for study. The purpose

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<sup>7</sup>Paul Witty and David Kopel, Reading and the Educative Process, p. 60.

in interest reading is to get whatever associations occur as the eye moves at its usual rate. Enjoyment and satisfaction are the main purposes. In study the reading has a dominating idea which affects both the mental processes and the eye movements. In Reading and Study Yoakam lists forty-seven specific purposes for the study type of reading. Any purpose in life may become a reading purpose. Dolch mentions the four most common reading purposes in school work: (1) to comprehend completely, (2) to evaluate what is read, (3) to remember what is read, and (4) to find an answer or detail. Any one of these purposes may influence both speed and comprehension. All of these purposes, with the exception of the fourth, have a tendency to speed up reading. However, the speed of mental associations in all four will be determined by the reader's intelligence.

Teachers should understand that methods favorable to study reading are not the same as those favorable to interest reading. Interest reading causes the reader to move rapidly, but his attention is on the story and not on rapid reading. Many children, when told they are being tested for speed, think chiefly of going fast and hence read with little comprehension.

Reading must be approached with correct attitudes. Sometimes a child experiences fear or resentment; his mind does not function well and he learns to hate his reading lesson. He may develop a purpose not to learn. Easy,



interesting material may change his attitude. Other children are not sure that they understand just what is expected of them. They show this by hesitating and repeating. If children get the idea that the reading material is hard, they may have a feeling of doubt. This may result in regressive movements and slow reading.

#### Difficulty of Material

Reading is a matching of the reader's vocabulary to the vocabulary of the reading material. A maladjustment may be due to either side. The school tries to improve the situation by improving vocabulary, but the teacher should also see that the vocabulary of the selection to be used as a reading project is suited to the reader.

The use of familiar words produces quick recognition of words or speed in reading. But to increase the vocabulary, new words must be added when a new one can be naturally inserted into the context. When a new word is seen, there is not only a regressive movement but also usually a swinging back and forth of the eye to see whether meaning can be derived from the context. Therefore the more new words, the poorer the chances for the development of good eye-movement habits. Thus adaptation of material to the reader will mean either adaptation for speed or for increase of vocabulary. The teacher must understand thoroughly which adaptation she is making.

Another important result of the presence of strange words is an attitude of uncertainty and hesitation which may continue after the new words have been passed. A strange word may cause a great decrease in comprehension of a sentence or a larger unit. A vocabulary too difficult is probably more destructive of good reading than any other single factor. It needs to be watched very carefully in the teaching of reading. Children should be given a large amount of easy reading material so that they may increase their speed of reading. Reading must never take on the characteristic of mere word study.

The style of a writer may cause difficulty. Children need shorter sentences than adults. There is a direct relationship between intelligence and the length of a sentence which one can comprehend. Inversion or complication of word order in sentences is also a means of testing intelligence. In a teaching situation this difficulty should be lessened as much as possible. New ideas which do not fit into present modes of thought also make reading more difficult. A sentence which does not seem to make sense will also hinder the reading process. Anything which disturbs the usual processes of comprehension will disturb eye-muscle habits.

## CHAPTER III

### CAUSES OF DISABILITIES

#### Intellectual Disability

It has been repeatedly demonstrated that reading age correlates highly with mental age as measured by standardized tests and, within limited age ranges, with the intelligence quotient. After a survey of literature in the field of reading, Tinker came to the conclusion that "the most important determinant of reading ability is, without doubt, general intelligence."<sup>1</sup>

Although the relationship between intelligence and reading ability is positive, low intelligence is not very often the cause of poor reading. Witty and Kopel explain this apparent paradox in this way:

Intelligence in behavior is reflected in the perception, assimilation, and organization of meanings. Reading, a discriminative and understanding reaction to word symbols, is but one of the many specialized, abstract experiences and activities in life which necessitate for their comprehension and performance the functions or processes attributed above to intelligence-in-operation. Intelligence, moreover, is a social function: the criteria of intelligent behavior in the individual are found in social values and activities. Hence, a society

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<sup>1</sup>Miles A. Tinker, "Diagnostic and Remedial Reading," Elementary School Journal, XXXIII (December, 1933), 293.

which extensively utilizes reading as a means of communication necessarily places a premium upon the acquisition of the ability and incorporates it in its concept of intelligence. Reading is thus merely one individuation of intelligent behavior. Valid tests of reading, therefore, should show very close correspondence with adequate tests of intelligence.<sup>2</sup>

In Psychological Tests, Methods, and Results, Garrett and Schneck state that reading-test and intelligence-test scores actually correlate about  $\sqrt{.6}$ , which suggests a significant relationship but one too low to permit a chance of accuracy in predicting performance in one test from the score of the other. Tinker reports correlations for reading age and mental age which ranged from .5 to .8 in different studies, the figures varying with the age range of children tested and with the measures used. Ladd summarizes investigations and comments:

It seems that correlations between reading and Binet intelligence tests average about .50, but may be greater or less according to the range of the group tested; the correlations between reading and verbal group intelligence tests are usually about .60 to .65, sometimes higher but seldom lower; and the correlations between reading and non-verbal intelligence tests are very much lower.<sup>3</sup>

Thus we see that intelligence does not always correlate with reading skill. In any group of non-readers all ranges of intelligence will be found as they would be in any casually selected group of children.

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<sup>2</sup>Witty and Kopel, op. cit., p. 225.

<sup>3</sup>Margaret Ladd, The Relation of Social, Economic and Personal Characteristics to Reading Ability, pp. 21-22.

Poor reading comprehension forms an integral part of the general picture presented by children with dull normal intelligence and those of the defective group, so that failure in learning to read with understanding must not be considered a specific disability unless it is distinctly out of harmony with the child's skill in other fields -- notably the ability to learn by hearing and to master arithmetical concepts.<sup>4</sup>

Reading is essentially the fusion of perceptions of word meanings, and this fusion depends upon the content of the mind and upon the ability of the mental organism to recombine past experiences according to the grouping of words in the material being read. The greater the intelligence, the quicker the perception of meaning during a fixation, or the shorter the time required before the eyes can move on. The higher the degree of intelligence, the greater the amount of meaning perceived during a fixation. Intelligence also means greater attention span and stronger retention and recall of ideas.

An intelligence test is essential in individual diagnosis. A teacher can get an idea of the situation from classroom and playground contacts, but an intelligence test makes her impression more definite. Her teaching methods and estimation of results should be influenced by the child's intelligence. Her purpose should be to improve each child's ability up to the limit which his intelligence sets. Results of tests or of experimental methods of

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<sup>4</sup>Samuel Orton, Reading, Writing and Speech Problems in Children, pp. 73-74.

instruction can be judged without knowledge of the intelligence level of the child or children with whom the teacher is working.

### Visual Disability

Defective vision is the most common sensory defect interfering with reading and with the general learning process. The child having serious visual defects is handicapped in learning to read, but children wearing glasses, and even the blind, do learn to read. From the teacher's point of view the question is whether reading disabilities often result from minor visual defects of which teacher and pupil may be unaware. Teachers may discover nearsightedness, but farsightedness, which produces eye strain, and astigmatism, which distorts the letter patterns, are not easily discovered. Betts thinks that these factors may produce many of our reading disabilities. Hypermetropia, or farsightedness, was the most common refractive error in both groups tested by Eames but stood out particularly among poor readers.

Fenrick of Columbia University made a study of sixty-four pairs of normal and poor readers matched for sex, intelligence, and age. He used the telebinocular tests, standard charts for measuring near and far acuity, the Maddox rod test and other tests of perceptual functioning. Most of the children were also given professional optometrical

examinations. There was more impaired visual acuity among the poor readers, especially when the right eye was tested. One of the telebinocular tests showed more refractive anomalies among the poor readers. None of the tests pointed to eye-muscle imbalance as a discriminating factor. There was consistent evidence that children with visual disabilities were more likely to have reading difficulties in schools where a "look and say" method of instruction was used rather than an "oral phonetic" method.

These investigations show that various types of visual disabilities may sometimes contribute to reading difficulties. Fenrick concluded that "with the proper identification and provision for sensorial aberrations, practically all potential cases of reading disability otherwise the results of sensory defects can be eliminated."<sup>5</sup> Classroom observation cannot recognize and diagnose the conditions mentioned here, but a teacher should know the visual status of each child when planning her instruction.

#### Auditory Disability

The importance of auditory functioning to good reading is almost as obvious as that of visual functioning. Oral practice and imitation play an important part in reading instruction. Yet with adapted instruction, deaf children can be taught to read.

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<sup>5</sup>Paul Fenrick, Visual Characteristics of Poor Readers, p. 52.

Most schools are alert to factors in visual discriminations, but little consideration has been given to sound. The sound patterns in the typical school are very poor within the school as well as on the outside. These conditions distract pupils and teachers and impair the effectiveness of oral instruction. The effects of these interferences will vary in terms of children's hearing abilities, their susceptibility to outside stimulation, and their interest in their immediate work.

Bond examined the auditory status of the same children whose vision was studied by Fenrick. He found differences favoring the normal readers in auditory acuity, sound blending, auditory perception techniques, auditory discriminations, and auditory memory. Bond found that auditory handicaps exerted a greater influence when the "oral phonetic" method of instruction was used.

According to the first part of the Durrell-Sullivan Reading Capacity Test, the criterion for reading capacity is taken to be the child's ability to understand spoken language, or his hearing comprehension. The assumption is that if a child can understand spoken language at a certain grade level, he should be able to read to that level, provided he has no disabilities and teaching methods have been adequate.

The testing of more than six thousand children with the



Durrell-Sullivan Reading Capacity and Achievement Tests showed that it may be expected that about fifteen per cent of the pupils will be reading a year or more in advance of their hearing-comprehension scores, and an equal number will be reading a year or more below their hearing-comprehension scores. Experience with these children proved that through an intensive instructional program they may be brought up to a reading level at least as high as their hearing-comprehension level.<sup>6</sup>

Controlled experiments by Wallin, White, and Poull and Wawrik gave no evidence that groups of non-readers are inferior in auditory capacity and memory span. Indeed, White and Poull reported that non-readers exhibited a greater degree of auditory acuity than the members of the control group. Moreover, Bachman found the audition of a group of poor readers to be essentially normal. In Bond's study a positive relationship between acuity and reading ability was found only when school children were exposed to a "predominately oral-phonetic type of instruction." In fact, "There is in literature no instance in which reading defect was ascribed to inferior auditory acuity." Auditory (like visual) factors appear related to reading disability only in individual cases of gross defect and under special (perhaps indefensible) pedagogical conditions of instruction.<sup>7</sup>

Every child in school should have hearing tests periodically. The ordinary whisper test of auditory acuity and perception is often more practical than the audiometer. If a child has definitely poor hearing he should be referred to a physician. He should be given a position at

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<sup>6</sup>Durrell, op. cit., p. 45.

<sup>7</sup>Witty and Kopel, op. cit., pp. 213-214.

the front of the schoolroom. Every teacher has the responsibility of setting an example of correct enunciation and articulation.

### Speech Disability

Speech defects of any kind may cause reading disabilities. They may make the child so self-conscious and embarrassed during oral reading that he will develop an attitude of fear and antagonism toward reading. Inaccurate articulation may affect reading by presenting a confusion in the sound of words to be associated with the printed symbols. In the beginning a child must pronounce either aloud or to himself before he gets the meaning of a visual word picture. If this inner speech is hindered by some type of speech defect, the process of learning to read is retarded.

In his study, Bond noted that his poor readers, whom he had identified by silent reading tests, were not differentiated by peculiarities of speech. Stuttering, lisping, baby talk, and nasality were found in both groups. Monroe made use of additional oral measures of reading ability and found speech defects relatively frequent among her disability cases. Among 415 cases, nine per cent were stutterers or stammerers and eighteen per cent showed other articulatory defects such as baby talk and lisping.

Monroe writes:

Learning to read involves speech and language as well as vision and visual perception. The child must be able to understand and use the speech symbols which are to be associated with the printed symbols. The factors which affect speech, may also affect reading. Speech is influenced by age, intelligence, environment, and a number of constitutional factors, such as ability to discriminate the sound of words, and to make the necessary motor coordinations of lips, tongue, palate, larynx, breathing apparatus, etc. which are involved in smooth, accurate articulation.<sup>8</sup>

The frequent association of these motor factors with reading disability has suggested the presence in some children of a common basic cause, namely, improper functioning of the endocrine glands. Case studies have shown that children whose thyroid glands are not functioning normally are retarded in mental and educational growth as well as in physical growth. Some of these cases noticeably improved in reading during a period when thyroid medication was provided. However, glandular conditions affect other fields of learning as well as reading. Reading disability may often be associated with motor and mental abnormalities, because of the frequent occurrence of disorders of the ductless glands in emotionally upset children.

In Kopp's biochemical study of the blood composition of stutterers and non-stutterers, he discovered that stutterers were deficient in potassium, globulin, albumin, and protein content, had too much serum calcium, inorganic

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<sup>8</sup>Marion Monroe, Children Who Cannot Read, pp. 91-92.

phosphate, and blood sugar, and had different blood patterns from those of non-stutterers. This approach may have diagnostic and therapeutic implications not only for speech defects but also for reading disability.

Thus it seems that in some cases reading disability may be associated indirectly with metabolic irregularities or specific endocrine impairment, and more directly with various types of motor inefficiency. The teacher should observe motor co-ordination as it functions in the children's classroom and playground behavior, especially in their speech, writing, and oral reading. She should notice the children for evidences of nervousness, indifference, apathy, and hyperactivity. Children showing symptoms of physical and glandular disorders should be referred to a physician equipped to make thorough metabolistic tests.

From these considerations one fact again emerges clearly; namely, reading disability is a complex condition involving the interaction of multitudinous phases of physical and mental growth. In every case, causation should be sought not in single factors but in the complex patterns whose interrelated elements, in proper balance, are essential to maximum efficiency.<sup>9</sup>

#### Cerebral Dominance

There has been an increasing tendency among some groups of investigators to relate extreme reading disabilities to

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<sup>9</sup>Witty and Kopel, op. cit., p. 218.

certain psychological factors underlying specific types of behavior. These behavior patterns are expressed in mirror-writing, left-handedness, ambidexterity, and left-eyedness. Some evidence indicates that these conditions may be closely related to cerebral dominance.

According to Orton, the fact that letter reversals, and sinistral reading of letter groups or whole words seem to characterize all cases of extremely deficient readers suggests that mnemonic records of letters and words exist in the brain in both dextral and sinistral orientations, one in each hemisphere. If, when one tries to read, the recalled image does not correspond to the presented symbol, confusion results. Learning to read, Orton says, involves attending to and selecting the memory images in one hemisphere (the dominant). Marked persistence of reversals in reading ability suggests that the memory patterns in both hemispheres are potential enough to allow either right or left sequence of letters to follow when presented stimuli (letters in words) are compared with the memory images. . . . Where there is marked cerebral dominance, usually manifested by either dominant right- or left-handedness, the child ordinarily has no difficulty in learning to read.<sup>10</sup>

Dearborn concluded that when a reader reverses letters and whole words, cerebral dominance is involved. He says that

in order to avoid difficulties in reading and writing one should be either left-eyed and left-handed, or right-eyed and right-handed and preferably the latter. Difficulties appear especially in children who have been 'changed over' in handedness or whose one-sidedness or lateral dominance has never been well established.

Dearborn prefers the terms of ocular and manual dominance

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<sup>10</sup>Miles A. Tinker, "Diagnostic and Remedial Reading II," Elementary School Journal, XXXIII (January, 1933), 347.

to cerebral dominance. Gates also found extreme reading difficulties associated with handedness in a few cases and tends to agree with Dearborn; but he does not emphasize the role of cerebral dominance as does Orton.

Witty and Kopel's investigations revealed that left-handedness and left-eyedness and other conditions of laterality occur in groups of good readers as often as in groups of poor readers. They state that neither mixed hand-eye dominance nor consistent manual-ocular behavior has any association with reading ability as measured by standardized tests. Poor readers make more reversals than good readers, but they also make more mistakes of every other type.

However, the study of laterality should not be discarded in diagnosing disabilities. If a child with a strong left-handed tendency is changed by unwise pressure, he will work under nervous tensions which will cause difficulty in reading. Left-eye dominance may cause right-to-left movements in reading. A teacher should have some reliable methods of determining manual and ocular dominance. A handedness questionnaire and tests of eye dominance may be used.

#### Lack of Reading Experience

Marked deficiency in reading, in the upper grades especially, may develop through sheer lack of reading experience. Many children never look at reading material outside of school, unless they read signs. The average child

of this age is beginning to read newspapers, magazines, and juvenile books. Children who are superior in reading devote many hours to this activity, for skill in reading is obtained by much reading. The child who does not read outside of school is getting farther behind his class each year. Increased maturity and the little practice he gets in school improve his skill to some extent, but by the time he reaches the upper grades he is considered a poor reader.

Sometimes a child has an antagonistic attitude toward reading because of some specific disability. This should be discovered and corrected if possible. Some children do not read at home because there is nothing to read there or because none of the books or magazines are on their reading level. Teachers have an opportunity to encourage and aid children in building a worthwhile library in their homes. Schools are helping children who come from such homes by placing book tables in each room, and by assigning time for free reading.

Another cause for lack of reading experience is that every free moment is taken up with other activities such as athletics, or helping in the home, or even helping to earn their living. These conditions will cause a child to get farther behind in his reading ability year by year. The school can not very often help the child who has to work, but in other cases the children can be given reading material

interesting enough to compete with sports for part of their attention.

#### Use of Wrong Methods

Reading disabilities may be caused by faulty instruction and by the acquisition of inappropriate habits. Children may acquire these habits without the teacher's knowledge. One wrong reading habit develops from reading from memory. The first year the stories are short and simple and each one may be studied for some time. Some children do not realize that they are supposed to read from left to right, looking at the words in regular order. They may make a show of reading when their eyes are really wandering around, and sometimes moving from right to left. These disordered eye-movements may become a habit. When such a situation is discovered, special remedial instruction will have to be given.

Substitution of guessing for word recognition is another difficulty. When some children see an unknown word, they read in another which fits the context, watching the teacher to see whether it is right. If he guesses wrong, very often his guess is correct the second time. The teacher approves, not realizing the child is not analyzing the word. This bad habit can usually be caught by a good teacher, and given prompt disapproval. The child must be told that though he guesses from context, he must check his



guess with the word form.

Two other types of wrong methods include failing to use letter sounds in analyzing new words, and a complete dependence upon letter sounds so that words cannot be recognized without these sounds. Skill in word recognition depends upon the appearance of the word and upon the suggestion derived from the sounding of the letters. Good readers use whichever method is needed in a particular case, but a poor reader may rely upon one method only.

A teacher discovers these defects by carefully watching a child's oral reading to discover mispronunciations, omissions, inversions, and substitutions. The best remedy is individual instruction.

Many school situations fail to stimulate children's interests or to challenge their abilities. No provision is made for initiative and growth. The tasks assigned may be uninteresting or impossible, and a feeling of inferiority and rebellion sometimes manifests itself in behavior problems. Even children of superior intelligence develop withdrawal tendencies and deep-rooted anxieties.

The teacher's personality may be an important factor in causing emotional strain which contributes to children's failures. A harsh, commanding voice, coercive methods, too much routine and order, and other factors in a teacher's personality should be items in an objective appraisal of the failures and needs of children. Investigations have proved

that pupils of teachers who have the best mental health are more stable, on the average, than pupils of unstable teachers.<sup>11</sup>

Most educators will agree that children are often ineffectively prepared for active civic life, because their school experiences give little recognition to the importance of social understanding as a goal for education. The school can do much to aid a community, and can become an agency for social reconstruction. To accomplish this, children must be stimulated to think accurately. The teacher of reading can direct silent reading so that children will read critically and discriminatingly concerning social issues and events.

Thus children will come progressively to understand better the forces underlying our present social and economic chaos and to participate in altering them for society's general good. Our obligation as teachers is clear; it is grounded in the concept of education as an agency for social understanding, participation, and reconstruction. Naturally the role of silent reading is altered if this concept is accepted; no longer are we concerned primarily with mechanical proficiency and literacy; our aim is to develop socially competent young people who read critically, speak clearly, and write intelligibly.<sup>12</sup>

Particularly regrettable in the usual teaching routine is the failure to conceive reading as a thinking enterprise, demanding the use of creative intelligence in situations inextricably associated with the total complex development of the growing child. Furthermore, maximum growth is frequently arrested or precluded because we do not recognize fully the operation of the numerous factors contributing to reading

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<sup>11</sup>Witty and Kopel, op. cit., p. 233.    <sup>12</sup>Ibid., p. 21.

efficiency, as part of a highly integrated process in which reading is considered efficient only if meanings are grasped, goals attained, and knowledge organized.<sup>13</sup>

### Emotional and Behavior Difficulties

The most fundamental characteristics of normal personality are unity, wholeness, and integration. Each child is a unique personality, an intricate, interrelated organism. It has been said that a child brings his entire being to class, yet we teach only part of it. The causal factors of failure rarely ever appear singly. Many teachers place too much reliance upon diagnostic tests and practice work and fail to realize that understanding and adjustment are as important as learning. Emotional difficulties are not revealed by errors on standardized tests, neither are they to be corrected by routine drill which fails to consider the child as a dynamic organism.

If a serious difficulty in reading disrupts a pupil's school career, it may be expected that it will disturb his personal and social adjustment. There is much evidence that failure in school is a major catastrophe to many children and that general maladjustment is a frequent consequence. In one hundred cases selected at random from a list of "disabilities" studied by the writer, the following types of unfortunate adjustments were noted. In the list which shows the number out of one hundred, some children appeared in more than one category.

1. Nervous tensions and habits such as stuttering, nail-biting, restlessness, insomnia, and pathological illnesses -- 10 cases.
2. Putting up a bold front as a defense reaction,

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<sup>13</sup>Ibid., p. 234.

loud talk, defiant conduct, sullenness -- 16 cases.

3. Retreat reactions such as withdrawal from ordinary associations, joining outside gangs, and truancy -- 14 cases.

4. Counter-attack; such as making mischief in school, playing practical jokes, thefts, destructiveness, cruelty, bullying -- 18 cases.

5. Withdrawing reactions; including mind-wandering and daydreaming -- 26 cases.

6. Extreme self-consciousness; becoming easily injured, blushing, developing peculiar fads and frills, and eccentricities, inferiority feelings -- 35 cases.

7. Give-up or submissive adjustments, as shown by inattentiveness, indifference, apparent laziness -- 33 cases.

In only 8 cases was there evidence that the pupil developed a constructive compensatory reaction, such as special ability in drawing or singing or dramatics.<sup>14</sup>

Other writers reported emotional problems to be numerous among poor readers, and listed similar types of behavior. These attitudes usually develop over a period of time. Emotional maladjustments may be caused by reading failure, or reading failure may be partly due to emotional instability. Practically all writers agree that the correction or marked improvement of the reading disability ordinarily results in better educational adjustments. With the substitution of success for failure, unfortunate behavior traits disappear and normal attitudes of co-operation appear.

The teacher may find a poor reader whose unbalanced emotional behavior appears to be organic or constitutional. Neurotics have great difficulty in learning to read, nor

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<sup>14</sup>Arthur I. Gates, "Failure in Reading and Social Adjustment," Journal of the National Education Association, XXV (1936), 205.

does improvement in reading relieve their maladjustment. When a teacher recognizes an extreme case of deviation in a child's behavior, the case should be referred to a psychiatrist.

#### Environmental Influences

Bad behavior, we found, is generally a reflexion of school and home situations which are barren in opportunity for wide exploration and varied experience, and which are saturated with tensions resulting from attempts to make all children equally amenable and submissive to teachers' and parents' uninspiring and frequently inappropriate demands.<sup>15</sup>

Reading reflects training modified by opportunity and motivation as well as by ability. These factors are related to economic stability and cultural background. Children's reading habits and preferences are greatly influenced by the books and magazines to be found in their homes. Their parents' attitude toward literature will either help or hinder their growth in reading. The language used by parents and associates will affect the language arts development. Bennett points out that while walking and talking are largely a result of maturation, reading requires skills and motivation which are culturally imposed. In his study he found that poor readers had received more help at home and had been read to more often.

The tenor of these parental comments leads us to wonder whether the poor readers were not differentiated by faulty methods of instruction rather than

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<sup>15</sup>Witty and Kopel, op. cit., p.231.

by any characteristics in the children predisposing them to unsatisfactory response.<sup>16</sup>

Many other home and environmental influences may affect the development of a child's emotional maturity and thus create attitudes hindering his desire to read. To understand the child's entire personality, the teacher needs to make a complete genetic study of each child. Questionnaires about social, physical, and medical history should be used. This information is necessary in an analytical study.

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<sup>16</sup>Bennett, op. cit., p. 104.

## CHAPTER IV

### METHODS OF INCREASING READING ACHIEVEMENT

In this chapter the writer proposes to discuss the methods used in increasing various types of reading achievement in her work with fifth-grade pupils of Perrin Elementary School. The school site is discussed as a background for the presentation of the various activities.

#### School Site

Perrin, Texas, is a small town located in the fertile Keechi Valley midway between Jacksboro, the county seat, and the health resort of Mineral Wells, where Camp Wolters is located. Children from five school districts are transported by bus. For the most part, they are the sons and daughters of farmers and ranchers. Others are children whose parents commute to Mineral Wells, Camp Wolters, or Fort Worth to various types of work. A few patrons are engaged in the oil industry. The community is a typical small town where every one knows every one else, women gossip over the garden gates, and children play ball in the dead-end streets. Nearly every home has at least one radio. Most of the children attend picture shows either in Mineral

Wells or Jacksboro every Saturday night and sometimes during the week. Their favorite shows are "Westerns" or war films.

The majority of the families subscribe to the county newspaper and the Fort Worth Star-Telegram or the Dallas Morning News. The Farmer Stockman and Farm and Ranch are the only magazines found in many of the homes, but a large number buy Life or Look. Most of the children have small libraries of children's books and a few subscribe to children's magazines. Most of the boys prefer comic books.

The boys attend school dressed in slack suits, khaki suits or trousers and crew-neck sweaters. The girls wear attractive print or rayon dresses. Most of the children are well dressed. For the most part, they are well adjusted, working and playing together in perfect accord.

The Perrin County Line School, located in the northeastern part of the town, is a \$52,000 plant. The main structure is a two-story brick edifice. Adjoining it is a large gymnasium, also used as an auditorium; and a large basement lunchroom. Two blocks from the school is a large frame building used by the agriculture department. The auditorium and the agriculture building are used for farm meetings and other types of community programs.

#### Activities

The information regarding each child was derived in



the following manner. Five standardized tests were given. The cumulative school records covering academic records, physical and medicinal history, and some information as to home background were studied. Former teachers and the children's parents were interviewed. The writer had known each child for at least four years. A questionnaire was given the children to learn more about their home background and their interests.

#### Testing of Children

The Modern School Achievement Tests and the California Test of Mental Maturity were given. The achievement tests measure achievement in all school subjects. The mental maturity test gives the mental age and intelligence quotient on total mental factors and also on language and non-language factors. The Durrell-Sullivan Reading Capacity and Achievement Tests were given. The capacity test gives each child's capacity to understand spoken language, or his hearing comprehension. The assumption is that if a child can understand spoken language up to a certain grade level, he should be able to read up to that level. The achievement test measures achievement in word and paragraph meaning. Both words and paragraphs are of increasing difficulty. There are optional tests in spelling and written recall.

Gray's Standardized Oral Reading Paragraphs were administered individually. The content is a series of paragraphs of increasing difficulty. The score is based on time consumed and errors made. The test measures general ability in oral sight reading and gives clues to a child's method of attack and word analysis when reading.

#### Grouping of Children

The goal of reading instruction is to enable each child to advance in skill as rapidly as his abilities permit. Both group and individual reading abilities and difficulties were ascertained to a large extent by these tests. The children were given remedial instruction in groups and individually according to their needs. During the period of remedial instruction the pupils were grouped in various ways. Some types of lessons were given to the entire class, such as remedial work for the correction of reversals, for faster speed in reading, and for some vocabulary study. All of the children needed to improve their level of comprehension but their remedial work was on different levels according to their reading achievement.

The first grouping was according to reading achievement scores. The lowest score was 3.4. This was the score of the pupil who had the greatest difficulty with lip reading. His intelligence quotient was ninety-eight. After he had

overcome some of his reading difficulties and had become more confident, he began to read with the group whose achievement scores were 4.1, 4.1, and 4.4. The second group of children who worked together had scores of 4.6, 4.7, and 4.9. These two groups were able to work together most of the time after three months of remedial instruction. At that time the two pupils having the score of 4.1 were reading better than those in the second group. The three remaining pupils had reading scores of 5.6, 6.2, and 7.4. Much of their reading was done individually. The pupil with the score of 7.4 scored only 4.2 on Gray's Oral Paragraphs. He was given oral reading instructions with the second group. These three children often chose reading material from magazines and newspapers on the reading table and books from the classroom and study-hall libraries. The teacher assisted them in their choices and checked their comprehension of this reading. Sometimes the pupils answered questions about their reading; at other times they gave oral or written reports. Table 1 presents the results of these first testings.

#### Individual and Group Instruction

Many methods of instruction and types of lessons were used during this period. All of them proved to be helpful to some extent in correcting one or more reading difficulties. Since all of the results of teaching are not tangible

TABLE 1

SUMMARY OF SCORES ON THE CALIFORNIA MENTAL MATURITY  
TEST, THE DURRELL-SULLIVAN READING CAPACITY TEST  
AND GRAY'S STANDARDIZED ORAL READING PARAGRAPHS,  
AS GIVEN TO THE FIFTH-GRADE CHILDREN OF THE  
PERRIN COUNTY LINE SCHOOL

Pupil No.	<u>California Mental Maturity Test</u>			<u>Durrell- Sullivan Capacity Test</u>	<u>Durrell- Sullivan Achieve- ment Test</u>	<u>Gray's Oral Para- graphs</u>	Visual Check*
	C. A.	M. A.	I. Q.				
1	10-11	13-6	123	7.2	5.9	6.7	S
2	10-0	12-1	121	6.5	6.2	6.4	S
3	9-8	11-0	114	5.5	4.9	4.7	S
4	9-8	10-9	111	5.2	4.1	4.2	Q
5	11-6	12-5	108	6.8	7.4	4.2	S
6	11-0	11-8	106	6.1	4.1	2.9	Q
7	9-9	10-0	103	5.0	4.4	2.9	U
8	9-11	10-2	102	4.8	4.7	4.7	S
9	10-9	10-6	98	5.1	3.4	2.3	U
10	10-11	10-3	94	5.5	4.6	4.2	U

\*"S" means satisfactory; "U," unsatisfactory; "Q," questionable.

and some are difficult to measure, it would be impossible to determine the exact value of each method, or to say which one was most effective. Several of the methods used are discussed and illustrations are given.

### Providing Reading Material Suited to Individual Ability

The most important factor in meeting a child's reading needs is the provision of reading materials suited to his level of ability. Reading improvement that is secured through remedial-reading instruction is due primarily to the use of materials suited to the children's reading levels and to their interests. If a child is given material above his level, he soon becomes confused and discouraged. After the reading levels of the children had been obtained through the use of tests, they were given materials suited to their abilities and levels of achievement.

The following factors will serve as a guide in determining the appropriateness of library materials for individual needs in an ordinary class:

a. The range of difficulty of reading materials should be comparable with the range of reading ability of the pupils in the classroom.

b. The books at each level should supply sufficient practice for the pupils' attainment of the next higher level.

c. For pupils of below-grade ability, the easy books should not be those studied in the lower grades. Books already used are not welcomed by slow readers and tend to encourage guessing and remembering rather than actual reading.

d. Advanced pupils of above-grade ability should not be given books ordinarily used by higher grades. Teachers in the higher grades should have the right to certain books for initial instruction of all their pupils.

e. So far as possible, enough appropriate materials should be provided to enable each child to read at his own level in any required unit of subject matter.<sup>1</sup>

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<sup>1</sup>Durrell, Improvement of Basic Reading Abilities, p. 66.

Different books in the content subjects provide for differences in reading ability. The social atmosphere of the classroom is improved when each child can contribute new materials to the group discussion. The poorer readers profit by the discussion of facts which the better readers have learned from reading more advanced books. Contributions of the poorer readers are interesting because they are different. When the assignment is the same for all pupils, the slow learners are conscious of the fact that they contribute very little, if anything, to the class discussion.

In the study of animal life, one assignment given the slowest group was to find out by reading from The Why and How Club:

1. How do beavers build their dams?
2. What do beavers eat?
3. What animals gnaw their food?
4. What animals eat grass?
5. What animals eat meat?

The second group read from How and Why Experiments to find out how the following animals protect themselves:

- |             |            |                  |
|-------------|------------|------------------|
| 1. deer     | 6. bear    | 11. opossum      |
| 2. elephant | 7. mule    | 12. electric eel |
| 3. lion     | 8. horse   | 13. crayfish     |
| 4. snake    | 9. eel     | 14. monkey       |
| 5. cat      | 10. turtle | 15. porcupine    |

The third group prepared an oral report about one animal from their reading of Nature's Wonderland. While the first two groups were finding their information, this group was able to read about several animals. Each child selected the animal he thought most interesting for his report.

In providing material for her pupils, the teacher should keep the following principles in mind:

- a. Growth is more rapid when the guidance provided is based upon materials that appeal to the pupils as interesting and worth while.
- b. The materials to be read should be organized around challenging centers of interest.
- c. Some of the reading activities should be based on materials read in common by all pupils.
- d. Other reading activities should be based on materials relating to the same center of interest but should be differentiated according to the ability of the pupils and according to their achievement in reading.
- e. Specific help should be provided to overcome difficulties that individual pupils encounter in reading.
- f. Reading activities should be so planned that all pupils -- the superior, the mediocre, and the inferior reader -- can often easily attain the ends sought, but at other times must fully exert themselves to achieve specific purposes.<sup>2</sup>

#### Motivation

Reading is accepted most eagerly by a child when he feels that this activity fills a need in his life. It is very important that every lesson is so motivated that interest and attention be maintained at a high level. Children

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<sup>2</sup>William Gray, Marion Monroe, and May Hill Arbuthnot, for Teaching Fourth Grade Reading, p. 8.

must have a desire to read and an interest in improving their ability to read, as a means of satisfying various needs. Their rate of growth, their development of skills, and their amount of reading depend largely upon their desire for reading. Inattention, misbehavior, and idleness are often the results of lesson assignments which do not interest children.

Again it is very important that the materials of instruction should be on the child's level of achievement. His interest will not be maintained if his efforts cause only confusion and a sense of failure. If children are below their grade level in reading achievement, they need easy material with a higher interest level. It is sometimes necessary for the teacher to prepare this material.

Children may be motivated by a desire to improve their reading by correcting their difficulties. After the fifth-grade children had taken their tests, they were told of their difficulties and faulty habits and something of the plans to remedy them. They were very much interested and several of the children spoke of faulty habits which they were conscious of before taking the tests. None of the children tried to conceal their difficulties. A record was kept of the mistakes made from day to day by each child, and many of the remedial exercises were based upon the information thus obtained.



Children should have a definite purpose in mind when they are reading. A child may be reading in order to prepare a report, to help dramatize the story he is reading, to find the answers to some questions which interest him, or for many other purposes.

The children's curiosity was sometimes aroused by the teacher's reading or telling part of a story and then asking them to guess what happened next and how the story finally ended. Telling one group of children about the "flyways" across the United States used by migrating birds aroused their curiosity, and they were eager to read all about the migration of birds. That led to an interest in the migration of animals.

The children were always interested in reading a story and dramatizing it or illustrating it for the other groups. If a story was to be dramatized, the pupils planned the dramatization and chose the characters. When they were ready to report, the chairman notified the teacher. If the story was to be illustrated, the group discussed five or six pictures which would give the main points of the story. Then they decided which picture each would draw and who should explain the pictures when the report was given.

Children are motivated by evidence of visible progress. Daily progress is so slight in reading that it is not noticeable, so children need some assurance besides praise from

the teacher. The word lists kept by the pupils and their increased skill in playing their various games helped them to realize their improvement. Each child made bar graphs to show progress in reading comprehension. The first ones were made on the blackboard by the teacher. Each child's name was printed in the color he chose. The bars of the graphs were yellow, and indicated the scores for five lessons. Each child then understood how to make his own.

## COMPREHENSION GRAPH

Score	Name	Grade
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		
Date		

It is impossible to improve accomplishment merely by discussing ideals. Motivation techniques must be employed also. However, children must help themselves in correcting

certain conditions which contribute to their failure in reading. Some of these conditions are bad posture, excessive talkativeness, wasting time, lip movement, excessive head movement, incorrect holding of a book, finger pointing, tension movements, monotonous reading, and a high-pitched voice. Any personal habit interfering with reading should be dealt with directly. The child should be made to realize that such habits arise naturally, probably as a result of failure in reading. If a child has more than one such habit, it is best to eliminate them one by one. The child should know just which one he is to eliminate. He must understand that he is the only one who can make the corrections permanent.

General advice such as "Pay close attention," "Don't move your lips," or "Work harder" are of little value. No lapses in a habit should be allowed. Sometimes children are not conscious of lapsing into their bad habits. A gesture, a touch on the arm, or some other unspoken signal will immediately correct the condition.

#### Oral Reading

Phrase reading in oral assignments. -- In a program of oral-reading instruction, attention should be directed to problems of expression rather than to meaning. Stories read orally were first read silently. Poetry and drama are especially good for oral reading. Each child selected at

least one poem and one story to read to his group. This was not an assignment but a suggestion. When a poem or story was found that a child wanted to share with his group, he read it silently, learning all of the words. Then he practiced it aloud before he read it to the group. The successful oral reading of an entire story gave the poorer readers a feeling that they were indeed making progress. Several plays were read aloud by the children. "Don Calico Corn" was their favorite. They were not satisfied with their first reading of the play. After studying it the second time, they read it with much more feeling and expression.

The children were taught to pick out meaningful phrases in their reading material and to emphasize the elements on which the meaning depended. They learned to show the grouping of words by means of their voices.

The children were given material marked by vertical lines to guide them in phrase reading. After this practice they were able to read better from their unmarked books.

The teacher read to the pupils a few times, making short pauses between phrases. The children made light marks in their books between the phrases. The marks were checked for accuracy, and then some of the children read the selection aloud.

Reading in unison. -- In oral reading a child should

look ahead to be sure he can pronounce the next phrase before reading aloud. He should also learn to look at his audience from time to time. Reading in unison is good practice. The children all looked at the first phrase, looking up when they reached a comma or period. When the entire group was looking at the teacher, she nodded and they repeated the phrase. The children were closely watched for individual difficulties, but they were not interrupted. As the last word was said, the children looked back at their books, silently mastering the next phrase.

Pronunciation of words. -- The training given the pupil in the analysis of words caused a marked improvement in oral reading. Each pupil acquired a better background of meaning through the intensive study of words and phrases, prefixes, suffixes, roots and synonyms. Most of the pupils learned to attack new words syllable by syllable. Words were inspected closely before they were pronounced. An attempt was made to give the children a feeling that meaning is destroyed if a word is omitted or a substitution made.

One type of oral lesson used which aided word attack and pronunciation was letting a child read until an error was made. Then the lines read correctly were counted. Sometimes a page or a long paragraph was read and the number of mistakes counted. The pupils' errors were recorded. After a period of instruction the selection was read again. Comparisons were made to show the child his degree of

improvement.

Improving voice and expression. -- A good speaking voice is one of the most important acquisitions that a child makes in school. Children may acquire a feeling of tenseness and insecurity because of difficult material or poor motivation. This may result in a high-pitched voice. As the tenseness disappears, the voice approaches the right speaking tone. Most of the fifth-grade pupils had good speaking voices and good enunciation of the words which were already mastered.

They were given breathing exercises to teach them to breathe rhythmically at the ends of phrases and clauses. They were taught to vary meaning by the change of stress, so that their reading would not become monotonous. Simple sentences were read several times, each time with stress on a different word. Punctuation was studied as an aid to correct oral reading. Punctuation of poetry was especially stressed. Choral reading of poetry was the best method used for improving expression, and the most enjoyed.

#### Improving Silent Reading Rate

The slower readers were given many first-, second- and third-grade readers which were new to them. They were told to read just as fast as they could to get the meaning of the story being read. A few questions were asked about

each story, because rapid reading without comprehension encourages inattention. Speed drills were given followed by comprehension drills.

Slow readers were placed with faster readers to read from the same book. The first one to finish reading turned the page. The first one to finish the story closed the book. The pupils answered questions orally about the story or discussed it. The slow readers often complained that they missed the most important part of the story. As the slow readers increased their speed, they were placed with still faster readers, but the slowest readers were never placed with the fastest readers.

The children were given an idea about the contents of a paragraph. Then they read in order to get the details. A sentence was sometimes read by the teacher. The first child to find the sentence told where it was and read it aloud.

The children were taught that purpose of reading influences the rate of reading. They read to find the answer to a certain question, to find a given phrase or idea, or to make lists. One assignment of the latter type was to read a story in How and Why Experiments and list the ways men have found to clothe themselves.

Answer search. -- The children enjoyed playing the game of answer search, which helped to increase their speed in

silent reading.

The class was divided into two sides. The teacher asked questions about a story which had not been read. After the question had been asked, the books were opened at a given signal. As the answer was found, the pupil stood up. When all of the pupils on one side were standing, that side scored.

Skimming to make a word list. -- After a book was finished, the children sometimes skimmed the index and made word lists. Sometimes the list would be of words containing smaller words, at other times it might be names of people, places, or flowers. The pupils always did this carefully and eagerly, for each wanted to write the longest list.

Remedial exercises for decreasing vocalization. -- Several of the children needed the type of training which would decrease vocalization. At the beginning of the practice, they were given an explanation of the effects of vocalization in silent reading. They were given material of interest to them below or at their own level of reading. They were directed to read in their normal manner, except to eliminate lip movement. They were told that they would not be timed or asked very many questions about their reading. The material must be easy, interesting, and not very important so that the reader will read at the greatest possible



speed to find out how the story ends. No child will rush through an assignment if he is to be questioned on details when he finishes.

It was necessary to have some of the pupils place their finger against their lips and others to put two fingers into their mouths to hold their tongues down and to separate their teeth. After a short period of time, all of the pupils with one exception had eliminated vocal movements. A touch on the arm would make this child realize that he was moving his lips. The habit was not corrected entirely until near the close of the school term.

#### Vocabulary and Word Analysis

Many different methods of teaching word analysis and of increasing vocabulary were used. As a child learns better how to attack new words, his speaking and reading vocabularies become larger. Suffixes and prefixes were studied. Word-matching tests were given. Some were found in reading books studied; others were made by the teacher. The pupils were given lists of words to be matched to lists of definitions. Short words were combined to make longer ones. Small words were found in larger words. The pupils sometimes tried to see which one could write the most synonyms for a word in a given length of time. The dictionaries were used if any child wanted them. The poorer readers usually preferred working without them.

One game the children always enjoyed playing was the placing of words under their correct headings. One game had these headings:

Grocery Store    Bakery    Fruit Store    Dry Goods Store

A list of words was given to be placed under the correct heading. If the meaning of a word was not known, it was looked up in the dictionary.

#### Word Lists

Each child kept a list of all the words he did not know while reading. Sometimes the lists included words heard over the radio during news broadcasts and which had puzzled the children. When each pupil in a group had several words on his list, the group held a discussion. Most of the words would be recognized by one child or another. The others were looked up in the dictionary or the teacher put them on the board and helped the children to analyze them.

Sometimes the teacher chose the most difficult words from a lesson preceding the reading of it by the pupils. The words were discussed and located before the children read the story. If the children did not know the words before the discussion, they were added to their lists.

After the children had learned the pronunciation and meaning of the words, a check mark was placed beside them.

Suffixes -- est, er, and ed

Make new words by adding est to each one of these words:

wealthy	sweet
soft	gloomy

Use each of the new words in sentences.

Make new words by adding er to each one of these words:

wealthy	sweet
soft	gloomy

Use each of the new words in sentences.

Make new words by adding ed to each of these words:

rinse	satisfy
ruin	pledged

Use each of the new words in sentences.

Suffixes -- ful, ly, and ing

Make new words by adding ful to each of these words:

distress	fright
faith	pain

Use each of the new words in sentences.

Make new words by adding ly to each of the following:

sudden	foolish
sharp	serene

Use each of the new words in sentences.

Make new words by adding ing to each of the following:

sorrow	conquer
separate	discourage

Use each of the new words in sentences.

Fill in the blanks with the correct suffixes:

John and his brother went fish\_\_\_\_. They walk\_\_\_\_  
to a small stream near their grandmother's house.  
They had fish\_\_\_\_ only a few minutes when they saw a  
tiny boat float\_\_\_\_ by. John reach\_\_\_\_ for it and  
pull\_\_\_\_ it to the shore. Soon they saw a boy  
com\_\_\_\_ along. He was hunt\_\_\_\_ for his boat and had  
been cry\_\_\_\_ because he could not find it. John told  
how he had pull\_\_\_\_ it ashore as he saw it sail\_\_\_\_  
by.

#### Root Words

Write the root word for each of the following:

skillfully	industrious
eruption	brilliancy
energetic	dignifying

#### Multiple Choice

The words used in this type of lesson were taken from the list of words which the children had not mastered.

Each was given a list of words with these instructions: "After hearing the word pronounced, find it again and underline."

palace	pallet	place	palace	palate
someone	something	somewhere	some place	someone

twilight      twinkle   twilight   twin-lights   twitter  
 magical      magnificent   magically   magnetic   magical

For the Correction of Omission  
 and Addition of Sounds

The pupils were given lists to study until each word was pronounced readily. This is the beginning of one list:

r-blend	l-blend	n-blend	s-blend
pay	pace	hut	top
pray	place	hunt	stop
tack	pay	let	fat
track	play	bent	fast
tap	pan	sad	pat
trap	plan	sand	pats

Words Commonly Confused:  
 Every, Very, and Ever

The children are given a story containing the words every, very, and ever several times with these instructions: "Put a line under very. Put a ring around every. Put two lines under ever."

One of the first books used was The Land of Happy Days. All study helps and tests were used. When the book was finished, the vocabulary at the close of the book was studied. The next class period the following words were written on the blackboard for each pupil to use in sentences in such a way that the meaning would be clear:

- |              |              |                |             |
|--------------|--------------|----------------|-------------|
| 1. chart     | 6. explosion | 11. property   | 16. snuggle |
| 2. companion | 7. fortunate | 12. realize    | 17. target  |
| 3. damage    | 8. injury    | 13. reflection | 18. vulture |
| 4. decay     | 9. inquire   | 14. scamper    | 19. wither  |
| 5. exit      | 10. nestle   | 15. scramble   | 20. zone    |

All of the pupils scored one hundred per cent with two exceptions, whose scores were forty and eighty-five.

#### Game of Word Building

In this game, which is a modification of "Authors," the pupils attempt to collect complete sets of cards containing all forms of several words used in the game. The game is especially for children who need to pay more attention to suffixes. The use of Gray's Oral Reading Paragraphs showed that all of the children needed this practice. The words used were determined by their mistakes in oral reading.

Cards of tag board were cut into sizes two inches by three inches. On each of four cards constituting a set, four forms of each word were printed, such as:

interest	interests	interested	interesting
interests	interest	interest	interest
interested	interested	interests	interests
interesting	interesting	interesting	interested

The first word on each card is the key word and is different for each card.

Any number of pupils may play this game. It was usually played by dividing the class into groups, the groups exchanging sets of cards after a few games. The cards are to be shuffled and four dealt to each player. The small pack left is placed face down upon the table. The first player calls for any of the three words which are listed below the key word on any card in his hand. If another player holds the card containing the called word as the key word, he must give it to the player calling for it. A player continues calling as long as he draws a card from another player. When he fails to get a card, he must draw from the pack on the table and then discard a card. That ends his turn. The object is to collect a complete set of books. The player who has collected the books at the close of the game is the winner.

#### Instruction for Improving Comprehension

Six methods were used in improving reading comprehension: (1) reading a paragraph or story and writing the main idea, (2) drawing inferences after part of a paragraph or story had been read, (3) reading to follow instructions, (4) writing titles for paragraphs or stories, (5) oral and written recall, and (6) answering questions.

The sixth one was the method used most frequently.

Children with attention and comprehension difficulties are helped by questions to be answered while they are reading. The questions were always arranged in the order in which the answers could be found. Most of the time the children studied a question, and then read until the answer was found. Questions used for written recall were not seen until the selection was read.

Several types of questions were asked, such as questions at the end of each paragraph. Some of these questions were direct; others were sentences with blanks to be filled in. Other questions were objective to be answered "true" or "false," or by multiple choice. Completion questions were often used. The hardest questions used were those calling for interpretation or evaluation.

#### Written Recall

The teacher read a short story. After a period of five minutes the children wrote the story in their own words. Sometimes they waited until the next day to reproduce the story.

#### Oral Recall

The pupils read stories from Animal Life and told them the next day. They did not tell the stories as well as they wrote the one they had heard read. Two of the poorer readers were unable to finish until they re-read their stories.



The stories reproduced below and similar ones were written on the board. After the children had read each story, it was erased; then they were given questions to answer about it.

### The Gorilla

There was once a young gorilla which was trained by a lady and a man. He learned to pull his chair up to the table and sit down. He ate very nicely. He liked to drink water from a glass. He knew how to turn on the water himself. He loved to play hide-and-seek just like children. He would laugh when he was being chased. One day he wanted to sit on the lady's lap. She said, "No, I have on my clean dress. You will get it dirty." He at once lay on the floor and began to cry. Then he looked around the room. He found a paper. He picked up the paper and put it on the lady's lap. Then he climbed up and sat down!

1. Was this animal stupid or wise?
2. Did he think when he got the paper?
3. Do children sometimes cry when they cannot do as they like?
4. He learned to eat \_\_\_\_\_.
5. He learned to play \_\_\_\_\_.

6. He learned to \_\_\_\_\_ on the \_\_\_\_\_.
7. He could drink \_\_\_\_\_ from a \_\_\_\_\_.

### Water Buffaloes

Water buffaloes have a strange custom of choosing one of their group as a watcher. The watcher is always alert to any signs of approaching danger while the herd is feeding or resting. If a tiger comes near, the watcher gives a loud bellow. He can smell a tiger when he is half a mile away. All the buffaloes get up when they hear this bellow. They put their horns close together. The tiger tries to get inside the circle to steal a young calf, but he cannot get through these horns. He is very angry. He roars loudly. All the jungle animals are frightened at the roar. They all fear the tiger. Some little animals come running out. They get inside the ring so the tiger cannot get them. Then the big buffaloes get ready to charge! The tiger knows he would be crushed under their feet. So he leaps away into the jungle!

1. Write a word that means something round.
2. Write a word that means baby buffalo.
3. Write a word that means to make a loud sound.
4. Write a word that means small.
5. Write a word that means jump.

6. Write a word that means to tramp on.
7. Write a word that means afraid.

Mr. Dog and Mr. Bear

Fill in the blanks with the correct words:

sky	thermometer	flakes
sweater	porch	tassel
village	ear	newspapers
Bear	cap	clouds
clothes		

Mr. Dog had been obliged to go to the \_\_\_\_\_ and buy himself a \_\_\_\_\_. It was bright crimson and very becoming, and Mr. Bear, who loved fine \_\_\_\_\_, had also purchased a scarlet and white skating \_\_\_\_\_ with a \_\_\_\_\_ that hung down over one \_\_\_\_\_ in a most engaging manner. So both Mr. Dog and Mr. \_\_\_\_\_ could hardly wait for cold weather to set in, and they spent a great deal of time running out to the \_\_\_\_\_ and looking at the outdoor \_\_\_\_\_. When they were not doing that, they were reading the weather reports in the \_\_\_\_\_ with attention or scanning the \_\_\_\_\_. At last their earnest watch was rewarded by the sight of large feathery \_\_\_\_\_ of snow lazily floating downward from a cold gray \_\_\_\_\_.

After a period of about seven months of remedial instruction, the Durrell-Sullivan Achievement Test and Gray's Oral Reading Paragraphs were repeated in order to measure the improvement in each child's reading achievement. The results of these tests are revealed in Tables 2, 3, 4, 5, and 6.

TABLE 2

PROFILE OF ERRORS OF THE FIFTH-GRADE CHILDREN OF  
 PERRIN COUNTY LINE SCHOOL ON GRAY'S ORAL  
READING PARAGRAPHS (FIRST TESTING)

Phase of Test	Pupil Number									
	1	2	3	4	5	6	7	8	9	10
Chronological age.....	10-11	10-0	9-8	9-8	11-6	11-0	9-9	9-11	10-9	10-11
Mental age.....	13-6	12-1	11-0	10-9	12-5	11-8	10-0	10-2	10-6	10-3
Intelligence quotient.....	123	121	114	111	108	106	103	102	98	94
Average reading grade.....	6.7	6.4	4.7	4.2	4.2	2.9	2.9	4.7	2.3	4.2
Errors:										
Faulty vowel.	2	8	4	0	1	3	0	4	0	4
Faulty consonant.....	1	7	9	1	1	3	2	3	1	4
Reversal.....	0	0	0	0	0	0	0	0	0	0
Addition of sounds.....	0	1	1	1	2	2	3	3	2	2
Omission of sounds.....	1	3	2	0	3	4	3	1	1	2
Substitution.	0	0	1	8	4	13	3	9	9	5
Repetition...	6	7	0	4	0	8	10	1	20	2
Addition of words.....	0	2	0	4	2	0	3	0	0	0
Omission of words.....	0	0	2	0	2	2	1	2	0	2
Refusals.....	13	0	10	5	6	11	5	0	5	10

TABLE 3

PROFILE OF ERRORS OF THE FIFTH-GRADE CHILDREN OF  
 PERRIN COUNTY LINE SCHOOL ON GRAY'S ORAL  
READING PARAGRAPHS (SECOND TESTING)

Phase of Test	Pupil Number									
	1	2	3	4	5	6	7	8	9	10
Chronological age.....	10-11	10-0	9-8	9-8	11-6	11-0	9-9	9-11	10-9	10-11
Mental age.....	13-6	12-1	11-0	10-9	12-5	11-8	10-0	10-2	10-6	10-3
Intelligence quotient.....	123	121	114	111	108	106	103	102	98	94
Average reading grade.....	8 $\frac{1}{2}$	8 $\frac{1}{2}$	7.7	5.4	8 $\frac{1}{2}$	4.5	4.9	6.4	4.4	6.1
Errors:										
Faulty vowels	0	1	1	2	1	0	1	1	0	0
Faulty consonants....	1	0	5	4	0	0	1	0	0	0
Reversals....	0	1	0	0	0	0	0	0	0	0
Addition of sounds.....	0	0	0	1	0	1	0	0	0	0
Omission of sounds.....	0	5	2	1	0	0	3	5	1	5
Substitution.	2	0	6	5	1	7	7	3	8	5
Repetition...	0	2	0	1	0	3	2	0	5	0
Addition of words.....	1	1	0	0	0	2	0	1	1	0
Omission of words.....	0	0	1	2	1	1	3	0	1	1
Refusals.....	12	3	4	10	10	10	9	9	10	9

TABLE 4

GAIN IN VOCABULARY AFTER REMEDIAL INSTRUCTION OF THE  
FIFTH-GRADE CHILDREN OF PERKIN COUNTY LINE SCHOOL  
ACCORDING TO SCORES ON THE DURRELL-SULLIVAN  
ACHIEVEMENT TEST

Pupil No.	C. A.	M. A.	I. Q.	Average Reading Grade Before Instruc- tion	Average Reading Grade After Instruc- tion	Number of Years Gained in Vocabu- lary
1	10-11	13-6	123	5.6	7.1	1.5
2	10-0	12-1	121	5.0	7.1	2.1
3	9-8	11-0	114	4.5	5.5	1.0
4	9-8	10-9	111	4.2	6.4	2.2
5	11-6	12-5	108	6.2	7.1	0.9
6	11-0	11-8	106	4.4	5.9	1.5
7	9-9	10-0	103	4.4	5.9	1.5
8	9-11	10-2	102	4.5	6.2	1.7
9	10-9	10-6	98	3.0	4.8	1.8
10	10-11	10-3	94	4.3	6.4	2.1

TABLE 5

GAIN IN COMPREHENSION AFTER REMEDIAL INSTRUCTION OF  
THE FIFTH-GRADE CHILDREN OF PERRIN COUNTY LINE  
SCHOOL ACCORDING TO SCORES ON THE DURRELL-  
SULLIVAN ACHIEVEMENT TEST

Pupil No.	C. A.	M. A.	I. Q.	Average Reading Grade Before Instruc- tion	Average Reading Grade After Instruc- tion	Number of Years Gained in Compre- hension
1	10-11	13-6	123	6.2	8.6	2.4
2	10-0	12-1	121	7.8	8.6	0.6
3	9-8	11-0	114	5.6	7.2	1.6
4	9-8	10-9	111	3.8	7.1	3.3
5	11-6	12-5	108	5.2	8.5	3.3
6	11-0	11-8	106	3.5	7.4	3.9
7	9-9	10-0	103	3.5	4.6	1.1
8	9-11	10-2	102	5.2	5.6	0.4
9	10-9	10-6	98	4.0	5.5	1.5
10	10-11	10-3	94	5.2	7.4	2.2



TABLE 6

GAIN IN READING ACHIEVEMENT AFTER REMEDIAL INSTRUCTION  
OF THE FIFTH-GRADE CHILDREN OF PERRIN COUNTY LINE  
SCHOOL ACCORDING TO SCORES ON THE DURRELL-  
SULLIVAN READING ACHIEVEMENT TEST

Pupil No.	C. A.	M. A.	I. Q.	Average Reading Grade Before Instruc- tion	Average Reading Grade After Instruc- tion	Number of Years Gained in Reading Achieve- ment
1	10-11	13-6	123	5.9	8.4	2.5
2	10-0	12-1	121	6.2	8.4	2.2
3	9-8	11-0	114	4.9	6.3	1.4
4	9-8	10-9	111	4.1	6.5	1.4
5	11-6	12-5	108	7.4	7.8	0.4
6	11-0	11-8	106	4.1	6.6	2.5
7	9-9	10-0	103	4.4	5.2	0.8
8	9-11	10-2	102	4.7	6.1	1.4
9	10-9	10-6	98	3.4	5.1	1.7
10	10-11	10-3	94	4.6	6.6	2.0

## CHAPTER V

### CASE STUDIES OF TYPICAL PROBLEMS IN READING

#### Introduction

This chapter consists of case studies of each child in the fifth grade. The case studies present data relating to the family background, personal traits, and reading problems of the children. The class was small because it was originally made up of pupils failing in the first grade when the twelve-grade system was started. Pupils A and F did not fail but became members of the class later.

Scores on all of the tests are given in grade equivalents.

#### Pupil A

Pupil A was a very attractive girl, well trained in speaking and in singing. Her intelligence quotient as measured by the California Test of Mental Maturity was 123. Her intelligence quotient on language factors was 117 and on non-language factors, 133. Pupil A was ten years and eleven months old. Her father was a welfare worker. The family, consisting of the father, mother, Pupil A, and a younger brother, lived with her paternal

grandparents. Both parents and grandparents had taught school. They were all talented musicians, and her grandfather was a well-known preacher. She had every advantage of a good cultural background.

She preferred active games and enjoyed going to football games. She went to the movies about twice a month. Reading was the subject she liked best. She had a good library. Look, Life, and Calling All Girls were her favorite magazines. For pets she had a dog and a chicken.

She did her work quickly and was very neat with her written assignments. She required very little individual instruction, although she liked attention. On the Durrell-Sullivan Capacity Test her score was 7.2. She scored 5.9 on the Achievement Test and 6.7 on Gray's Oral Reading Paragraphs. She repeated words when she was not sure of the meaning of a sentence and did not have any method of word attack. When she once heard a word pronounced, she usually remembered it. Her greatest difficulty in oral reading was reading too fast. Her desire to read to the class was the greatest factor in overcoming this difficulty. She was a leader in the class, and she wanted the children to think that she excelled in all of her studies.

She read many library books. She was able to make good scores on comprehension tests taken from seventh-grade reading materials. She liked fairy tales, animal stories,

and books written by Louisa Mae Alcott.

When the Durrell-Sullivan Achievement Test was repeated, her score was 8.4, a gain of 2.5. Her second score on Gray's Oral Reading Paragraphs was above the eighth grade.

#### Pupil B

This boy was the "book worm" of the class. Nothing would have pleased him better than to spend his entire time reading. He was ten years of age. He had the companionship in the home of one older brother and of a baby brother. The boys lived with their mother on a farm; the father worked in a shipyard in Oregon. His intelligence quotient on total mental factors was 121; on non-language factors, 102; and on language factors, 132. His capacity score on the Durrell-Sullivan Capacity Test was 6.5 and his achievement score on the Achievement Test was 6.2.

Reading was his favorite subject. He liked adventure stories best. He was very enthusiastic about the Dick Tracy radio program, and about "Western" movies. His work at home prevented him from reading as much as he would have liked. He enjoyed playing with boys his own age. His favorite game was baseball, but he was not a good player.

On Gray's Oral Reading Paragraphs his score was 6.4. Most of his mistakes were made on the last three paragraphs.

He read aloud very well, but he preferred to read silently. He did not want to take part in any class discussion or to illustrate any stories; but he did like to take part in any dramatization that was planned. He resented having to take tests on anything he had read. During the first two months, much of his work was returned to him to do again. He would skip part of the questions or his work could not be read. His attitude seemed to be that he could read well enough, so why should he have to be bothered with such things, when he had rather be reading. However, he was very much interested in increasing his vocabulary. He said that he did not like the science readers, but nevertheless he made some very interesting contributions to the class and seemed to enjoy them. He was the fastest silent reader in the class and made perfect scores on most of his comprehension tests after he understood that he was required to do them. He read at least one library book each week in addition to his other reading.

He made a score of 8.4 on the Durrell-Sullivan Reading Test the second time it was given and a score above the eighth grade on Gray's Oral Reading Paragraphs.

#### Pupil C

Pupil C was a very small, delicate child with precocious tastes in picture shows and radio programs. She and Pupil D were the youngest members of the class, being

nine years and eight months of age. Her father did construction work on government projects. There was one other child in the family, a small boy. Pupil C had been seriously ill several times, but at the time of the study her health was good.

She enjoyed reading but preferred that someone read to her. She disliked reading aloud unless she was reading a part in a play. Her favorite books were Tom Sawyer and Five Little Peppers. She read newspapers and magazines. She liked to play baseball and to jump the rope. She was well liked by all of her classmates.

The California Test of Mental Maturity gave her an intelligence quotient of 114. Her capacity according to the Durrell-Sullivan Capacity Test, was 5.5 and her reading achievement score was 4.9. On Gray's Oral Reading Paragraphs she made a score of 4.7. She was serious about her work and studied hard. Her mistakes in oral reading were faulty vowels and consonants. She would read "sprang" for "spring" and "agin" for "again." She sometimes skipped words she could not pronounce. Her comprehension of reading material was good; she always made high scores on her comprehension tests.

She was given individual help with her word analysis. Her word list was long at first, but she learned quickly

how to attack new words, and as she became more confident she read faster and did not skip words. She gained one year in vocabulary and one year, six months in comprehension. She began to enjoy reading aloud because she was not afraid of making mistakes. When the Durrell-Sullivan Test was repeated, her score was 6.3. Her second score on Gray's Oral Reading Paragraphs was 7.7, a gain of three years.

#### Pupil D

Pupil D, with an intelligence quotient of 111 and a reading capacity of 5.2, was one of the poorest readers in the class. On language factors his intelligence quotient was 116, whereas on non-language factors it was 103. He had two older sisters. His father worked in a bus station at Camp Wolters. Pupil D was small for his age and had been ill twice because of mastoid infection. He was absent from school for two or three days each time on several different occasions during the term. He went to a picture show every Saturday night. He enjoyed playing games like "Pollyanna" with his sisters and baseball with his father and the boys in his neighborhood. His time at home was spent in this way or in riding his horse. He never read at home but his sister read to him. She read My Friend Flicka. By the close of the school term, he had decided that he could read Thunderhead for himself.

He was a cousin of Pupil I, who was a year older and had an intelligence quotient of ninety-eight. He had no desire to do anything better than his cousin and wanted to be as nearly like him as possible. His favorite subject was arithmetic, but he was not very much interested in any of his school subjects.

His intelligence quotient on language factors was 116, and on non-language factors it was 103. His reading achievement score was 4.1 as measured by the Durrell-Sullivan Test, and his score on Gray's Oral Reading Paragraphs was 4.2. The errors he made were repetition, addition of words and of sounds. He and the other three boys in his group received more individual attention than the other children. They read orally for a part of each class period during the first three months of instruction. Reading in unison was very helpful in correcting Pupil D's difficulties.

When the Durrell-Sullivan and Gray's Tests were repeated, his scores were 6.5 and 5.4, respectively.

#### Pupil E

Pupil E was the oldest child in his class. He had an intelligence quotient of 108 and a reading capacity of 6.8. His intelligence quotient on language factors was 112; on non-language factors, 100. He was already reading above his capacity according to his score on the Durrell-Sullivan



Reading Achievement Test, which was 7.4. He was a handsome child, eleven and a half years of age, very agreeable, and well liked by his classmates. He enjoyed playing baseball, but he was not very active. He was the son of a farmer and the youngest child in the family. He had several married brothers and sisters. His mother was very nervous and kept him at home for company when she was not feeling well. He was absent at times because of slight illnesses. His attendance record was the reason for his being in a lower grade than he normally would have been.

He was a good silent reader but lacked confidence when reading aloud. His score of 4.2 on the Gray's Oral Reading Paragraphs was due largely to his slow reading since he made only a few mistakes. He read orally with the first group for three months. He was absent at least a third of this time. After improving his oral reading by the reading of easy materials, he read orally from books at his own level, and experienced very little difficulty. He was encouraged to read aloud to his mother.

When Gray's Oral Reading Paragraphs were repeated, his score was above eighth grade, which was a gain of four years. His score on the Durrell-Sullivan Reading Achievement Test at the second testing was 7.8, his vocabulary score being 7.1 and his comprehension score, 8.5.

## Pupil F

Pupil F was repeating the fifth grade although he was eleven years old and had an intelligence quotient of 106 and a reading capacity of 6.1. He was so slow that he seldom finished a task no matter how easy. He was very confident of his abilities and always had an alibi for not completing his work. He had been passed on from year to year because of his abilities rather than his achievement. He was behind the class in every subject except arithmetic. On the California Test of Mental Maturity his intelligence on non-language factors was 121, while on language factors it was only ninety-eight.

He was the oldest of a family of seven children. They lived on a small ranch and the father was away most of the time trucking and trading. His mother had taught school before her marriage. Pupil F assumed the responsibility of caring for the livestock and seeing after the smaller children. He prided himself on being a good rider and roper. By the time he arrived at school he was tired and preferred quiet games. He disliked to play ball because he was not a good player, and would make up excuses to keep from playing. The teacher talked to him about this, showing him that no one expects to excel in everything. Some of the

boys were good ball players, but not very many were good riders although most of them owned ponies. He began to play baseball and other games with the boys, and lost some of his antagonism toward them. He was more willing to work with his group in the classroom.

According to the Durrell-Sullivan Achievement Test, his reading achievement score was 4.1 and his score on Gray's Oral Reading Paragraphs was 2.9. Although he was a poor reader, he liked to read. His favorite book was Pinocchio. He had read it several times. He read aviation magazines and liked movies about army life. He preferred musical radio programs. Geography was his favorite subject.

He was given many easy books on second and third grade level with the instruction to read them just as fast as he could to get the meaning. He was given several books about foreign children which were easy to read. After reading a lesson silently, he would read it aloud to see how many lines he could read before making a mistake. He was encouraged to read to his brothers and sisters. At first he had no desire to improve his reading. He was able to plod slowly along and derive satisfaction from his reading and he saw no reason to want improvement. It became necessary to make him understand that he would not be passed any more on his ability because the work in the higher grades would be much too difficult for him. When he realized that his

alibis were no longer accepted, he began to put forth an effort to improve in reading. He was pleased with every evidence of success. He disliked to be placed with a faster reader, complaining that he missed the best parts of the stories, but he soon started to reading faster. He did not make many mistakes in his oral reading except in repetition and substitution of words. Choral reading and learning to analyze words helped to correct these difficulties. He made rapid progress in all of his school subjects.

When the Durrell-Sullivan Achievement Test was repeated, his score was 6.6. He scored only 4.5 on Gray's Oral Reading Paragraphs, but this was a gain of 1.6.

#### Pupil G

Pupil G was the only child of a prosperous farmer. His age was nine years and nine months. His father was stern and his mother over-indulgent. His eyes were very weak. His glasses needed changing, so he did not wear them often. He could not read very long without having the headache. He went to the picture show twice a week. He preferred "Western" pictures and read "Western" and detective stories at home. His favorite games were ball, particularly baseball; and he was a good pitcher. He liked to have his own way and would cause disturbances on the school ground if he was not kept busy. He was very careless about his work. His papers sometimes had to be returned to him the

second time before they could be read.

His intelligence quotient was 103, on language factors 103 and on non-language factors 100. His capacity for reading was 5.0. He made a score of 4.4 on the Durrell-Sullivan Achievement Test and 2.9 on Gray's Oral Reading Paragraphs. His mistakes were mostly repetitions. His low score was due to these repetitions and to slow reading. He was in the group which received the most individual instruction. He wanted to learn to read aloud so that he could read important parts in plays. His comprehension score was 3.5 on the Durrell-Sullivan Achievement Test. His reading was checked closely for comprehension. On one assignment in a science reader he lost his book and made up his answers to the list of questions. He was very indignant because he was told to re-write the assignment, but his score was high on the second paper.

At the close of the period of instruction his score on the Durrell-Sullivan Achievement Test was 5.2 and on Gray's Oral Reading Paragraphs, 4.9.

#### Pupil H

This boy was a very nervous child with little interest in school. He had no favorite subject but liked to read a "little." He had a charming family with a good family background. His father was a farmer. Pupil H had an older sister in high school and a brother who was a prisoner of

war in Germany. He had been wounded and the family was very worried about him. This tension was very apparent in Pupil H. He had many nervous mannerisms such as constantly moving his feet and making popping sounds with his mouth. He seemed to be unconscious of this. A touch on his arm would remind him and he would stop. Sometimes he would look up, smile, and say, "Was I doing it again?" He never quite overcame the habits, but by the close of the term he did not have to be reminded very often.

His favorite radio program was Fibber Magee and Molly. He went to a picture show every Saturday night. He liked active games, especially football and baseball. He was very popular with the other children.

His age was nine years and eleven months. On the California Test of Mental Maturity his score on total mental factors, non-language factors, and language factors was 102 for each. His reading capacity was 4.8, and his reading achievement was 4.7. On Gray's Oral Reading Paragraphs his score was 4.7. His mistakes in oral reading were mostly substitutions of words and mispronunciation of vowels. He would pause before a word and say, "Now let me see." His study of vocabulary and word analysis eliminated that.

His second score on Gray's Oral Reading Paragraphs was 6.4, and on the Durrell-Sullivan Achievement Test his score was 6.1.

## Pupil I

Pupil I was a happy-go-lucky child of ten years and nine months, with an intelligence quotient of ninety-eight. He did not like to go to school and did not like any of his studies. This was partly due to the fact that his eyes were weak. They became red and inflamed if he read for a class period. His mother neglected taking him to an optometrist. He had an older brother in the army and a sister in high school. His father was a bus driver at Camp Wolters. Pupil I liked hill-billy radio programs, and "Western" movies which he saw often. He spent his time while not in school playing in town or riding his pony. He liked baseball and was a very good player. He would not play with girls and often expressed that there were no girls in his class.

His intelligence was 108 on non-language factors and ninety-three on language factors. His reading capacity as measured by the Durrell-Sullivan Test was 5.1. His achievement score was 3.4; his score on vocabulary was three. On Gray's Oral Reading Paragraphs, his score was 2.3. His mistakes in oral reading were many repetitions, substitutions, and refusal because he had no idea about how to attack a new word. He stopped frequently in his reading to say, "Let's see" or "I don't know that word."

He was given individual instruction for several weeks.

He wanted to be a member of a group, so this motivated him to work harder. His most difficult problem was overcoming lip movement. This was not accomplished until the term was almost over. He became interested in increasing his vocabulary and in making high scores to be recorded on his comprehension graphs. He especially enjoyed word building games.

When he was retested he made a score of 5.1 on the Durrell-Sullivan Achievement Test and 4.4 on Gray's Oral Reading Paragraphs. He had gained 1.8 years in comprehension and 1.1 in oral reading.

#### Pupil J

Pupil J, ten years and eleven months old, was a quiet, retiring child with an intelligence quotient of ninety-four. Her intelligence quotient was ninety-four on language factors and ninety-two on non-language factors. She probably accomplished more in the light of her abilities than any other child in the class. She was an only child. Her father worked at Camp Wolters. According to the Durrell-Sullivan Achievement Test, she had a reading capacity of 5.5 and a reading achievement of 4.6. She said reading was her favorite subject although she did not like to read. She listened to plays over the radio, preferred love stories on the screen, and read pulp magazines at home.



Her favorite book was Poor Little Rich Girl. She liked active games, but she did not mix well with the other children.

Her score on Gray's Oral Reading Paragraphs was 4.2. She made several consonant and vowel errors, but did not seem concerned with her problems, which included the frequent omission or repetition of words from the reading context.

After a period of remedial instruction, her vocabulary increased from 4.3 to 6.4, and her comprehension from 5.2 to 7.4. Her second score on the Durrell-Sullivan Achievement Test was 6.6 and on Gray's Oral Reading Paragraphs, 6.1.

## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

In view of the data considered in this study, the writer arrived at the following conclusions:

1. The relationship between mental ability and reading achievement is high enough to be definitely significant and reliable. The correlation is not perfect enough to make individual predictions certain.
2. Many other factors other than intelligence influence reading achievement.
3. There is no one method of teaching remedial reading which is invariably the best one to be used. One type of reading difficulty may be helped by several methods.
4. Teachers of remedial reading must utilize many methods, adapting each to the individual or group needs.
5. Children who are poor readers must be given a large quantity of easy, interesting reading material.
6. Reading instruction is accepted more readily if the child realizes that it fills a need in his life.
7. Teachers should help children to develop meaning vocabularies so that their reading experiences may be

expanded and enriched.

8. Standardized tests supplemented by the teacher's observations and tests give an adequate diagnosis of reading disability. The remedial treatment which is most successful is designed to correct specific deficiencies.

9. If skilled individual instruction is given, the prognosis is favorable in most cases of remedial reading if the proper motivation can be given the pupil.

#### Recommendations

The following recommendations may prove of interest to teachers of remedial reading:

1. Every child must be considered as an individual whose character traits and problems differ from every other child.
2. There should be many interesting books available with a range wide enough to provide easy reading for each child in the class.
3. Children should be able to see some tangible proof of their improvement in reading.
4. An adequate testing program is of great value to a teacher of remedial reading.

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