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# Overview of reading disability

Martina McKeever

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AN OVERVIEW  
OF  
READING DISABILITY

by  
Martina McKeever

A RESEARCH PAPER  
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## CHAPTER I

### THE PROBLEM

#### Introduction

The nonreader has been with us since the dawn of literacy. No other educational problem has been so persistent, so frustrating, so rich in opportunity for scientific investigation, so prone to unscrupulous exploitation as reading disability.

More than fifteen thousand articles on the teaching of reading have appeared in professional journals in the last forty years; failure in reading is the largest single cause of school failure during the grade-school years. With so much attention devoted to the teaching and learning of reading, it seems anomalous that the problem of the nonreader remains with us.<sup>1</sup>

Educators, psychologists, and members of the various medical professions have become increasingly aware of the normal child who is not achieving at his learning expectancy level. Since the middle 1950's, educators have been developing quality, subject-centered educational programs for the schools. Approximately eighty-five percent of all school children have been able to succeed in these programs. However,

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<sup>1</sup>Donald E. Smith and Patricia M. Carrigan, The Nature of Reading Disability (New York: Harcourt, Brace and Company, 1959), p. 1.

about fifteen percent of the children have not been able to master fundamental reading skills and have thus become educationally retarded in other subjects which are primarily dependent upon reading ability.

Attention is now being directed to this group of poor readers. Knowledge concerning learning and reading disabilities and how to work with children having these problems is more abundant and accessible than it was several years ago. Many techniques and procedures for helping the remedial group are still in experimental stages but major breakthroughs in methodology have been made. Information and worthwhile ideas are being filtered down from the research and experimental levels to teachers and clinicians working with the moderate to severely disabled readers. However, even with this increased amount of information, there is still very little knowledge available about how to help the hard-core one to two percent of our children who have the mental capacity to learn but who are known as "non-readers" or "non-learners."<sup>2</sup>

From a variety of statistical information accumulated by the Office of Education regarding reading deficiencies throughout the country these shocking facts stand out:

(1) One out of every four students nation-wide has significant reading deficiencies.

(2) In large school systems up to half of the student read below expectation.

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<sup>2</sup>George Kaluger and Clifford Kolson, Reading and Learning Disabilities (Columbus, Ohio: Charles E. Merrill Publishing Company, 1969), p. 1.

(3) There are more than three million illiterates in our adult population.

(4) About half of the unemployed youths, ages 16-24, are functionally illiterate.

(5) Three-quarters of the juvenile offenders in New York City are two or more years retarded in reading.

(6) In a recent United States Armed Forces program called Project 100,000, 68.2 percent of the young men fell below Grade Seven in reading and academic ability.<sup>3</sup>

A word of caution is necessary in interpreting these figures, however. In the first place, not all pupils whose reading is appreciably below their grade level are reading disability cases. Some who are slow learners may be reading up to their capacity. Secondly, there is some failure among authorities to agree on the definition of a retarded reader. Perhaps 10 percent is a reasonable figure for the incidence of severe reading disability among school age children. If the less severe cases are included, the figures would be much higher. In any case, whether 5, 10, or 15 percent of pupils are disabled readers, the problem is serious and remedial work is indicated.<sup>4</sup>

The inability to read effectively, contaminating as it does every other dimension of education, is clearly one challenge deserving of our concentrated efforts. As we learn

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<sup>3</sup>Amelia Melnik and John Merritt, eds., Reading: Today and Tomorrow, (Morristown, New Jersey: General Learning Press, 1972), p. 441.

<sup>4</sup>Guy L. Bond and Miles A. Tinker, Reading Difficulties - Their Diagnosis and Correction, 3rd ed. (Englewood, Cliffs, New Jersey: Prentice Hall, Inc., 1973), p. 10.

to attack this deficiency co-operatively we will not only be getting at this foundation of learning, but will be gaining the strength and the skills to meet together many other educational problems.<sup>5</sup>

### Statement of the Problem

#### Purpose

The purpose of this investigation was to present the findings of outstanding specialists in the field of reading on the subject of reading disability, its causes, diagnosis, and methods of remediation. Although this writer's main interest was in the primary field, much of the literature surveyed dealing with reading difficulties did not specify grade levels. Therefore, when applicable to this investigation, articles dealing with reading difficulties in general were also cited.

#### Limitations

This study was limited to the examination of the literature concerning reading difficulties of children in the primary grades who have problems interpreting visual stimuli. These children were of average or above average ability and came from middle class homes. Literature involving investigations of intelligence and reading ability or social class and reading ability were not considered here.

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<sup>5</sup>Melnick and Merritt, eds., Reading: Today and Tomorrow, p. 441.

### Definition of Terms

Because of its complexity and the many successive stages of its development, some consider that one simple definition of reading will not suffice. They proceed to describe and define reading under a variety of headings: reading as skill development, as a visual act, as a perceptual act, as a thinking process, and reading as related to cultural background. Although it will be helpful to many readers to have these detailed aspects of reading called to their attention, it is surely also useful to have one overall definition, provided that it supplies a clear description of normal reading growth.

This author's definition of reading runs as follows: Reading involves the recognition of printed or written symbols which serve as stimuli for the recall of meanings built up through the reader's past experience. New meanings are derived through manipulation of concepts already in his possession. The organization of these meanings is governed by the clearly defined purposes of the reader. In short, the reading process involves both the acquisition of the meanings intended by the writer and the reader's own contributions in the form of interpretation, evaluation, and reflection about their meanings.<sup>6</sup>

Unfortunately there is no universal agreement as to the meaning of the terms remedial reading instruction and

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<sup>6</sup>Bond and Tinker, Reading Difficulties -- Their Diagnosis and Correction, 3rd ed., p. 22.

remedial readers. In its broadest sense the term remedial reading covers special instruction for those individuals whose reading achievement is X amount lower than their expected achievement based on measured intellectual capacity for learning. There is also no universal agreement as to the value of X. Figures cited in some research suggest that this criterion might be a range of from six months to two years difference between achievement and capacity.

It should be noted that such a broad definition does not differentiate pupils on the basis of what might have caused their lack of growth in reading. Some specialists in the field would prefer that "remedial" be reserved for those cases in which there is evidence that the major cause is neurological. Instruction involving other cases might then be labeled "corrective instruction."<sup>7</sup>

The child who achieves in accordance with his capacity and exhibits no retardation when his performance is compared with his mental ability, is termed a developmental reader. The comparison is with one's own capacity rather than with chronological age or grade placement. A child may be a fast learner, achieving far beyond the achievement level generally assigned to his grade placement but is reading up to his mental ability level. Another child could be of average ability and be doing the reading expected of his particular grade. In each of these three cases, the child

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<sup>7</sup>Arthur W. Heilman, Principles and Practices of Teaching Reading (Columbus, Ohio: Charles E. Merrill Publishing Company, 1972), p. 552-53.

is achieving in line with his capacities; hence, each is considered a developmental reader.

The corrective reader is one who experiences some minor difficulty in reading. He is reading slightly below his mental age level, generally not more than one year. He may be having difficulty with a particular word attack skill or may be experiencing difficulty with comprehension. He may have one or more defects in an otherwise normal pattern of reading skills. He would be classified as a corrective reader. Corrective readers are not considered serious problems and can be helped by the classroom teacher. The teacher merely has to identify the child's specific weakness in reading and then select and apply the appropriate method and materials needed to provide corrective therapy. This is not "remedial reading" in the strictest sense of the word.

The remedial reader is a seriously disabled reader, one who is reading at a level far below his capacity, and who is experiencing difficulty in progressing under normal learning conditions. The remedial reader is one who can learn but is not learning. He would be a child who can comprehend material read to him which is at a higher level than he can read and understand for himself. This child is handicapped by severe reading defects. A child who is mentally retarded will not be reading on his chronological age level, but he cannot be listed as a remedial reader until he is reading significantly below his mental age.



There must be a discrepancy between mental ability and accomplishment for any child to be considered a remedial reader. This discrepancy must be more than one year. The measures of retardation in reading development which are considered indicative of possible need for remedial reading instruction are as follows:

<u>GRADES</u>	<u>BEHIND IN READING</u>
1,2	3-6 months
3,4	6-8 months
5,6	9 months - 1 year
Junior High	1 year - 1½ years
Senior High	1½ years - 2 years <sup>8</sup>

The term dyslexia is often used to refer to a severe reading disability. In this paper, dyslexia was specifically defined as: the inability to read or obtain information from printed symbols in a normal way or in a way compatible with an individual's intelligence level.<sup>9</sup>

#### Summary

The purpose of this investigation was to present the recent findings on the subject of reading disability, its causes, diagnosis, and methods of remediation. The

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<sup>8</sup>Kaluger and Kolson, Reading and Learning Disabilities, pp. 46-48.

<sup>9</sup>Eugene M. Helveston, "Dyslexia and the Eye," Claremont Reading Conference 37th Yearbook, ed. by Malcom P. Douglass, (Claremont, California: Claremont Reading Conference, 1973), p. 200.

examination of literature was limited to that dealing with children in the primary grades from middle class homes and of average or above average intelligence who are having difficulty interpreting visual stimuli.

Reading has been defined as the recognition of printed or written symbols which serve as stimuli for the recall of meanings built up through the reader's past experience. Therefore, reading involves both the acquisition of the meanings intended by the writer and the reader's own contributions and reflection about their meanings.

The child who achieves in accordance with his capacity and exhibits no retardation when his performance is compared with his mental ability is termed a developmental reader. The corrective reader is one who experiences some minor difficulty in reading and is reading slightly below his mental age level, but usually not more than one year. The remedial reader is a seriously disabled reader, one who is reading at a level far below his capacity, and who is experiencing difficulty progressing under normal learning conditions. The remedial reader is one who is able to learn but is not learning and is reading at least one year below his mental age. The dyslexic is one who is unable to read or obtain information from printed symbols in a normal way or in a way compatible with an individual's intelligence level.

With the above thoughts in mind, then, this investigation into the literature on reading difficulties will begin with the following chapter concerning the nature of reading and its process.

## CHAPTER II

### THE NATURE OF READING

McCullough, Strang, and Traxler state that reading is many-sided. They consider reading a visual task involving sensation and perception. Reading is a psychological process; it involves fusing symbols with their meanings to comprehend an author's thought. Reading is a complex and unique experience involving the organism as a whole. It is a pattern of activities which varies with the reader's purpose and the kind of material which he is reading. Reading is one of several means of learning. It is an avenue of communication related to looking, talking, listening, and writing, which complement one another in many ways.

The above authors further state that a person's previous experience in reading not only gives meaning to the words read but also, by creating a certain expectancy and readiness, partly determines the emotional tone of the situation and his response to it. He perceives the new situation as pleasurable or threatening, as something in which he will succeed or as something in which he will fail.<sup>1</sup>

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<sup>1</sup>Constance Mary McCullough, Ruth Strang, and Arthur E. Traxler, Problems in the Improvement of Reading, 2d ed., (New York: McGraw-Hill Book Co. Inc., 1955), p. 62.

### The Process of Reading

According to Goodman and Niles, certain evident aspects of the process of reading are: (1) Reading begins with graphic language in some form: print, script, etc. (2) The purpose of reading is the reconstruction of meaning: Meaning is not in print, but it is meaning that the author begins with when he writes. Somehow the reader strives to reconstruct this meaning as he reads. (3) In alphabetic writing systems there is a direct relationship between oral language and written language. (4) Visual perception must be involved in reading. (5) Nothing intrinsic in the writing system or its symbols has meaning. There is nothing in the shape or sequence of any letters or grouping of letters which in itself is meaning. (6) Meaning is in the mind of the writer and in the mind of the reader. (7) Yet readers are capable through reading of reconstructing a message which agrees with the writer's intended message.<sup>2</sup>

It has often been said that reading is an active process. Good reading is a searching out, a reaching for meaning. The child must go to the printed page with an anticipation, with questions, with specific intent. A person turns to a newspaper for the purpose of finding out what has happened recently. He searches the headlines and chooses a story that arouses his curiosity. He reads the story in order to find out what the headline means. He gets real

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<sup>2</sup>Kenneth S. Goodman and Olive S. Niles, Reading Process and Program, with a foreword by John C. Maxwell (Champaign, Illinois: National Council of Teachers of English, 1970), p. 5.

meaning from what he reads because he has asked questions as he has gone along.

In reading, visual symbols are employed to represent auditory symbols. The basic task in reading is therefore to establish in the mind of the reader automatic connections between specific sights and the sounds they represent. Since the sounds themselves are symbols of meanings, the process of reading involves a hierarchy of skills ranging from sensation (as the eyes via the optic nerve serve as reporters to the brain of what is recorded in writing through perception (when the mind attaches meaning to what is reported as a sensation). How the mind interprets the visual stimuli will depend primarily on the background of experience of the reader - on what the reader brings to the written material. Mental activities involved in reading include such higher thought processes as association between symbols and meaning, memory, organizing, making references, predicting outcomes, judging the accuracy of statements, arriving at generalizations. Thus, reading is both a visual activity and a thinking process.

In approaching written or printed material the child typically converts the visual shapes of letters and words into their corresponding sounds. At the beginning he probably utters the sounds aloud and to himself. The sounds then evoke in his mind the images and meanings they represent. As he gains proficiency, he depends less and less on the sound "bridge" between visual stimulus and meaning, although a faint awareness of speech sounds is probably always present

in reading. If the sound images continue to be prominent in the child's reading, he will develop habits of vocalization and possibly lip movement. Both speed and comprehension may then suffer. The connection between visual stimulus and meaning must become as direct as possible as soon as possible.

The eyes of the efficient reader move across the line of writing in a series of rhythmical leaps referred to as saccadic movement. They stop, move, stop, move, as reading along a line of writing progresses. The stops or fixations, that the eye makes between the saccadic movements are referred to as the interfixation movements. The fixation time constitutes by far the greatest proportion of the time spent reading - probably over 90 percent of it, while the time of the movement of the eyes from one fixation to the next is less than 10 percent of the total. The part of the line that a reader perceives at a fixation is called the perception span. The length of the perception span and consequently the number of fixations per line are determined to a large extent by the difficulty (for the reader) of the material and by the purpose the reader has.

In the initial stages of reading the child's eyes may wander over the page in search of familiar words. As competence grows, under the skilled guidance of the teacher, he learns to confine his observation to one line at a time and to move in an habitual progression from left to right. At first, the duration of each fixation will tend to be relatively long, perhaps as much as nine-tenths of a second.

There will be many fixations per line. There will be many regressive movements in which the reader will make return movements to words that were not recognized or comprehended the first time. When a word gives special difficulty, there may be many regressions and the ophthalmograph, an instrument which makes motion picture records of eye movements in the process of silent reading, would show a period of confusion. After much experience, and especially when interest is high, the duration of each fixation will decrease and the number of fixations per line will become steadily smaller. Eventually as the child masters the basic skills and increases his stock of words recognized at sight, he becomes able to read each line in a fairly regular, rhythmic series of fixations, with a minimum number of regressive movement.

Differences in eye movements of effective and ineffective readers can be summarized by stating that the effective reader, compared with the less effective one has more rhythmic (less jerky) saccadic movements, makes less fixations per line, makes fewer aimless regressions, and has a more accurate return sweep.<sup>3</sup>

#### Components of Reading

Dallmann et al. consider the two components of reading to be word recognition and comprehension. They also

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<sup>3</sup>Martha Dallman, Roger L. Rouch, Lynette Y. Chang, and John J. Deboer, The Teaching of Reading, 4th ed., (New York: Holt, Rinehart, and Winston, Inc., 1974), pp. 17-20.

state that Gray<sup>4</sup> includes reaction and fusion. By reaction he refers to the reaction of the reader to what he has read. This aspect of reading may be thought of as critical reading. By fusion he refers to assimilation of ideas gained through reading with the reader's former experiences. Like many other specialists in the field of reading who have been interested in determining the components of reading, Gray emphasizes the four aspects he identifies--word recognition, comprehension, reaction, and fusion--have interactions one on the other and, frequently, when efficient reading is taking place, are not dealt with by the reader as separate components.

Not all writers concur with Gray in their designations of these aspects in reading. There are other classifications of the components of reading. Regardless of which is accepted, it is evident that reading is not a simple activity.<sup>5</sup>

Reading is a challenge to the teacher because it is such a complex process. Reading is not a general ability but a composite of many specific abilities. It is therefore necessary to break down general comprehension into the specific skills that constitute it. It is necessary to inquire how well the child is able to grasp the general meaning of a passage; how well he can differentiate between fact and

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<sup>4</sup>William S. Gray, "The Major Aspects of Reading," Sequential Development of Reading Abilities, ed. by Helen M. Robinson, Supplementary Educational Monographs, No. 90, (Chicago: The University of Chicago Press, 1960), pp. 8-24.

<sup>5</sup>Dallmann et al., The Teaching of Reading, pp. 16-17.



and opinion; how well he can follow directions; how well he can interpret maps, graphs, and tables; how well he can organize what he reads and classify ideas; how well he can visualize what he reads; and how well he can locate information.

A single reading skill, although a very important one, well illustrates the complexity of reading. Any teacher who undertakes to cultivate, for example, children's critical discrimination in reading finds that he is dealing with a whole cluster of abilities that often need special attention. Among these are classifying ideas, distinguishing between fact and fancy, establishing cause and effect relationships, making generalizations, interpreting idiomatic and figurative language, making inferences, recognizing emotional reactions and motives, judging relevancy, and drawing general conclusions.<sup>6</sup>

#### Summary

The nature of reading was discussed in this chapter as a complex experience involving the child as a whole. An attempt was made to describe the aspects of the process of reading. Though all authors do not agree on the components of reading, most agree that word recognition and comprehension are two vital components. Regardless of which components of reading are accepted, all authors agree that reading is a complex activity.

The various causes of reading disability proposed by specialists will now be investigated in Chapter III.

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<sup>6</sup>Ibid., p. 7.

## CHAPTER III

### THE CAUSES OF READING DISABILITY

The vast literature on the causation of reading disability indicates that there is no single explanation or etiology. Major causes include physical, intellectual, emotional, neurophysical, and environmental conditions. Obviously if there are significant intellectual or physical deficits, there will be a serious learning difficulty. This investigation, however, is not primarily concerned with children who have organic defects. The main interest here is in children whose reading ability is significantly below their potential because of emotional, neurophysical, or environmental reasons. To distinguish the relative contribution of these separate components is a complex task.

The issues remain clouded first because philosophical orientations concerning child development vary. Accordingly, each investigator regards causation, diagnosis, and treatment of reading disability from his own vantage point. In addition, each one tends to explore the disorder in light of his own specialty: neurologists are inclined to correlate deficits with the biological aspects of language and perceptual disorder; psychologists investigate the phenomenological features of perception, motivation, attention, and emotion; social psychologists and educators try to understand behavioral characteristics in relation to the child's

environment.<sup>1</sup>

Bond and Tinker agree that the possible causes of reading disability are numerous. They feel that a single factor seldom causes reading disability. In all but the mildest cases the difficulty is due to a composite of related conditions. The contributing factors interact as part of a pattern.<sup>2</sup>

#### Physical Causes of Reading Disability

Heilman<sup>3</sup> offers the following physical handicaps as possible causes of reading disability: impaired vision, hearing loss or a lack of facility in auditory discrimination, lack of energy to apply to the learning task, inadequate attention span, absence from school due to illness at crucial instructional periods and specific language disability stemming from physiological impairment.

#### Vision

Although the evidence concerning the relation between specific eye defects and reading disability is not unequivocal, certain relevant trends appear. (a) Eye defects appear frequently among both good and poor readers and can be a handicap to a child in either group. Comfortable and

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<sup>1</sup>Gladys Natchez, ed., Children With Reading Problems, Selected Readings, (New York: Basic Books Inc. Publisher, 1968), pp. 23-24.

<sup>2</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 157.

<sup>3</sup>Heilman, Principles and Practices of Teaching Reading, p. 559.

efficient vision should be provided for all children whenever possible. (b) Positive evidence indicates that farsightedness, binocular incoordination, fusion difficulties, and aniseikonia may contribute to reading disability in certain cases. When a visual defect is present, there are usually other associated contributing causes. (c) Visual examinations are essential in diagnosing causes of reading disability.<sup>4</sup>

Griffin and others compared a group of inadequate readers with adequate readers on measures of saccadic eye movements. Saccades are discussed as a possible contributing cause of reading problems rather than the traditional view that they are primarily or solely the result of reading experience. Nonreading as well as reading materials and tasks were used. Inadequate readers, using nonlanguage materials which eliminate comprehension tasks, showed the following differences: (1) They had less efficient saccadic eye movement, in spite of the fact that the decoding of words and comprehension had been eliminated. (2) They had significantly more regressions. (3) They had statistically greater variability with wider ranges and larger standard deviations. Skipping and omitting materials as well as a tendency to overfixate characterized this group.<sup>5</sup>

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<sup>4</sup> Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 157.

<sup>5</sup> Donald C. Griffin, Howard Walton, and Vera Ives, "Saccades as Related to Reading Disorders," Journal of Learning Disabilities 7 (May 1974): 310-16.

In addition to the mechanical aspects of vision, certain visual perceptual abilities must be present: the ability to draw generalizations concerning likenesses and differences of forms, the ability to minimize the importance of size and the ability to distinguish figure from background.<sup>6</sup>

### Hearing

Hearing impairment can be a handicap in learning to read also. This is particularly true when the hearing loss is severe enough to interfere with normal auditory discrimination. The evidence indicates that hearing impairment may be associated with reading disability as a contributing cause when (a) the hearing loss is severe, (b) the child has high tone deafness, and (c) pupils with hearing loss are taught reading by predominantly auditory methods. All pupils who become reading disability cases should have a hearing test.<sup>7</sup>

Although research results are inconclusive, it is generally accepted that auditory problems can be contributing causes to reading disability. The order of vocabulary development is from understanding vocabulary (hearing) to speaking vocabulary which depends so much on hearing is hampered then speaking and ultimately reading vocabulary will be affected.

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<sup>6</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 116.

<sup>7</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., pp. 158-59.

In addition, a child must develop the skills to make fine discriminations between sounds which must be discriminated properly if the child is to respond in a desired manner to the sentence, "Pat the little dog." Part of the reading is knowing the sounds signaled by language symbols. A child who has not learned this skill cannot attach sounds to printed symbols.<sup>8</sup>

### Motor Ability

Although motor incoordination is sometimes associated with reading disability, causal relationship has not been established. Both the motor incoordination and reading disability may be due to some basic condition such as minor birth injuries.<sup>9</sup>

Recently studies have begun to appear correlating poor motor coordination with reading disability. Kephart gives many suggestions for developing those motor skills prerequisite to reading.<sup>10</sup> A study by Bond found a significant correlation between poor motor coordination and reading disability.<sup>11</sup> Kirschner<sup>12</sup> seems to feel motor

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<sup>8</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 116.

<sup>9</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 158.

<sup>10</sup>Newell Kephart, The Slow Learner in the Classroom, (Columbus, Ohio: Charles E. Merrill Publishing Co., 1960).

<sup>11</sup>Bond and Tinker, Reading Difficulties, Their Diagnosis and Correction, (New York: Appleton-Century-Crofts, 1967).

<sup>12</sup>M. W. Brenner and S. Gillman, "Verbal Intelligence, Visuomotor Ability, and School Achievement," The British Journal of Psychology Vol. 38, Part I (February 1968), pp. 75-78.

coordination should be checked and developed before actual remedial training is started. Brenner and Gillman<sup>13</sup> found pupils with good verbal ability but with very poor visual motor performance were likely to be severely handicapped in reading whether age 10 or 17.

### Speech

Defects in articulation which complicate word discrimination and recognition may contribute to reading disability. Any severe emotional involvement created by speech defects tend to inhibit effective progress in learning to read.<sup>14</sup>

Smith and Dechant also feel that speech defects tend to be related to reading deficiencies and poorer achievement, especially in oral reading. Such defects make word recognition and word comprehension more difficult. Speech defects rarely seem to cause reading failure but more often are symptoms of underlying disturbances; reading failure seems to be an additional symptom.<sup>15</sup>

### Pregnancy

Defective intrauterine development, injury at birth, acute infection, disease in infancy, and defective postnatal

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<sup>13</sup>W. Labov and C. Robins, A Note on the Relations of Reading Failure to Peer-group Status in Urban Ghettos, (New York: Columbia University Press, 1967).

<sup>14</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 158

<sup>15</sup>Smith and Dechant, Psychology in Teaching Reading, (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1961), p. 175.

development have been pointed out by many workers<sup>16</sup> as factors related to reading disorders.

Kawi and Pasamanick hypothesized that a continuum of reproductive casualty extends from fetal deaths (abortion, stillbirth, and neonatal deaths) through a descending gradient of brain damage manifested in cerebral palsy,<sup>17</sup> epilepsy,<sup>18</sup> mental deficiency,<sup>19</sup> and behavior disorders in childhood.<sup>20</sup> In addition, a significant predominance of cases in males over females was discovered.<sup>21</sup>

In a study conducted by Kawi and Pasamanick the prenatal and paranatal records of 372 white male children with reading disorders born in Baltimore between 1935 and 1945

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<sup>16</sup>A. F. Bronner, Psychology of Special Abilities and Disabilities, (Boston: Little, Brown, and Co., 1917).

<sup>17</sup>A. M. Lilienfeld and B. Pasamanick, "Association of Maternal and Fetal Factors With Development of Cerebral Palsy and Epilepsy," American Journal of Obstetrics and Gynecology 70 (July 1955): 93-101.

<sup>18</sup>A. M. Lilienfeld and B. Pasamanick, "Association of Maternal and Fetal Factors With Development of Epilepsy: I. Abnormalities in Prenatal and Paranatal Periods," Journal of the American Medical Association 155 (Jun 19, 1954): 719-24. B. Pasamanick and A. M. Lilienfeld, "Maternal and Fetal Factors in Development of Epilepsy: Relationship to Some Clinical Features of Epilepsy," Neurology 5 (February 1955): 77-83.

<sup>19</sup>B. Pasamanick and A. M. Lilienfeld, "Association of Maternal and Fetal Factors With Development of Mental Deficiency: I. Abnormalities of Prenatal and Paranatal Periods," Journal of the American Medical Association 159 (September 17, 1955): 155-60.

<sup>20</sup>B. Pasamanick and M. E. Rogers and A. M. Lilienfeld, "Pregnancy Experience and Development of Behavior Disorder in Children," American Journal of Psychiatry 112 (February 1956): 613-18.

<sup>21</sup>Ali A. Kawi, and Benjamin Pasamanick, "Association of Factors of Pregnancy With Reading Disorders in Childhood," The Psychology of Learning and Reading Difficulties, ed. by Harold A. Solan, pp. 205-206.



were compared with the records of a similar number of matched controls. The results of this study appear to indicate that there exists a relationship between certain abnormal conditions associated with birth and the subsequent development of reading disorders in the child. Children with reading disorders had a significantly larger proportion of premature births and abnormalities of the prenatal and perinatal periods than their control subjects. The toxemias of pregnancy and bleeding during pregnancy constituted those complications largely responsible for the differences found between the two groups. This investigation suggests that some of the reading disorders of children constitute a component in the continuum of reproductive casualty, previously hypothesized to be composed of a lethal component, consisting of abortions, stillbirths, and neonatal deaths, and a sublethal component, consisting of cerebral palsy, epilepsy, mental deficiency, and behavioral disorders in children.<sup>22</sup>

Reading disorders were found in this study to be significantly associated with maternal and fetal factors thought to be related to cerebral injury. Finding such an association does not necessarily establish its etiological character. However, in this study an effort was made to control for factors other than those under study and to equate the two groups as nearly as possible from the environmental point of view.<sup>23</sup>

Smith and Dechant mention that physical conditions that lower vitality, such as glandular dysfunction, vitamin

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<sup>22</sup>Ibid., p. 212.    <sup>23</sup>Ibid., p. 211.

deficiencies, and nutritional and digestive problems generally are associated with a reduction in efficiency.<sup>24</sup> Bond and Tinker also state that in certain cases, glandular dysfunction, particularly hypothyroidism, may contribute to reading difficulties.<sup>25</sup>

#### Neurological Causes of Reading Disability

The term neurological damage is obscure. It can range from gross to minimal difficulty in integration and patterning dysfunctions, or these can be varying degrees of perceptual and intellectual deficits. Secondly, the distinction between organic impairment on one end of the continuum and maturational lag on the other, is particularly undifferentiated and often defies discrimination, even when it is not complicated by attendant feelings of inadequacy. This occurs because of the wide variation and unevenness in growth processes and the uncertainty as to whether the abilities are latent or lacking.

In examining the relationship of neurological factors as related to reading, it is known that there are certain developmental patterns which are crucial; in fact they are considered a measure of the child's "reading readiness." Whereas readiness assumes the prior development of sufficient mental age, language experience, perceptual factors, physical growth, and emotional stability, it also assumes the

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<sup>24</sup>Smith and Dechant, Psychology in Teaching Reading, pp. 175-76.

<sup>25</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 158.

more recent maturation of those areas directly related to word recognition. Factors of particular importance are visual and auditory discrimination and the ability to integrate the two modalities.

Some pupils who have achieved satisfactory visual and auditory discrimination cannot integrate the two in figuring out words. This means if they hear the teacher pronounce a word slowly such as f-a-n, they cannot recognize the word. Neither can they figure out a printed word even though they know all the separate sounds. Apparently this requires a high degree of physical integration.

Another aspect of children with deviant development in this area concerns the matter of dominance and directional confusion. Although rarely a major causal factor, in Natchez's opinion, it has received concentrated attention of late. Dominance or laterality is the preferred use of one side of the body. Most of us are right-handed, right-eyed, right-footed and so forth, or consistently left-sided. Individuals also display mixed dominance, that is, they may be right-handed and left-eyed or they may not show any distinct preference for one hand over the other. Orton was the classic proponent of the dominance theory; he suggested that when an individual does not develop consistent dominance, he is prone to confusion in reading which results in reversal tendencies such as reading "was" for "saw."

Directionality on the other hand is awareness of right and left outside the body. It is the ability to project direction into space. For example, if one becomes uncertain

in following the command, "Drive the car to the right," he has difficulty with spatial orientation. He cannot stabilize directional sequence. When children have this difficulty, it often affects language areas. For instance, they mix up words, saying ostekra for orchestra, read unelse for unless and write calm for clam. According to some investigators, directionality is of far greater significance in reading disability than dominance.

Since all these abilities are directly related to the child's constitutional endowment, those who grow slowly or whose development is seriously delayed will find it difficult to profit from regular reading instruction. If the instructional tempo is too fast or the child simply cannot perceive differences in symbols with sufficient accuracy when he is first exposed to them, reading will probably be delayed. Sometimes the abilities do not develop fully until nine, eleven, or even later, without there being an indication of pathology. Unfortunately, however, when the child's growth is decidedly uneven he is often mistakenly labeled as "brain damaged," or "suffering from a serious perceptual disorder."<sup>26</sup>

Smith and Dechant also state that neurological lesions or cerebral imbalance may impair both reading and speech and may influence handedness. There is a high incidence of brain injury among clinical reading disability cases.

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<sup>26</sup>Natchez, ed., Children With Reading Problems, Selected Readings, pp. 26-27.

These authors also feel that left, lack of, or mixed cerebral dominance seems to have some relation to reading disability. Mixed laterality frequently seems to be related to retarded speech and retarded linguistic development. The left-handed child and the ambidextrous child find it less natural to proceed from left to right and consequently may find it harder to understand the orientation of words.

Reversals that continue beyond the second grade are associated with poor reading achievement. Regardless of their interpretation--as symptoms of incomplete, left, or crossed dominance, or as spatial disorganization and figure-ground disturbances--they are nevertheless symptoms of underlying difficulties.<sup>27</sup>

#### Dyslexia

There exists a condition of constitutional severe reading disability, a disposition, which may be innate, to encounter extreme difficulty in learning to read which is not the result of adverse circumstances in home or school, or of poor intelligence, or even necessarily of linguistic deficiency. It is this condition which has been regarded as specific developmental dyslexia.<sup>28</sup> Dyslexia is not an "all or none phenomenon;" an individual may be minimally, profoundly, or moderately affected. This condition also

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<sup>27</sup>Smith and Dechant, Psychology in Teaching Reading, pp. 175-76.

<sup>28</sup>Magdalen Dorothea Vernon, Reading and Its Difficulties; a Psychological Study, (Cambridge, England: Cambridge University Press, 1971), pp. 124-25.

may be primary and constitutional or secondary to physical or environmental factors. The primary form is probably hereditary affecting males more often than females.<sup>29</sup> Studies made in clinics invariably show a greater percentage of boys than girls classed as remedial readers. Some have postulated the theory that since reading is a passive subject, it has more affinity to girls whose early training is geared toward passivity play, i.e., dolls, house, cooking, whereas, passive reading is diametrically opposed to the hyperactive type of early training of boys, i.e., wrestling and tree climbing. Sex differences are greater in first grade in favor of girls, than they are in third grade.<sup>30</sup>

The secondary form may be endogenous as the result of minimal brain damage or exogenous from poor teaching or cultural deprivation. The latter is not a true form of dyslexia, and may be more appropriately called reading retardation. Still other individuals may be inefficient readers from physical causes which may be related to the eyes.

The most significant aspect of true dyslexia in any of its forms is that the affected individual has a defect in the central decoding process which is integral in the act of reading. He sees objects, he feels objects, he smells objects, etc., but he is unable to process the word

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<sup>29</sup>E. M. Helveston, "Dyslexia and the Eye," Claremont Reading Conference 37th Yearbook, ed. by Malcolm P. Douglass, (Claremont, California: Claremont Reading Conference, 1973), p. 200.

<sup>30</sup>R. G. Stouffer, "Do Sex Differences Affect Reading?" The Instructor, (May, 1968), p. 25.

"cow" as seen on the printed page and cause it to mean the same thing as when he sees the four-legged animal in a farmer's field munching grass.

Dyslexia should not be confused with slow reading, poor reading, eye fatigue, etc. While certain individuals read less well and more slowly than others, they must not be labelled as dyslexic unless they meet the specific diagnostic criteria of the dyslexic. The diagnosis of dyslexia starts with a poor reader and then requires specialized testing which shows that this individual has a certain level of intelligence but that he cannot read commensurate with this level of intelligence. The dyslexic individual also makes reading errors which are characteristic in that he appears to "see" words improperly. The dyslexic makes "Koenig" "Koeing" but cannot pick up the misspelling "solw." The ability to perform arithmetic problems well, while at the same time being a poor reader is a frequent but not constant occurrence in dyslexia. Poor spelling is almost always present in the dyslexic. Minor but characteristic neurological impairment is usually seen in dyslexia, but the subtlety of these findings demand an experienced examiner. It may be said that the diagnosis of dyslexia is an exercise of exclusion, therefore, a team approach is essential.<sup>31</sup>

It has been suggested that there exists a hereditary disposition towards dyslexia, or perhaps towards the immaturity in neurological patterning on which dyslexia may depend.

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<sup>31</sup> Helveston, "Dyslexia and the Eye," pp. 200-201.

The most notable exponent of the inheritance of dyslexia was Hallgren.<sup>32</sup> He studied over 200 dyslexic children and their family histories, and claimed that in all but thirteen cases there was some evidence of reading disability in parents, siblings or other relatives. It appeared that the disability might be a Mendelian dominant, since in some cases it was reported as occurring in three successive generations. Few other investigators have claimed so high an incidence of inherited disability, though Herman<sup>33</sup> reported that 'information related to heredity' had been elicited in more than 90 percent of his cases. In other studies, it has more commonly been stated that some cases exhibit a hereditary disposition. Thus Doehring<sup>34</sup> found that 40 percent of the parents of his dyslexic children had experienced reading problems, as against 10 percent of normal controls. Newton<sup>35</sup> found genetic factors in 55 percent of her cases. But DeHirsch, Jansky, and Langford<sup>36</sup> obtained no significant correlations between reading achievement and any familial characteristics.

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<sup>32</sup>B. Hallgren, "Specific Dyslexia," Acta Psychiatric Neurological Supplement, No. 65, 1950.

<sup>33</sup>K. Herman, Reading Disability, (Copenhagen: Munksgaard, 1959).

<sup>34</sup>D. G. Doehring, Patterns of Impairment in Specific Reading Disability, (Bloomington: Indiana University Press, 1968).

<sup>35</sup>M. Newton, "A Neuro-psychological Investigation into Dyslexia," Assessment and Teaching of Dyslexic Children, ed. by A. W. Franklin and S. Naidoo, (London: Invalid Child's Aid Association, 1970).

<sup>36</sup>K. DeHirsch, J. Jansky, and W. Langford, Predicting Reading Failure, (New York: Harper and Row Publishers, 1966).



Emotional

Reading disability is usually accompanied by emotional involvement which adversely affects the personal and social adjustment of the child. This personality maladjustment may be due to constitutional factors, to pressures in the child's environment, or to failure in reading. In a relatively small number of cases, the child is emotionally upset when he arrives at school. Such a child is apt to encounter difficulty in reading. In many cases, the frustration arises from failure to learn to read. In these cases the reading difficulty causes the emotional upset. It seems that, in many cases, emotional maladjustment may be both effect and cause. When emotional disturbance arises from reading disability, it may then become a handicap to further learning. There is in such cases a reciprocal relationship between emotional conditioning and the reading disability. In those cases where personal maladjustment is due to reading failure, it tends to disappear when the child learns to read satisfactorily. With certain cases, when the emotional maladjustment is deepseated, psychiatric help will be needed.<sup>37</sup>

Wagner states that dyslexia is seen as a primary learning disability, with a large percentage of all cases also showing a secondary emotional reaction which takes on various forms, from defense mechanisms to aggression or withdrawal. Until a child is diagnosed as dyslexic he usually

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<sup>37</sup> Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 158.

is considered "normal." But somehow the threshold of the special classroom is infested with dyslexic "bugs" because, after the child has stepped across it, his troubles begin. In addition, from early faltering signs when attempting to read in kindergarten and first grade to the suddenly manifested, severely crippling reading disabilities, the child develops a poor self-image: he is called "dumb" and "stupid" and he soon sees himself as a "dummy."

Similarly mixed reactions are noticed in the entire family of some dyslexic children. Often the child gets the message underhanded in the form of a double-bind type of communication. In a family with this kind of communication process, the parents say "yes" but mean "no." Brothers and sisters often regard the dyslexic in the family as an intellectual or academic outcast, to be tolerated at best. But once they get mad with him, the message again becomes loud and clear: "You can't read, you dummy!" When the child is finally seen by a professional for treatment, again the message comes through: he is treated singly, not as a part of the family constellation where everyone now has the responsibility of concerning himself with the dyslexic condition of the one member in the family. This single treatment reinforces the same message for the child: "I am the dummy!" Why not all of us? Mother and father brought me into this world, and just because brother and sister can read is no reason to belittle me!"

Dyslexic children should not be treated separately from the rest of the family. Dyslexia as a specific learning

disability should be viewed, and treated, within the entire family constellation. For instance, the father might come in for emotional support and for stressing alternate areas of success for his child. Mother might be recruited as an auxiliary tutor for her own child and someone else's. Siblings can also be brought constructively into the picture by teaching them how to show understanding and acceptance. But they can also be employed as auxiliary tutors, e.g., in cases where perceptual exercises on a game-type basis are required.<sup>38</sup>

According to Rosenthal the dyslexic child is also subjected to pressures from concerned adults who view his future with foreboding. The same adults and indeed, the same peers who would react with compassion to learning problems attendant on cerebral palsy, blindness, or deafness, are likely to express tension and frustration toward the child who fails to read without discernible cause. Children with dyslexia have been called lazy, purposely negativistic, psychopathologic, and mentally retarded by peers, by professional workers, and by their own families.<sup>39</sup>

Quandt also believes that low self-concepts which lead to reading disabilities are caused either by the child's evaluation of his failure to learn reading during his initial attempts or by the reaction of peers, parents, and

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<sup>38</sup>Rudolph F. Wagner, "Games Dyslexic's Play," Academic Therapy 9 (Fall, 1973): 23-26.

<sup>39</sup>Joseph H. Rosenthal, "Self-Esteem in Dyslexic Children," Academic Therapy 9 (Fall, 1973): 27-28.

teachers prior to or during his attempts to learn reading; most likely both factors play a role in this grim situation.

Quandt continues to state that when an individual feels that those people who are significant regard him as incompetent, he attempts to counteract this appraisal. In his quest for feelings of overall importance, the child has only four alternatives regarding any competency even though he may not be conscious of them. He may actually feel competent in those activities which are important, he may hide or disguise his lack of ability, he may deny the importance of the activities, or he may make it clear that he has extended no effort.

Children who come to school believing that they will not succeed in reading, as well as children who gain this concept at a later time, may become victims of a self-fulfilling prophecy. Believing that they will not succeed in reading; their behaviors and efforts during reading instruction contribute to making their expectations come true.

Contrarily, if the child is successful in extracting ideas from the printed page and if the people important to him enable him to recognize his success, he will develop a concept of himself as a "reader." As a result, he will attempt more difficult material, he will take more pleasure in reading; and he is apt to read more widely. The wide reading makes the child a better reader. As he recognizes his improvement and as the people important to him notice it, his concept of himself as a reader is enhanced; and the

cycle continues.<sup>40</sup>

Quandt suggests four types of conditions for improving self-concepts and thereby improving reading ability: establishing a positive atmosphere in the classroom, making the child feel accepted, providing him with success, and encouraging a positive environment at home.<sup>41</sup>

As pointed out, many children with reading disability manifest signs of psychological problems, although it is felt that many psychological problems are contributory causes rather than initiating causes. Much research has been done on the psychological problems of the reading disabled child. High correlations have been found between reading disability and delinquency, sibling position and sibling rivalry, masculine mother versus feminine mother, home pressures and high levels of aspiration. Competent psychological evaluation of disabled readers is a must.<sup>42</sup>

How a child feels about himself is a strong factor in the success of anything he does. Of even greater importance is his happiness now and in later life and that certainly hinges on self-esteem. Thus teachers and parents, all adults who deal with children, must help every child develop a positive self-concept by finding something he can do well and giving lots of praise for his efforts. When a child has a positive concept of self, he will usually learn

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<sup>40</sup>Ivan Quandt, Self-Concept and Reading, (Newark, Delaware: International Reading Association, 1972), pp. 7-10.

<sup>41</sup>Ibid., p. 31.

<sup>42</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 117.

faster, regardless of mental ability than a child who lacks self-esteem.

Changing a poor reader's self-concept by bolstering his feelings about himself is perhaps the first step toward improving the academic problem.<sup>43</sup>

#### Educational

According to Walter B. Barbe, children having difficulties in reading due to an instructional cause are in a peculiar position. With any of the other causes of reading problems, there can be little actual blame. It is no one's fault that a child could not see well enough to learn to read, even though it could perhaps have been avoided if early and proper diagnosis had taken place. But in any event, there are not guilt feelings attached to a child's failures to learn to read because of a physical problem. Exactly the opposite is true with respect to instructional causes. The very mention that the child's problem may be due to something within the school and not within the child threatens teachers. It is perhaps for this reason that those reading problems which have as their origin flaws in the instructional program, have not been examined carefully enough.

It seems likely that the child who is having reading problems as a result of nothing within himself, but something within the school program, falls into one of two categories.

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<sup>43</sup>Frances Pryor, "Poor Reading: Lack of Self-Esteem?" Reading Teacher 28 (January 1975): 358-59.

Either the child has received (1) inadequate instruction or (2) improper instruction. At first reading they may be one and the same thing; but they are definitely separate and distinct instructional causes of reading problems.

In considering inadequate instruction, it is necessary to say that some children have not been taught to read. This may be because the teacher does not believe in teaching the skills, or it may be that her program has failed to reach particular children. Overcrowded classrooms would be one explanation, and too wide a range of ability in a single room would be another explanation. Frequent changing of teachers or schools interrupt the program and may cause problems. The reason which most teachers would be first to mention, however, would be the cutting down of time in which they can teach by needless interruptions and special activities.<sup>444</sup>

Bond and Tinker state that any administrative policy which prevents proper individualization of instruction including proper emphasis upon reading readiness will prevent effective progress in reading. Failure to acquire the necessary learnings or the acquisition of faulty learnings is most frequently due to ineffective teaching. One or more of the following factors may be involved in the ineffective teaching which brings about reading disability; too rapid progress in the instructional schedule, isolation of reading instruction from other school activities, inappropriate

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<sup>444</sup>Walter B. Barbe, "Instructional Causes of Poor Reading," Readings on Reading, ed. by Alfred R. Binter, John L. Dlabal, Jr. and Leonard K. Kise, (Scranton, Pennsylvania: International Textbook Co., 1970), p. 48.

emphasis upon some technique or skill; or treating reading as a by-product of content studies. Frequently the difficulty occurs because the instructional program has failed to maintain a proper balance in the growth of a large number of skills and abilities.<sup>45</sup>

Kaluger and Kolson also feel that the quality and continuity of the educational program may contribute to a child's reading ability. A school which treats all children as if they were visual learners may contribute to a child's disability. Improperly trained teachers can keep the child from reaching his potential. "Panacea Cure" lay pressure groups have in some cases forced schools to use a one method approach which invariably produces reading disabled children. In addition, infrequent attendance or long periods of absence on the part of the child can leave gaps in his grasp of the mechanics of reading, thereby seriously disabling him.<sup>46</sup>

Barbe states that the teacher may teach the skills necessary for reading, but not reach all of the children. In a classroom in which there are too many students, some children are victims of inadequate instruction. There are just too many children for the teacher to reach every child. In such instances, it is a certainty that some reading problems are being developed because the instruction is inadequate for some of the children. They simply need more

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<sup>45</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., pp. 158-59.

<sup>46</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 117.



teaching than they can possibly get under such circumstances. It is no fault of the teacher that all such children are not taught, but instead an administrative fault brought about by the unfortunate notion that large classes are economical.

Another reason why a child may have a reading problem due to inadequate instruction is the change in teachers. Probably even one year with a particular teacher of reading is not enough, but certainly less than one year is too short a time. The teacher must devote too much time learning the particular child to have him leave at less than a year. The learning about the child which the teacher has done is the child's best hope for success. When this is wasted by either the teacher's leaving or the child's moving, instruction cannot be as effective. But today, when strict adherence to a curriculum guide is recognized as ineffective teaching unless individual differences have been considered, a change in teachers may mean a completely different approach with different stressing of skills.

Interruptions in the class period may well account for many children failing to learn to read. Children are scheduled to spend approximately six hours a day in school, or approximately thirty hours a week. When lunch periods and recesses are subtracted from this, there is probably from twenty to twenty-four hours left for instruction each week. (This is the same amount of time that researchers are reporting that children watch TV each week.) Classroom routine, such as calling the roll, collecting money, and many other expected tasks, takes more of the time. If a

teacher is not careful there will be no time left for instructional purposes. It is a certainty that many reading problems exist for no other reason than that the children have just never been taught.

Of importance to all people concerned with helping children is the number of children who are reading problems because of improper instruction. This cause of reading problems may be due either to the teacher or the parent. It may be because the teacher simply has not been taught how to teach reading, or because she is not interested enough in teaching to use what she knows. It may be that the teacher is too rigid to adapt the program to each particular child. If none of these, improper instruction may be caused by either a wrong diagnosis of the child's difficulty, or no diagnosis at all.<sup>47</sup>

Children must be taught to read. They learn to read as a result of this teaching. They cannot be expected to learn to read without the benefit of guidance from the teacher. The few children who are exceptions to this are better off for having been exposed to the skills, for later on they may need to use these skills even if they do not at the particular moment have the need. An inadequate coverage of the basic skills in reading is a major cause of reading problems.<sup>48</sup>

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<sup>47</sup>Walter B. Barbe, "Instructional Causes of Poor Reading," pp. 419-21.

<sup>48</sup>Ibid., p. 419.

Summary

In this chapter the many and varied causes of reading disabilities as proposed by specialists has been offered. An attempt to describe the disabled reader will be presented in the following chapter.

## CHAPTER IV

### THE DISABLED READER

The children who have been classified as disabled readers can be grouped into descriptive categories which help to give an understanding of the general nature of reading disability.

Those disabled readers who lack general maturity in reading are called simple retardation cases. They are significantly retarded in reading when compared with other children of their general reading expectancy, but there is no unusual or limiting characteristic about their reading pattern. Though they are immature in reading, there is nothing especially wrong with such reading as they do. These children do not constitute a reeducation problem, but they do need marked adjustment of material and instruction.

Specific retardation cases are those children who have specific limitations in their reading profiles. In general, these children are competent readers and may or may not be classified as disabled readers. They are classified as disabled if they are weak in enough areas of reading to lower their average performance sufficiently. These children have acquired the general basic reading skills and abilities but have not learned to adapt them to all of their reading purposes. They need training in the areas where

they are weak rather than reeducation in the basic skills and abilities because they are fundamentally able readers, but are retarded in specific ways that do not limit their general growth in reading.

Limiting disability cases are those disabled readers who have serious deficiencies in their basic skills and abilities which limit their entire reading growth. Children who have a word recognition deficiency, limiting mechanical habits or inability to sense thought units, etc., would fall into this descriptive category. The essential fact about the children in this group is that they need reeducation. They need to unlearn some of the things they have learned or to learn some new basic approaches to reading. They have either failed to establish some essential learning that is necessary for reading growth, or have acquired an unfortunate attack on reading, or have overemphasized some one needed skill so much that there is a lack of balance in their reading attack. These children require the help of well-planned remedial programs to correct their faulty reading patterns and to develop such skills as they need.

Complex disability cases are really a subgroup of limiting disability cases, i.e., children who have deficiencies in their reading patterns which limit further growth in reading. Also their reading is complicated by unfortunate attitudes toward reading and by undesirable adjustments to their failure to progress. Reeducating these children may be further complicated by sensory, physical, or other

handicaps. Each of the children classified as a complex disability case needs a remedial program carefully devised to meet the particular complexities of his problem.<sup>1</sup>

The child who is a disabled reader cannot be described as one whose reading ability is below his achievement in other school subjects in general. For while some disabled readers can be so described, the vast majority will be low both in reading and in general achievement. This is true because poor reading ability so limits other achievement that it is the rare child who can attain success in school in spite of having a reading disability. It is also important to note that the child who is low in both reading and in general achievement may or may not be a disabled reader. A child may be poor in reading and the other school subjects for a variety of reasons other than disability in reading.

The disabled reader is the child who is so handicapped in reading that his educational career is in jeopardy. Not only is his educational growth impeded but frequently his reading patterns are so confused that future growth in reading becomes improbable. He is ineffective in using print as an aid to learning. He is often a discouraged student who thoroughly dislikes reading. In many cases, the child becomes so frustrated over his inability to read that his personal adjustment suffers a severe shock. He is, therefore, apt to show emotional tensions in reading

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<sup>1</sup>Bond and Tiner, *Reading Difficulties--Their Diagnosis and Correction*, 3rd ed., pp. 105-108.

situations. Sometimes these tensions upset him completely and he demonstrates unfortunate adjustment patterns in general. Such unfortunate adjustment patterns may vary all the way from unfounded excuses for his trouble with reading to rather severe functional emotional disorders.

Naturally not all children, however, who have both poor reading and poor personal adjustment can be said to have them as a result of poor growth in reading. Quite frequently the child is disturbed for other reasons and his reading suffers along with his other achievements.

Typically, the disabled reader is a child of intellectual capability who has for a variety of reasons failed to grow in reading. He is not living up to his potential as a learner at least in reading. He is quite likely to be ineffective in all that is expected of him in school. He may reject reading, become a discouraged person, acquire unfortunate adjustment patterns, and become increasingly less able to learn. He is a child in need of educational help.<sup>2</sup>

According to Hood,<sup>3</sup> the basic symptom of reading disability is an extreme difficulty with word recognition, but children with this problem may have a number of related symptoms, such as the following: (1) These children have difficulty learning the difference between letters and words that can be reversed, such as b and d, p and q, was and saw, and

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<sup>2</sup>Ibid., pp. 90-91.

<sup>3</sup>Joyce Hood, "Poor Readers II," Today's Education 63 (September 1974): 38.

on and no. Typically, most children in kindergarten and first graders have this difficulty, but it should disappear by the time they reach third grade. (2) They often have difficulty learning which is the left hand and which is the right. (3) These youngsters may have poor handwriting or may be slow in developing drawing and writing skills. When copying a geometric form or drawing the figure of a boy or a girl, their lines may waver or the corners may not meet or some important details of form or figure may be missing. (4) Spelling may be different for these children. They may omit letters and syllables or scramble them or start spelling one word and finishing another. If they have been taught phonics, they will probably spell words as they sound (such as wate for weight). Otherwise they will probably just write a series of unrelated letters (crui for chair) or use a favorite sequence over and over (yoly). (5) The words which give these children the most trouble in reading and spelling are the "easy" ones. For example, they often forget or confuse there, where, and when; even, ever, every, and very; and then and when. (6) Time relationships or spatial relationships cause problems for them. They may not know the months of the year, the days of the week, the seasons, or even their birthdate. They often have difficulty understanding such pairs of words as before and after or above and below. (7) Sometimes these children may find it hard to pay attention for more than a short period of time. Any child gets restless when expected to work at



something that is too difficult, and this may be why youngsters are so inattentive and distractible.

These children may have trouble remembering things. They may reverse the sequence of digits in a telephone number or they may scramble the sounds within the words, saying soffit instead of faucet, for example. They may not be able to remember two or three things that they have been told to do long enough to do them all and may have to have the instructions repeated.<sup>4</sup>

#### Summary

In this chapter, the writer described the disabled reader as a simple retardation case, a specific retardation case, a limiting disability case, or a complex disability case.

With a description of the disabled reader in mind, the writer has examined factors and their relationship to reading ability in the following chapter.

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<sup>4</sup>Ibid.

## CHAPTER V

### INFORMAL DIAGNOSIS OF READING DISABILITY

In diagnosis, it should be kept in mind that reading disability is usually caused by a pattern of factors that are interacting to bring about the difficulty.

It has been shown that any technique diagnostic of reading proficiency that is administered individually has many advantages. Of these advantages, the most important is the pupil's closer relationship with the remedial teacher or clinician. Rapport between pupil and clinician can become intimate, for the child soon feels the teacher's sincerity, her concern for his welfare, and her desire to help him. Finally, the pupil has the teacher's undivided attention and she can adapt procedures in accordance with his response.<sup>1</sup>

It is clear that an individualized approach must be adopted in diagnosing reading disability. Watkins<sup>2</sup> has demonstrated convincingly that there are no common patterns of reading deficiency which characterize the proper

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<sup>1</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., pp. 216-17.

<sup>2</sup>M. Watkins, "A Comparison of the Reading Proficiencies of Normal-Progress and Reading Disability Cases of the Same IQ and Reading Level." (Ph.D. dissertation, University of Minnesota, 1953).

individuality of disabled readers. Seldom, if ever, does one find even two cases with exactly the same pattern. In a single child, the pattern of reading abilities may be quite uneven and the patterns vary from one disability to another.

It is customary to designate the reading grade level of a child in terms of an average derived from scores on several tests. Let us suppose, for instance, that a pupil's average reading grade turns out to be 3.2 when all aspects of his reading are averaged. Actually no one of his tests scores may be 3.2. He may be relatively good in word-recognition skills but poor in sentence comprehension; high in vocabulary knowledge but poor in a timed test of comprehension; and good in grasping details but poor in comprehending the general ideas involved. In short, in the case of a particular child, the pattern of reading abilities tends to be quite uneven whether this child is, on the average, a disabled reader or is reading at a grade level that agrees with his learning aptitude.

In general, it may be expected that a retarded reader will exhibit a pattern of reading abilities that is more variable than that possessed by a normal reader. Since these patterns differ from one instance to another, each case must receive individual diagnosis to discover his particular weaknesses and strengths. Only then is it possible to provide a remedial program suitable to relieve a child's difficulties.<sup>3</sup>

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<sup>3</sup>Bond and Tinker, Reading Diagnosis--Their Diagnosis and Correction, 3rd ed., p. 217.

Kaluger and Kolson<sup>4</sup> feel the process of diagnosis should proceed from (1) preliminary diagnosis in which mental ability level and achievement in reading and related subject matter areas is evaluated, to (2) a differential diagnosis in which it is determined whether or not the child has a perceptual or learning deficit or just an educational deficiency to (3) a therapeutic diagnosis when the exact nature of the exact nature of the reading disability, in terms of skills, is evaluated. An etiological diagnosis, one which seeks to determine the "cause" of the disability, is not needed in the case of a secondary reading disability. In case of a primary learning disability, an etiological diagnosis would only be helpful in evaluating extreme reading disability cases.

#### Informal Diagnosis

In order to determine if a particular student is a disabled reader or not, one must have an idea of that child's mental potential for learning to read. In informal diagnosis, this must be the first step.<sup>5</sup> Cleland<sup>6</sup> has summarized some of the formulas and statements made concerning a child's potential for learning which could be compared to the pupil's performance in reading. He quotes Harris, Broom, and Strong

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<sup>4</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 118.

<sup>5</sup>Ibid., p. 124.

<sup>6</sup>D. L. Cleland, "Clinical Materials For Appraising Disabilities in Reading," The Reading Teacher, (March 1964), pp. 428-29.

as all saying that "reading potential can be assessed from measures of intelligence." The Durrell-Sullivan reading capacity test gives a score which Cleland has concluded tends to be too high. Bond and Tinker<sup>7</sup> use a formula for finding estimated reading levels (E.R.L.). They say E.R.L. equals number of years in school  $\div$  IQ  $\div$  100 + 1. Cleland<sup>8</sup> himself believes that a valid and reliable listening test is as good an instrument as can be found for determining readiness for reading.

Kaluger and Kolson<sup>9</sup> like to determine a Learning Expectancy Level (L.E.L.) which indicates the grade level at which a child may be expected to learn to read, all other factors being normal. This formula is L.E.L. equals mental age minus five.

The Learning Expectancy Level formula is predicted on the assumption that there is a difference of five years between grade placement and the age of an average child with no anomalies.

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<sup>7</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 1967.

<sup>8</sup>Cleland, "Clinical Materials For Appraising Disabilities in Reading," pp. 428-29.

<sup>9</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 126.

GRADE	DIFFERENCE	AGE
1	5	6
2	5	7
3	5	8
4	5	9
12	5	17

Since chronological age is not the important age but rather the mental age, we can determine potential by substituting mental age for chronological age and subtracting five. McLeod<sup>10</sup> however, raises an issue by questioning whether an intelligence test giving a mental age is adequate enough to determine the learning expectancy level of a child. He suggests that the elements of decoding, encoding, and the auditory modalities be invoked because a "general mental age" score can cover up some very serious deficiencies.

Kaluger and Kolson<sup>11</sup> state that the most important score obtained is the mental age. A normal second grader is seven years old. Again, a difference of five is found between the age and the grade. A normal third grader is eight,<sup>10</sup> and once more a difference of five is obtained between age and grade. From this Kaluger and Kolson hypothesize that a child's grade level potential can be secured by subtracting five from the mental age.

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<sup>10</sup>J. McLeod, "Reading Expectancies From Disabled Readers," Journal of Learning Disabilities, Vol. 1, No. 2 (February 1968): 97-105.

<sup>11</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 126.

The mental age can be determined by an individual mental ability test such as the Revised Stanford-Binet<sup>12</sup> or estimated from the Wechsler Intelligence Scale For Children<sup>13</sup> which are tests given by the psychologists. The tests such as the Peabody Picture Vocabulary Test<sup>14</sup> or the Ammons and Ammons Full-Range Picture Vocabulary Test<sup>15</sup> or the Quick Test<sup>16</sup> can be given by reading diagnosticians.<sup>17</sup>

These tests give a mental age and correlate somewhat with the Stanford-Binet vocabulary scores. IQ's or mental ages obtained on group intelligence tests which require reading are not satisfactory for this purpose because poor reading ability will artificially lower the score.<sup>18</sup>

#### Reading Levels

Standardized reading tests generally give the frustration level of performance. Hence, to get a more accurate

<sup>12</sup>L. M. Terman and M. A. Merrill, Stanford-Binet Intelligence Test: Form L-M, (Boston: Houghton-Mifflin Co., 1960).

<sup>13</sup>D. Wechsler, Wechsler Intelligence Scale For Children, (New York: Psychological Corporation, 1949).

<sup>14</sup>L. Dunn, Peabody Picture Vocabulary Test, (Minneapolis, Minnesota: American Guidance Service, Inc., 1959).

<sup>15</sup>R. B. Ammons and H. S. Ammons, Full-Range Picture Vocabulary Test, (Missouler, Montana: Psychological Test Specialists, 1950).

<sup>16</sup>\_\_\_\_\_, Quick Test, (Missouler, Montana: Psychological Test Specialists, 1962).

<sup>17</sup>Kaluger and Kolson, Reading and Learning Disabilities, p. 126.

<sup>18</sup>Ibid., p. 127.

placement of the child's instructional level, remedial reading specialists and reading teachers generally administer an Informal Reading Inventory (I.R.I.). This is the second step in an informal diagnosis. Because the I.R.I. must be administered individually, the teacher can more closely observe the child's test behavior. The I.R.I. is an informal individual testing device which employs the use of a basal set of readers or graded reading paragraphs which are unfamiliar to the teacher. After the teacher establishes rapport with the child, she selects a basal reader several reading levels below the level generally used with normal achievers the child's age. Often a word recognition flash test is given first and the I.R.I. is started one grade level below the level at which the first error was made on the word recognition flash test. The teacher selects a story from a book. The story should not be chosen from selections in the first twenty pages of the book since the first twenty pages are usually just a review of the previous years work. The selection should have from 100 to 150 words.

The child is asked to read the selection silently and to ask for any words he does not know. The teacher records the words he asks for. As the child is reading the teacher observes and notes specific reading behavior such as pointing, vocalization, symptoms of visual disability etc. When the child has finished, the teacher asks questions concerning the material read in order to check the child's comprehension. The teacher also has him read some selections orally to determine his word attack skills. The testing is



continued until four reading levels have been determined: Independent Level, Instruction Level, Frustration Level, and his Capacity Level.

The pupil's basic level must be found and reading instruction must begin there, regardless of his grade placement. The basic level and the levels shown below should be ascertained through informal checks with basic readers.

The Independent Reading Level is the level at which the pupil reads independently with approximately 99 percent pronunciation of words, 95 percent comprehension of meaning, and 90 percent interpretation of meaning. This is the level of supplementary reading. The pupil should be able to read the book at home or school without aid. The material should cause no difficulty and have high interest value. There should be no head movements, no finger pointing, and no vocalization, and the child should phrase well.

The Instruction Level is the level at which the pupil begins to experience sufficient difficulty so that learning elements can be pulled out for teaching purposes but the material is still easy enough that the pupil can enjoy reading and will not be discouraged. There should be approximately 85 percent to 90 percent interpretation. This is the teaching level and, although the material should be challenging, it should not be too difficult.

The Frustration Level is the level at which the content material is so difficult that the pupil is frustrated in pronouncing words or getting meanings with any degree of satisfaction: less than 70 percent to 75 percent of the

words are pronounced correctly; he scores below 70-75 percent on interpretation. This is the level to be avoided. It will frequently be characterized by head movements, finger pointing, tension, withdrawal and short concentration span, vocalization in silent reading; substitutions, repetitions, insertions, and omissions. He is usually unable to pronounce more than one out of ten running words.

The Capacity Level is the highest level of comprehension of reading material read to the child. From this point upward, the teacher reads the selections and asks comprehension questions. The child should attain a comprehension score of 75 percent. This is the level at which the pupil should be expected to understand well in terms of his mental capacity. This is the equivalent to what some authors speak of as the Expectancy Level, the hearing level, i.e., the highest level of readability at which a child is able to understand when listening to someone talk or read. The I.R.I. answers the question, "At what level does the child read?"<sup>19</sup>

#### Constructing an Informal Inventory

Teachers usually construct their own I.R.I. based on the basal readers being used. From the same section (but not the first twenty-five pages) in each grade level book of a Basal Series, select a portion for the child to read. The length of the sections according to Kaluger and Kolson should be for:

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<sup>19</sup>Ibid., pp. 129-30.

first and second graders	35 - 40 words
third and fourth graders	50 - 75 words
fifth and sixth graders	75 - 100 words
Junior High	100 - 150 words
Senior High	150 - 200 words

In making the selection the above authors suggest finding a passage from which a diversity of comprehension questions can be drawn.

(1)A "Who" or "What" question: "Who was the little girl?"

(2)A "How" question: "How did she learn to swim?"

(3)A "Why" or inferential question: "The little girl opened the package: 'Oh!' she said, 'A doll. Just what I wanted.'" "Do you think the little girl was happy? Why?" Although the story does not say she was happy, the inference can be made.

(4)A General Vocabulary question. This asks for the most used meaning of the word.

(5)A Specific Vocabulary question. This asks the meaning of the word as used in this content.

By making certain of a diversity of questions, the examiner can pinpoint some comprehensional and vocabulary needs of the pupil.<sup>20</sup>

#### Informal Diagnosis of Strengths and Weaknesses

In most cases informal means of determining the child's subskills can be more productive than Standardized Diagnostic Test. The aim of the clinician is to determine the child's

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<sup>20</sup>Ibid., p. 131.

major weakness and then to locate the specific subskill needs in the area of weakness and begin remediation. If the weakness is in phonics, then the clinician informally should determine if the child can distinguish sounds auditorily. If the child cannot, she must determine what sounds he cannot hear. If he can hear sounds, the teacher then must determine if the child knows the letter names. Informal testing and continuous diagnostic teaching can be powerful. A clinician seeks to determine his strengths and weaknesses in order that she may use the strengths to overcome the weaknesses.

At this point, Kaluger and Kolson advise getting a rough approximation of the vocabulary level of the child. The 220 abstract words in the Dolch List is a good starting point. These words make up from 50 - 65% of all words the child will encounter in the elementary school basal readers.<sup>21</sup> According to Dolch,<sup>22</sup> if the child knows one-third of the words he is reading at the end of first reader level; two-thirds, at the end of the second reader; and all the words, at the third reader level. To find levels beyond third reader level the teacher can have the child pronounce the words in the glossary of beyond third reader level books from a basal series.

Not only can the teacher or school psychologist arrive at a vocabulary level by following the above procedure, but she also determines specifically what vocabulary to teach.

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<sup>21</sup>Ibid., p. 132.

<sup>22</sup>E. W. Dolch, Dolch Basic Sight Word Test, (Champaign, Illinois: Garrard Press, 1945.)

When the child has gone through the Dolch cards, the teacher marks on a mimeographed sheet whether the child knows (+), miscalled (X), or omitted (0) the word. The teacher then begins developing the child's recognition and understanding of the miscalled words. By using color combinations to mark the same sheet periodically the teacher can sense changes in the child's vocabulary. If the first marking is done with red ink and the date written in red ink, the second marking in black ink, and the third in blue ink, the teacher has a one sheet summary of progress.

Teacher observation is also an effective means of evaluating a lesson and a child. The skillful teacher always notes the feedback from the pupils in order to determine if the approach being used is reaching them. If the child makes an error she can also use this observation to diagnose the reason for the error and to determine the direction of the next movement.

Kaluger and Kolson feel a good teacher bases her appraisal of the child on her overall experience with the child. She observes how he reads orally. Does he read word by word? Does he read in thought units? Does he read in monotone? During silent reading, does he have lip movement? Does he rely on finger-pointing? Does a test confuse and frighten him? These questions and others like them can not be answered by a pencil and paper test; they can only be determined by the observant teacher. There is no substitute for the good judgment of the teacher based on careful observation.

The same observation serves the purpose of an ongoing diagnosis. Many good teachers will realize through observation that their present teaching methods fail to reach the children and will alter their methods and materials on the spot. This continual evaluation of the effectiveness of what is being done through the feedback from the children seems to mark one of the basic differences between good teachers and less successful teachers.<sup>23</sup>

Several standardized informal reading inventory type-tests are now on the market, including Smith's Graded Selections For Informal Reading Diagnosis which includes material in a wide range of difficulty.<sup>24</sup>

A very fine form has been prepared by Kottmeyer<sup>25</sup> called Diagnostic Inventory of Reading Skills through which he enables the user to make a rather extensive diagnosis of the skills that a reader has in phonics. The analysis seeks to informally answer the following questions:

- (1)How much sight vocabulary has he? (Dolch words)
- (2)Does he try to use context clues?
- (3)Does he know the names of the letters?
- (4)Does he know the consonant sounds?
- (5)Can he substitute beginning consonant sounds?

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<sup>23</sup>Kaluger and Kolson, Reading and Learning Disabilities, pp. 132-33.

<sup>24</sup>N. B. Smith, Graded Selections For Informal Reading Diagnosis, (1959).

<sup>25</sup>William Kottmeyer, Teacher's Guide For Remedial Reading, (McGraw-Hill, Inc., 1959).

- (6) Can he hear the short vowel sounds in words?
- (7) Can he tell when vowel sounds are long in words?
- (8) Does he know the common vowel digraphs?
- (9) Can he blend letter sounds to form words?
- (10) Does he make reversals?
- (11) Does he see the common prefixes as units?
- (12) Does he see the common suffixes as units?
- (13) Does he see compound words as units?
- (14) Can he divide long words into parts?

The remedial reading teacher or clinician will be able to find other informal techniques which they can use in evaluating a variety of reading skills. The use of previous school records, periodic achievement tests in basal workbooks, the child's own workbook which gives a rough appraisal of progress, day by day diagnosis in observing the child read, and the use of self-inventory or questionnaire by the child are all helpful. The teacher could prepare informal tests to evaluate initial consonants, final consonants, consonant blends, rhyming words, vowel sounds, compound words, root words, errors in oral reading, level of reading, learning rate, auditory discrimination, hearing sounds in words, visual discrimination in words and so forth.<sup>26</sup>

#### Summary

This chapter began with a description of the process of diagnosis. Levels of reading performance were also discussed

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<sup>26</sup> Kaluger and Kolson, Reading and Learning Disabilities, pp. 134-35.

and an example of an informal inventory was given.

However, in order to aid the teacher who is not quite ready to develop her own informal tests, there are a number of standardized tests available which will be considered after certain common problems in reading are explored in the following chapter.



## CHAPTER VI

### COMMON READING PROBLEMS

#### Word By Word Reading

In word-by-word reading the pupil pauses after each word, not allowing the words to flow as they would in a conversation. Word-by-word reading has often been blamed on an overdependence on phonics, or failure to develop a method of instant word recognition. Yet, younger children who are beginning to read are often word-by-word readers. As a child's sight vocabulary continues to grow, however, he should lose this habit. The word-by-word reader often fails to put the proper amount of inflection in words or phrases. His comprehension also may suffer.

The teacher should determine whether word-by-word reading is caused by habit, or a lack of word recognition skills. He could give the student reading material which is on a very low reading level. If the student immediately improves, it generally can be considered a problem of word recognition difficulty. If he continues to read poorly, then it probably is caused by the development of a bad habit.<sup>1</sup>

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<sup>1</sup>Eldon E. Ekwall, Locating and Correcting Reading Difficulties, (Columbus, Ohio: Charles E. Merrill Publishing Co., 1970), p. 6.

### Incorrect Phrasing

Incorrect phrasing is the failure of the pupil to pause or take a breath at the proper place in the material he is reading. The pupil often ignores punctuation, especially commas.

The causes of incorrect phrasing may be insufficient word recognition, insufficient comprehension, or the development of poor oral reading habits. The teacher should first determine the cause. He could give the student an unorganized list of all the words from a passage he will read later. The passage should be at a reading level in which he is experiencing difficulty. If he does not know approximately ninety-five percent of the words in the list, it can be assumed that word recognition is contributing to the problem of incorrect phrasing. Or, the teacher could have the student read the story from which the word came, and then answer at least six questions from the story. If he continues to phrase incorrectly and fails to answer at least seventy-five percent of the questions, and yet knows ninety-five percent or more of the words, probably comprehension difficulties are a major contributor to the problem.

Reading materials of a very low level given to the student is not too difficult for him if he has instant recognition of ninety-five percent or more of the words and can answer at least seventy-five percent of a series of questions over the passage. If the material is not too difficult for him in terms of vocabulary and comprehension, and he continues to phrase incorrectly, the teacher may assume that the

student has poor reading habits or does not understand the meaning of various punctuation marks. The teacher must remember that it is difficult for older students, even though they are good readers, to read stories on a primer or first grade level and then answer the type of comprehension questions commonly given to children who are actually working at this level. The teacher should keep this in mind if it is necessary to use materials of a very low level.<sup>2</sup>

#### Poor Pronunciation

Mispronunciation of words is one of the more serious reading problems of retarded readers. The problem may be caused by several factors: (1)the pupil may be weak in his knowledge of phonics; (2)he may possess, but not use a knowledge of phonics; (3)he may not understand diacritical markings; (4)he may be a careless reader; (5)he may have some speech defect or accent; and (6)he may have some hearing defect. In any case, a careful diagnosis is called for. The following paragraphs suggest ways of diagnosing the various reasons for poor pronunciation.

The Durkin-Meshover Phonics Knowledge Survey is a thorough test which can be administered easily, and will spot quickly areas of deficiency. This test is superior to some others because it tests the student's knowledge as well as his ability to use that knowledge in the same context as it is used in reading. The phonics knowledge required for correcting the test is supplied on the answer sheet. The

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<sup>2</sup>Ibid., p. 8.

The material found on the answer sheet often is beneficial to teachers who need to refresh their phonics knowledge. The Phonics Knowledge Survey actually tests the ability to use phonics knowledge as well as phonics knowledge itself. The teacher may want to supplement this knowledge by observing the ways in which the students attack or fail to attack new words.

The Wepman Auditory Discrimination Test is easy to administer and will determine whether a student has difficulty discriminating between somewhat similar sounds. The inability to discriminate between certain sounds can lead to the mispronunciation of words. This knowledge, supplemented with informal hearing tests, such as determining whether the student hears a normal voice at the distance most children hear it, will help to decide whether a hearing defect is contributing to the reading difficulty. Pupils indicating difficulty in any of these areas should be further examined by a specialist.

For a lack of knowledge of diacritical markings informal exercises constructed by the teacher and based upon the dictionary may help. In an individual case this might simply include asking a student to read certain words from a dictionary in which the diacritical markings are shown. Once again, this type of task closely parallels that of reading.

To determine if careless reading is causing mispronunciation, the teacher should stop the reader at a mispronounced word and ask him if he knows the correct pronunciation.

If he usually does, the problem may be one of carelessness. This would still not exclude the possibility that training in various forms of word analysis might be beneficial.

To determine if there is a speech defect or accent which may be causing mispronunciation the teacher should ask the student to repeat sentences which are given orally by the teacher. Use words which were mispronounced in previous reading. Words read incorrectly, but spoken correctly are not speech problems.<sup>3</sup>

#### Omissions

Omissions can be described as the pupil omitting certain words and/or phrases. However, sometimes only letters are omitted. Omissions in reading are usually caused by insufficient word recognition or word analysis skills and sometimes by the development of poor reading habits. Before beginning a program of help the teacher should try to determine the cause. The teacher could have the pupil read material at the level in which he is making omissions and then note the percent of words omitted. Or, the pupil could be given a much easier passage. The teacher should note whether omissions still occur. If omissions continue with approximately the same percent of occurrence, he may assume that they are a result of a bad habit. If, on the other hand, the percent of omissions markedly decreases, he may assume that word recognition and/or word analysis is a problem for the student.<sup>4</sup>

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<sup>3</sup>Ibid., pp. 13-14.

<sup>4</sup>Ibid., p. 16.

### Repetitions

Repetitions are recognized by pupils rereading words or phrases. The cause of repetitions in students' reading is similar to the causes of omissions in reading, that is, poor word recognition skills, poor word analysis skills, and/or the development of a bad habit. A problem in word recognition skills is the more common of the causes. Pupils who are deficient in word recognition skills often make repetitions. It is common for them to repeat a word or phrase just preceding a word not instantly recognized by them. If the words not recognized by the pupil are ones which normally should be sight words for that pupil it can be assumed that he is deficient in word recognition skills.

The teacher can determine, to some extent, whether poor word recognition or word analysis skills is the cause of repetitions by having the pupil read material at the level in which he is making repetitions. The teacher should note the percent of words or phrases repeated. The teacher might also give the pupil a much easier passage and note whether there is a definite decrease in the percent of repetitions. If there is, the problem is probably insufficient word recognition or word analysis skills. If, on the other hand, a student continues making as many repetitions as he did on the more difficult passage, then the problem is probably a bad habit.<sup>5</sup>

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<sup>5</sup>Ibid., p.18.

### Inversions or Reversals

Inversions or reversals can be recognized in the following ways: a pupil reading words from right to left instead of the normal left to right sequence, e. g. was for saw, or pot for top; a pupil reading letters in reverse, e. g., d for b, or p for g; a pupil making partial reversals in words (the letters within words) e. g. ant for nat; a pupil reversing words within sentences, e. g., The rat chased the cat., instead of, The cat chased the rat.

Reversals may be caused by a number of factors. The child may have failed to develop a left to right eye movement, or a left to right reading pattern. He may suffer from mixed dominance, or he may fail to realize that the order or position in which letters appear does make a difference. Other possible factors are immaturity, improper instruction, and rapid reading.

Observation and questioning will, in some cases, help locate the cause of the reversals. However, unless the problem is a very difficult one caused by some neurological dysfunction, the teacher need not be concerned with which of the above causes is the major contributor. The recommendations, the teacher may want to do a much more thorough diagnosis. Since the diagnosis as well as the treatment can be somewhat difficult, it is best to refer the pupil to a psychologist or neurologist.<sup>6</sup>

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<sup>6</sup>Ibid., p. 20.

Smith and Lovitt,<sup>7</sup> along with Ekwall state that some children reverse letters as they write, others orally reverse letters as they read, and some reverse letters in both of these situations. This particular expressive phenomenon has plagued some educators and entertained the curiosity of many others. But despite its persistence, relatively little research and meager prevalence data are available. The emergence of the educational category "learning disabilities" has led to theories which attempt to explain the etiology of learning difficulties such as reversals; but little attention has been paid to either specific descriptions of reversals or proven remediation methods.

Some discussions of factors predisposing children to reversals associate them with neurological impairment.<sup>8</sup>

Some<sup>9</sup> maintain that the phenomenon of mixed cortical dominance is causally related to children's reversals.

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<sup>7</sup>Deborah D. Smith and Thomas Lovitt, "The Educational diagnosis and Remediation of Written b and d Reversal Problems: A Case Study," Journal of Learning Disabilities 6 (January 1973): 356.

<sup>8</sup>G. Bensburg, "A Test For Differentiation of Endogenous and Exogenous Mental Defective," American Journal of Mental Deficiency 54 (1950): 502-506; V. Halpin and R. Patterson, "The Performance of Brain-Injured Children on the Goldstein-Scheerer Tests," American Journal of Mental Deficiency 59 (1954): 91-99. A. Strauss and L. Lehtinen, Psychopathology and Education of the Brain-Injured Child (New York: Grune and Stratton, 1951), p. 170; L. Tarnopol, Learning Disabilities-Introduction to Education and Medical Management (Springfield, Ill.: Charles C. Thomas, 1969), p. 16.

<sup>9</sup>A. Mintz, "Reading Reversals and Lateral Preference in a Group of Intellectually Sub-Normal Boys," Journal of Educational Psychology 37 (1946): 487-501.



Others<sup>10</sup> assert that reversals are caused by the child's immature physiology.

Educators favor three different approaches to the remediation of reversals: no intervention, indirect intervention, and direct intervention. There are some<sup>11</sup> who believe that any intervention is fruitless. They promote the notion that reversals are due to a physical developmental lag; therefore, as a child develops physically, reversals will gradually disappear.

Gallager<sup>12</sup> found that the testing methods employed during his two-year study of brain-injured children were no more effective in eliminating reversals than the maturation process. He believes that often the success attributed to teaching methods should be credited to "natural intellectual maturation." The no-intervention approach eschews the need for education. Advocates of this theory recommend that educators "play a waiting game."

Adherents of indirect intervention regard reversals as a deficit in visual perception or visual motor integration;

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<sup>10</sup>K. DeHirsch, "Tests to Discover Potential Reading Difficulties at the Six-Year-Old Level," American Journal of Orthopsychiatry 27 (1957): 566-76; M. Harriman and P. Harriman, "The Bender-Gestalt as a Measure of School Readiness," Journal of Clinical Psychology 6 (1950): 175-77.

<sup>11</sup>M. Harriman and P. Harriman, "The Bender-Gestalt as a Measure of School Readiness," pp. 175-77.

<sup>12</sup>J. J. Gallagher, The Tutoring of Brain-Injured Mentally Retarded Children, (Springfield, Illinois: Charles C. Thomas, 1960), p. 89.

they refer to the child as perceptually handicapped, dyslexic, or agraphic. Rather than pinpoint a specific disability, they deal globally with the integrity of the neurophysiological system.<sup>13</sup>

Indirect interventionists' theories of the process underlying reversal elimination vary from the development of cortical dominance<sup>14</sup> to the training of visual perception<sup>15</sup> to progress in motor development.<sup>16</sup>

Direct interventionists consider specific errors in a remediation plan. They use varying tactics in remediation programs, but regardless of the tactic, specific deficits are attended to directly. For instance, Orton, as reported in McCarthy and McCarthy<sup>17</sup> suggested that a teacher present to the child a card with the problem letter written on it, say the sound which corresponds to the letter, then, requests the child to trace the letter as he produces its sound. Strauss and Lehtinen<sup>18</sup> suggested that either heavy black

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<sup>13</sup>Smith and Lovitt, "Educational Diagnosis and Remediation of Written b and d Reversal Problems: A Case Study," pp. 356-63.

<sup>14</sup>Carl Delacato, The Diagnosis and Treatment of Speech and Reading Problems, (Springfield, Ill.: Charles C. Thomas, 1964).

<sup>15</sup>Marianne Frostig and D. Horne, The Developmental Program in Visual Perception: Intermediate Pictures and Patterns, Teacher's Guide, (Chicago: Follett, 1966).

<sup>16</sup>Kephart, The Slow Learner in the Classroom (1960).

<sup>17</sup>J. T. McCarthy and J. F. McCarthy, Learning Disabilities, (Boston: Allyn and Bacon, 1970).

<sup>18</sup>Strauss and Lehtinen, Psychopathology and Education of the Brain-Injured Child, pp. 136, 176.

lines or color cues by employed to indicate the directionality of a letter which causes confusion. Monroe, as reported in Kirk<sup>19</sup> advocated the use of a kinesthetic cue to aid the child in learning the proper direction of a reversed letter. Cooper<sup>20</sup> presented visual models to children and then employed reinforcement techniques to remediate reversed symbols.

Based on their own research, Smith and Lovitt also believe that direct remediation approaches are the most expedient means to a specific end.<sup>21</sup>

### Insertions

Insertions are recognized by pupils adding words which are not present in sentences. For example, in the sentence, "The dog chased the little boy," the pupil may add big, to make the sentence read, "The big dog chased the little boy."

One of the most common causes of a pupil's inserting words in sentences seem to be the pupil's lack of comprehension. It is also possible that the pupil's oral language development surpasses his reading level, or he may be careless. Insertions that make sense within the context of the sentence indicate the student's awareness of the material he is reading. In this case, the teacher may assume the insertions are caused.

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<sup>19</sup>Samuel Kirk, Teaching Reading to Slow-Learning Children (Boston, Massachusetts: Houghton-Mifflin, 1940), p. 158.

<sup>20</sup>J. O. Cooper, "Eliminating Letter and Number Reversal Error With Modeling and Reinforcement Procedures," (Ph.D. dissertation, University of Kansas, 1970).

<sup>21</sup>Smith and Lovitt, "Educational Diagnosis and Remediation of Written b and d Reversal Problems: a Case Study," pp. 356-63.

from either carelessness or oral language development beyond the reading level. When the insertions do not make sense within the context of the sentence, the teacher may assume that comprehension problems are involved.<sup>22</sup>

### Substitutions

Substitutions are recognized by the pupil substituting on word for another.

The child who substitutes one word for another is probably either a careless reader or has not developed adequate word recognition skills. The substitutions made by many readers are nearly correct within the context of the material being read: e.g., The man drove the automobile., might be read, The man drove the car. If these minor mistakes do not appear too often, it may be best to ignore the problem. If, however, they consistently occur, some steps should be taken. Substitutions which are not in the proper context of the sentence usually are caused by word recognition difficulty. When help is given with word recognition skills, the problem of substitutions usually disappears. The teacher should determine whether substitutions are caused by carelessness or insufficient word recognition skills, and plan help accordingly. The teacher should note whether certain substitutions appear only in the child's reading, or whether they occur in his speech as well.<sup>23</sup>

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<sup>22</sup>Ekwall, Locating and Correcting Reading Difficulties, p. 22.

<sup>23</sup>Ibid., p. 24.

Basic Sight Words Unknown

A pupil may be unable to read some or all of the basic sight words. There are several lists of the common or basic sight words. One of the most common is the Dolch Basic Sight Word Test. These are the words which make up one-half or more of the reading matter in elementary reading material. Since these words appear frequently it is important that a child recognize them instantly. If children do not have these words in their sight vocabulary, or cannot recognize them instantly, they cannot become fluent readers. Children often confuse certain of the basic sight words, especially those with similar beginnings: e.g., when, where, and what, or this, that, and those.

The test of the Basic Sight Words often is given by showing the pupil four words and asking him to circle or underline the word pronounced by the testor. The ability to distinguish a word from a choice of four words is not, however, the same as the ability to pronounce the word in print. With older students, the teacher frequently will find that they can score 100% on the Basic Sight Word Test if given as directed, but the same students may not be able to pronounce many of the same words when they are asked to read them.

A better way to determine which words are not known by a pupil is to point to the words and have him say them. The teacher can either circle or underline the words not known. Another method which is satisfactory is to have each of the Basic Sight Words on a separate card. (These can be made or ordered from the same source as the Basic Sight Word

Test.) The pupil then is asked to pronounce the words as the teacher shows each word card. The unknown words are put into one pile and those known into another. The student or teacher may compile a list of those not known.<sup>24</sup>

#### Poor Sight Vocabulary

A pupil may fail to instantly recognize words thought to be common at or below his own grade level. (Not limited to words commonly called basic sight words.) In advancing from grade to grade, the pupil should increase his sight vocabulary at each grade level. A pupil's sight vocabulary is not up to grade level unless he can correctly pronounce ninety-five percent of the words in a book or textbook at his grade level. The pupil who, for some reason, has not developed an adequate number of sight words at each grade level is greatly handicapped since he must analyze many more words than a normal reader. This child is more likely to encounter reading material on his frustration level.

The teacher should not determine whether a library book is at a certain grade level from the publisher's recommendation has been made on the basis of one of the better reading formulas. He can, however, expect a textbook to be written at approximately the level for which it was intended. Even when using a textbook at a certain level to determine whether a student is retarded in his sight vocabulary he should take passages from several parts of the book to insure an accurate diagnosis.<sup>25</sup>

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<sup>24</sup>Ibid., p. 26

<sup>25</sup>Ibid., p. 34.

### Guessing at Words

A pupil may guess at new words instead of analyzing the correct pronunciation. Guessing at words may be the results of one of several factors. The pupil simply may not possess a knowledge of phonics or structural analysis. He may not know how to systematically sound out a word; or he may not be using the context clues in his reading. Before attempting to help the pupil, the teacher should determine which of the factors are responsible for the pupil's guessing at words. A very effective way of determining why a pupil guesses at words is simply to ask him. The teacher should ask whether he knows the sound of the first letter, the blend, the vowel combination, the first syllable, etc. He also should check to see whether the student knows how to blend sounds together rapidly. Finally, the teacher should ask questions to determine whether he is aware of the context in which the word is used.<sup>26</sup>

### Consonant Sounds Unknown

A pupil may be unable to give the correct sounds, and variant sounds of the consonants. Some phonic systems teach the consonants prior to teaching the vowels while others teach the vowels before the consonants. However, the pupil must know both his consonant and vowel sounds, variant consonant and vowel sounds, as well as common blends. Before beginning a program of help in phonics, the teacher should administer the Phonics Knowledge Survey or a comparable test to

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<sup>26</sup>Ibid., p. 47.

determine the areas in which the pupil is weak. The teacher then can base help on the weaknesses indicated by the test. It will tell him whether the pupil knows the various sounds, and it also will tell him whether the pupil knows the sounds but does not know how to use them.<sup>27</sup>

#### Vowel Sounds Unknown

The pupil may be unable to give the correct sounds, and variant sounds of the vowels.<sup>28</sup> There are a number of rules quoted concerning vowels. Recent research<sup>29</sup> has, however, shown that some of the rules formerly taught have little utility in the reading program. Rules which appear to be worthwhile teaching are as follows: (1) If there is only one vowel letter and it appears at the end of the word, the letter usually has its long sound. Note that this is only true for one syllable words. (2) A single vowel in a syllable usually has its short sound if it is not the last letter in a syllable or is not followed by "r." (3) A vowel followed by "r" usually has a sound that is neither long nor short. (4) When "y" is preceded by a consonant in a one syllable word the "y" usually has the sound of long "i", but in words of two or more syllables the final "y" usually has the sound of long "e". Some people hear it as short "i". (5) In words ending in vowel-consonant - "e" the "e" is silent and the

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<sup>27</sup>Ibid., p. 49.

<sup>28</sup>Ibid., p. 57.

<sup>29</sup>Lou Burmeister, "Usefulness of Phonic Generalization," The Reading Teacher, 21, no. 4 (January 1968): 349-60.



vowel may be either long or short. Try the long sound first.

(6) When "ai", "ay", "ea", "ee", and "oa" are found together the first vowel is usually long and the second is silent.

(7) The vowel pair "ow" may have either the long "o" sound as in "low" or the "ou" sound as in "owl".

(8) When "au", "aw", "ou", "oi", and "oy" are found together they usually blend or form a diphthong.

(9) The "oo" sound is either long as in "moon" or short as in "book".

(10) If "a" is the only vowel in a syllable and it is followed by "l" or "w", then the "a" will usually be neither long nor short, but will have the "awe" sound heard in ball and awl. These rules certainly do not cover all the rules or exceptions; however, learning too many rules often proves almost as fruitless as knowing none. Furthermore, a student who passed the primary grades (1, 2, and 3) will often find it difficult to learn by the use of rules. The teacher should not attempt to give a great deal of remediation until he is fairly sure what areas of phonics are causing difficulty for the pupil. The Phonics Knowledge Survey will help him to determine where the student is weak. He should administer it to determine whether the student knows his vowel sounds, vowel rules, etc. It will not only help him determine whether the student knows the sounds and rules, but whether he is able to apply them in the analysis of a word. The teacher should remember that some reading programs do not teach the vowel sounds until the student is in the second grade. Some students do not possess adequate auditory discrimination abilities to deal with these sounds until this time. A few, of course, have problems in discrimination

of sounds far beyond the second year.<sup>30</sup>

### Blends, Digraphs, Diphthongs

A pupil may be unable to give the correct sounds of the blends, digraphs, and diphthongs. As with the consonant and vowel sounds it is essential that the pupil know the blend, digraph, and diphthong sound in order to analyze certain words. The Phonics Knowledge Survey will help the teacher to determine more specifically which areas are causing difficulty for the pupil. It also will help him to determine whether the pupil possesses a knowledge of the blends, and/or digraph and diphthong sounds but does not use his knowledge. It should be administered before beginning a program of help in this area.<sup>31</sup>

### Structural Analysis

If desirable structural analysis are lacking, a pupil may be unable to gain clues to the pronunciation of a word or its meaning by finding familiar elements of that word, within the word.<sup>32</sup> Ekwall defines structural analysis as an individual's analysis of words through the study of roots, prefixes, suffixes, word beginnings, word endings, possessives, plurals, word families, compound words, accent rules and syllabication rules. Many authors disagree as to whether word families and syllabication rules come under the heading

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<sup>30</sup>Ekwall, Locating and Correcting Reading Difficulties, pp. 57-58.

<sup>31</sup>Ibid., p. 60.

<sup>32</sup>Ibid., p. 62.

of phonics or structural analysis.<sup>33</sup>

Structural analysis begins when the child is able to recognize the root word in words with s, ed, etc. endings, e.g., run in runs, and look in looked. From this beginning, he should learn to recognize the parts which make up compound words, such as police and man in policeman and cow and boy in cowboy. He also may begin to recognize common roots, suffixes, prefixes, and important letter groups such as tion. Some authorities in the field of reading feel that it is not good, however, to look for little words within bigger words, as they may not have their usual pronunciation. The child should learn the principles of syllabication which will enable him to divide words into pronounceable units.

One of the best ways to determine whether a student is having difficulty with structural analysis is to ask him to read orally. While he reads orally the teacher can note the types of errors he makes and can also ask questions to ascertain whether he knows certain root words, ending sounds, beginning sounds, word families, parts of compound words, contractions, and affixes. Teachers who are familiar with the components of structural analysis will usually find a definite pattern of mistakes within a certain area or overlapping into several areas.<sup>34</sup>

#### Context Clues

A pupil may be unable to derive meaning and/or pronunciation of a word from the way it is used in a sentence. The use of context clues can be one of the student's greatest

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<sup>33</sup>Ibid., p. 4.

<sup>34</sup>Ibid., p. 62.

helps in determining the meaning of unfamiliar words. It is often one of the easiest taught of the reading skills and yet many students are unaware that it can be an effective method of deriving the meaning and/or the pronunciation of words.

The teacher can determine whether a student is having difficulties using context clues by listening to him read orally. While he reads, note whether words missed are ones that normally should be gotten from context. Also question the student about the meaning of certain words where that meaning is evident from the context. In silent reading the teacher can ask the student to underline the words that he either does not know how to pronounce or define. The same procedure can be used in either case.

The teacher should not expect a student to derive meaning from the context of the material if the material is too difficult for him. Material which falls into either the free or instructional reading levels probably will not be too difficult. On the other hand, material at a pupil's frustration level is too difficult to effectively make use of context clues.<sup>35</sup>

#### Comprehension

If a pupil fails to comprehend, he may not understand what he has read when questioned about the subject matter, or when simply asked to tell what he has read.

Before the student can be expected to comprehend well, he must have acquired a vocabulary sufficient to cope with the material being read, and a fairly fluent reader. If he

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<sup>35</sup>Ibid., p. 69.

must stop and puzzle over new words, or if he cannot fuse words into meaningful phrases, and phrases into meaningful sentences, then he cannot be expected to comprehend well. Nor can the teacher expect material so difficult that it is on the reader's frustration level to be comprehended well. Attempting to teach comprehension once the child has learned his basic word attack skills is the teacher's hardest problem, and the one most often encountered in both oral and silent reading. Perhaps the methods of teaching have contributed somewhat to the problem itself. Comprehension is often tested but seldom taught. In fact, the only instruction some pupils receive in comprehension abilities is in the form of questions over a paragraph or story. Yet comprehension involves a number of skills. In teaching a student to comprehend better the teacher might focus on teaching the following: (1) Ability to recognize main ideas; (2) Ability to recognize important details; (3) Ability to develop visual images; (4) Ability to predict outcomes; (5) Ability to predict a sequence or pattern; (6) Ability to follow directions; (7) Ability to recognize the author's organization; (8) Ability to discover the author's purpose.

To decide whether a student is having problems with comprehension the teacher might check the student's scores on the comprehension section of standardized reading test to determine whether the student is comprehending below his grade level. Having him read a 100-200 word passage from a basal reader at his grade level, and then asking questions testing his ability to remember facts, to make inferences,

to understand specific vocabulary words, may help the teacher to determine the problem. Students who are having difficulties in comprehension will score less than seventy-five percent on reading material at their grade level. The teacher should use several reading passages and questions to insure a correct diagnosis. Finally, the teacher may ask questions over material read concerning the specific abilities listed above. Some pupils are especially weak in some areas and yet comparatively strong in others.<sup>36</sup>

#### Unaided Recall Scanty

A pupil may be unable to remember what he has read when asked to recall what was in a passage. Pupils sometimes are able to fill in blanks by using a word that was used in context in a passage they have read. They also may be able to recall other events if they are given a hint of some kind as to what a certain passage contained. Some students, however, cannot remember what they have read when they are simply asked, "What did you read?" This is, of course, the type of situation the student will find himself in many times in later life. A student's failure to recall what was read may be caused by a lack of comprehension. In this case, the suggestions for improving comprehension may be helpful. A student also may be hampered in his ability to recall what he has read because the vocabulary is too difficult for him. He should be able to pronounce at least ninety-five percent of the words correctly. If he cannot do so, he cannot be expected to adequately recall and comprehend

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<sup>36</sup>Ibid., pp. 71-72.

what he reads.<sup>37</sup>

#### Poorly Organized Response

A pupil may be unable to state or write events as they occurred in a passage he has read. A student whose response is poorly organized probably does not comprehend well. For this reason the teacher should first determine if a student cannot organize his thoughts well or if he does not understand what he has read. He cannot be expected to correctly organize material that is too difficult for him. The teacher should be sure that practice materials are on the student's free or instructional level.<sup>38</sup>

#### Written Recall Limited to Spelling Ability

A pupil may be unable to spell enough words correctly to express his answers on paper. Discovering that a pupil makes a great number of mistakes in spelling presents no difficulty for the teacher. However, there is a reasonably high correlation between reading and spelling ability. The types of errors made in one may indicate that the same types of errors are present in the other. The pupil who is a phonetic speller may tend to mispronounce words which are phonetically irregular. Similarly, the pupil who uses almost no phonetic word attack may lack the ability to spell for the same reason. By carefully observing the way a student reads and spells the teacher may note certain problem areas which will be helpful in determining specific kinds of suggestions for help.

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<sup>37</sup>Ibid., p. 87.

<sup>38</sup>Ibid., p. 88.

A student who is not able to learn as many words as would be normal for his age-grade level should be taught a mastery list or the most commonly used words. If he must cut down on the total number of words learned then the words sacrificed should be those of less utility. Be sure that in all subject matter teachers emphasize spelling. This will help in motivating the children to improve their spelling and will give them the feeling that it is important to spell correctly all the time and not just during the spelling period. Try to determine the mode of learning in which each child is most successful (visual, oral, aural, aural-oral, kinesthetic) and place him in a group to be taught in that particular manner. Furthermore, the teacher should teach spelling rules inductively and provide for use of newly learned words.<sup>39</sup>

#### Summary

In this chapter an attempt was made to describe common reading problems. Among the difficulties discussed were word-by-word reading; incorrect phrasing, poor pronunciation, omissions, repetitions, inversions and reversals, insertions, substitutions, basic sight words unknown, poor sight vocabulary, word guessing, unknown consonant and vowel sounds, sounds for blends, digraphs, and diphthongs unknown, poor structural analysis, poor use of context clues, poor comprehension, poor unaided recall, poorly organized response, and written recall limited to spelling ability.

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<sup>39</sup>Ibid., p. 100.



## CHAPTER VII

### FORMAL DIAGNOSIS OF READING DISABILITY

A variety of tools and techniques are employed for diagnosing reading proficiency. Each has an important function in the diagnostic program. These instruments may be classified as follows: (a) group survey tests; (b) group diagnostic tests; (c) informal procedures; and (d) detailed individual techniques.<sup>1</sup>

#### Group Survey Tests

The use of satisfactory survey tests yields a fairly adequate measure of the grade level at which a pupil can read. A comparison of this measure with his mental grade or some other adequate criterion of learning capacity will reveal the degree to which a child is retarded in reading, if at all. A survey test usually begins with relatively easy items and progresses to more and more difficult items. Norms for interpreting scores usually extend over a range of several grades. The typical survey test includes measures of vocabulary knowledge, comprehension of sentences or paragraphs or both, and sometimes speed and accuracy. The Gates-Mac Ginitie Primary Reading Tests and the Stanford Reading Tests, Primary I and Primary II are examples of survey tests for use at the primary levels and for retarded readers in the

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<sup>1</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 217.

intermediate grades. The Stanford Reading Test, Intermediate I and II, and the Gates-MacGinitie Reading Tests, Survey D are typical examples of survey tests for use at levels above the primary grades.

#### Group Diagnostic Tests

Although the survey tests are designed primarily for determining a pupil's average reading grade, they are also to some degree diagnostic. Examination of the grade equivalents of scores for the various areas tested (word recognition, vocabulary knowledge, sentence comprehension, paragraph comprehension) will reveal information concerning the individual needs of a pupil who is in difficulty. There are, however, more analytical group tests that are more diagnostic in nature. They are superior to the general survey test for diagnostic purposes in that they provide a profile of silent reading abilities. Examination of such a profile reveals strong and weak areas in a pupil's repertory of the abilities measured in the subtests. Some analytical tests have a small number of subtests, others a large number.

A few typical examples of analytical tests which are useful in identifying individual needs are listed below. For a more complete description of tests one might consult Appendix I of Reading Disabilities--Their Diagnosis and Correction.

The Diagnostic Reading Tests are given to children in kindergarten through fourth grade to measure reading readiness, visual and auditory discrimination, vocabulary and

story reading in grade one; word recognition and comprehension in grades two, three, and four. Also included are an oral reading test for checking word attack, and a silent reading test for word attack, both of these covering grades one through eight. For grades four to eight, there are measures of word recognition, comprehension, vocabulary, rate, and word attack; and for grades seven through thirteen measures of vocabulary, comprehension, rate, and word attack.<sup>2</sup>

The Ingraham-Clark-Diagnostic Reading Tests are given to children in grades one to three and four to eight. Each level measures word form and word meanings, sentence and paragraph comprehension.

The Dvorak-Van-Wagener Diagnostic Examination of Silent Reading Abilities are for grades four to five, six to nine, and ten to thirteen. Abilities measured include rate of comprehension, perception of relations, vocabulary, range of general information, central thought, clearly stated details, interpretation, integration of dispersed ideas, and drawing inferences.

Bond-Balow-Hoyt New Developmental Reading Tests: Primary Reading measure basic vocabulary, general comprehension, and specific comprehension.

Bond-Balow-Hoyt New Developmental Reading Tests: Intermediate Grades (4,5,6) measure basic reading vocabulary, reading for information, reading for relationships, reading for appreciation, literal comprehension, creative comprehension, and general comprehension.

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<sup>2</sup>Ibid., pp. 218-19.

The analytical type of group test provides valuable information about the strengths and weaknesses of individual pupils. This information is useful to both the classroom teacher and the remedial teacher. Ordinarily, the giving of a group diagnostic test and a study of the scores obtained constitutes at first step in the analytical diagnosis of reading disabilities. To the classroom teacher, these scores, within the limitation of the test used, reveal those aspects of reading in which a child is deficient. When a child's retardation in a particular skill, such as some aspect of word recognition or sentence comprehension is not great, a moderate amount of individual instruction by the teacher will ordinarily correct the situation. Again, a teacher may find that her class as a whole tends to be deficient in such an area as reading to appreciate general significance. This probably indicates that she needs to change her emphasis in instruction to maintain a better balance among basic reading abilities.

With a greater degree of deficiency, i.e., a year or more retarded, the case may be referred to a remedial teacher for intensive instruction. If the test results indicate that the deficiency is limited to a single area such as one type of paragraph comprehension, the remedial instruction in the classroom can deal with it. If, however, the group test reveals extensive disability involving several or all reading skills, then additional diagnosis is indicated. In such cases a detailed diagnosis as described below should be carried out.

The use of group diagnostic tests may be summed up in the following statements. Group diagnostic tests (a) are useful to the teacher for sizing up the relative proficiency of her pupils in a variety of reading abilities; (b) reveal the individual needs of specific pupils who can be helped by the classroom teacher, (c) identify pupils who are in difficulty seriously enough to be referred to a remedial teacher for additional diagnosis and remedial instruction; (d) are in general primarily useful for identifying individual needs of pupils with moderate reading deficiencies in the intermediate and higher grades; (e) are also useful in the more severe disability cases in locating the areas that need further diagnosis. For example, if a child is low in the vocabulary section of a test, an intensive case study diagnosis of his word-recognition techniques is in order.<sup>3</sup>

#### Individual Diagnosis

Group tests and informal techniques have their appropriate uses in diagnosing reading deficiencies. With many disability cases, however, a more detailed and extensive procedure appears necessary. This is especially true with the more severe cases of disability, particularly those of long standing.

The techniques of individual diagnosis described here are representative but by no means inclusive of all the programs described in the literature. The reader should bear in mind that each of these techniques (and others not described)

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<sup>3</sup>Ibid., pp. 219-20.

have enjoyed successful use in the field. Some of the limitations and strong points of each of the techniques described will be noted.

The descriptions presented here are designed to give the reader merely a general impression of the main characteristics of the diagnostic tests together with examining procedures and uses. Actual use of any diagnostic test will be based upon the detailed directions accompanying the test.<sup>4</sup>

#### Durrell Analysis of Reading Difficulty

The Durrell<sup>5</sup> procedure for discovering cases of disability and the diagnosis upon which remedial programs are to be based is outlined in three steps:

(1) Discrepancies between mental ability and reading achievement are determined. The Revised Stanford-Binet Scale and an appropriate reading test may be employed for this. For children in grades three to six, Durrell suggests use of the Durrell-Sullivan Reading Capacity Test and the Durrell-Sullivan Reading Achievement Test which are both standardized on the same population. The Reading Capacity Test is entirely nonverbal in the sense that no reading is required. This is actually a listening comprehension test. It measures the child's understanding of spoken language both for word meanings and paragraph comprehension. The scores are combined to give grade or age level for hearing comprehension.

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<sup>4</sup>Ibid., p. 226.

<sup>5</sup>D. D. Durrell, Durrell Analysis of Reading Difficulty, rev. ed., (New York: Harcourt, Brace, and World, 1955).

This is compared with level of achievement on the Reading Achievement Test to discover discrepancies which indicate reading disability. These tests may be given by a teacher without specialized training. They provide an economical means of identifying poor readers without major language deficiencies who are capable of improving their reading proficiency. If standardized tests are not available, it is suggested that those children who are in the lowest third of the class in reading ability and who also appear to have normal intelligence be selected for the detailed diagnosis.

(2)The next step is a thorough examination of those children with a serious discrepancy between their mental ability and their reading achievement. In this examination, special attention is given to hearing and sight as well as to any physical condition which may result in chronic fatigue.

(3)The third step consists of a detailed analysis of reading difficulties by means of the Durrell Analysis of Reading Difficulty, revised edition. This consists of a series of individual tests in oral and silent reading, word perception, visual memory of word forms, auditory analysis of word elements, plus systematic observing and recording of certain responses and forms of behavior which will be described below.<sup>6</sup>

The Durrell is designed for grades one to six. The testing of one child takes from 30 to 90 minutes depending upon the experience of the examiner. Only experienced

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<sup>6</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., pp. 226-27.

teachers acquainted with the methods and objectives of teaching reading are qualified to use these tests. Its administration is best learned, however, under the direction of a person with a good deal of clinical experience.

Oral Reading is the first test in the Analysis series. Eight paragraphs of reading material are printed on cardboard and assembled in a booklet. The child is started with a paragraph on which it is pretty certain he will make no error—a "based paragraph." The reading is continued with succeeding paragraphs until seven or more errors are made on a single paragraph, or until the time required for reading any paragraph is more than two minutes (upper level). A detailed record is made of all errors such as omitted words, words inserted, mispronunciation, words not known, etc. All behavior systematic of reading difficulties is checked on the checklist in the record blank. A list of comprehension questions is asked at the end of each paragraph. Grade norms, based on the time required for reading, are provided. High, middle, and low positions within each grade are given. If two or more comprehension questions are failed, the child is rated low on that paragraph.

Silent Reading is the second test. A different set of paragraphs are used. They are graded in difficulty and printed on cards in a booklet as in Test 1. The child reads paragraphs of the same difficulty as he did in the first test. As each paragraph is completed, the child is asked to tell everything he can remember in the story. The material in the examiner's copy is arranged to facilitate recording the



ideas recalled. Any relevant reading difficulties are checked in the list accompanying this test. Grade norms based upon time and memory scores are provided.

Listening Comprehension comprises Test 3. Paragraphs of the same levels of difficulty as those in preceding tests are used. Each paragraph is read aloud by the examiner and a set of questions is asked the child. The listening comprehension is ascertained from the level where not more than one question of the eight is missed.

The Word Recognition and Word Analysis Test comes next. For this test, lists of words are printed on strips of cardboard for presenting in a cardboard tachistoscope (short exposure) device. Separate lists of words are employed for grade one and for grades two to six. One of these lists of words suitable to the child's reading ability is presented in the tachistoscope so that the words appear one at a time for one-half second each. Both correct and incorrect pronunciation are checked appropriately. When a child fails to grasp a word in this flash test, the shutter of the tachistoscope is opened so that the child can study and try to work out the pronunciation of the word. This provides a test of word-analysis skills. Correct and incorrect responses during this analysis are recorded. Also difficulties in word analysis and word recognition are noted in the accompanying check-list. Successively more difficult lists of words are presented until the child fails on seven successive words of a single list or the hardest list in the series is completed. There are grade norms both for word recognition

(flash presentation) and for word analysis.

The next series of tests is comprised of Naming Letters, Identifying Letters Named, Matching Letters, and Writing Letters. These tests are designed for the severely retarded reader or for any child when it is suspected that he does not know the names of the letters.

The test for Visual Memory of Words--Primary is to be used with children whose reading grade is three or below. Visual Memory of Words--Intermediate is for children with reading grades four to six. The child is shown a letter or word in the tachistoscope for two to three seconds. When this is covered, he turns to the record booklet and marks from memory the items shown.

A series of tests deal with the auditory analysis of word elements: Hearing Sounds in Words--Primary tests ability to identify beginning sounds, ending sounds, and both beginning and ending sounds in words. A child who fails the preceding test should be given the test on Learning to Hear Sounds in Words. This will provide information on the severity of his difficulty in perceiving sounds in words. To discover which letter sounds and blends are not known, the test for Sounds of Letters is given to children with less than second-grade reading ability.

The Learning Rate Test is given to severely retarded readers to discover the degree of difficulty a child has in remembering words taught.

Additional tests are Phonic Spelling of Words, a Spelling Test, and a Handwriting Test.

A form is provided for a detailed analysis of faulty pronunciation or spelling. This will provide information on vowel errors, consonant errors, reversals, addition of sounds, omission of sounds, and substitution of words.

Standardized tests are not available for gathering information on certain reading habits and skills for this can be done just as well informally.<sup>7</sup> Durrell<sup>8</sup> therefore suggests informal tests for the following: (a)reading interest and effort, (b)suitability of the level of reading materials used in the classroom, (c)speed of reading, (d)word skills, and (e)speed and accuracy in locating information.

The Durrell Analysis of Reading Difficulty has certain advantages: (a)Directions for administering the tests are complete and clear. (b)The type of case for which each test is needed is indicated. (c)The series of tests require a reasonable amount of time to administer. (d)Techniques of administration are not complicated. The tests for the moderately retarded reader can be given successfully by a competent, experienced teacher who is acquainted with the methods and objectives of teaching reading.<sup>9</sup> (e)As emphasized by Durrell<sup>10</sup> in the Manual of Directions, "The checklists of errors are more important than the norms." This check-list is probably the most detailed and complete of its kind.

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<sup>7</sup>Ibid., pp. 228-30.

<sup>8</sup>Durrell, Analysis of Reading Difficulty, 1955.

<sup>9</sup>Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 230.

<sup>10</sup>Durrell, Analysis of Reading Difficulty, 1955.

Appropriate use of these check-lists which accompany the diagnostic tests will provide sufficient information for diagnosing reading difficulties in a majority of cases.<sup>11</sup> At times, the grade norms will also be found useful. (f) The Analysis of Reading Difficulty is most useful for diagnosing cases with not more than moderately severe deficiencies.

The Durrell Analysis of Reading Difficulty also has certain limitations: Even though the revised test provides also for diagnosis of the severely retarded, it is generally more useful with the less severe cases. (b) The recording of eye movements by direct observation will provide little useful information. (c) There is no provision for recording some of the test results on the profile. (d) Some of the tests for the severely retarded depend upon considerable clinical experience for interpretation. Most classroom teachers are not qualified to do this. (e) Any classroom teacher who plans to give the preliminary parts of the test should have considerable experience in administering individual tests. As with all individual diagnostic tests, all the detailed tests need not be given to some pupils.

In summary, the Durrell program for diagnosis of reading difficulty provides an excellent means for prompt analysis of those cases which have the less severe reading disabilities occurring frequently in school. New test in the revised edition are designed for use with severely retarded readers.<sup>12</sup>

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<sup>11</sup> Bond and Tinker, Reading Difficulties--Their Diagnosis and Correction, 3rd ed., p. 230.

<sup>12</sup> Ibid., p. 232.

Monroe Diagnostic Reading Examination

The Monroe<sup>13</sup> method for analysis of reading disabilities is described in Children Who Cannot Read, and published in test form as Diagnostic Reading Examination. Monroe considers that reading achievement, arithmetical achievement, chronological age, and mental age must all be considered in identifying cases of reading deficiency. An average reading grade score is derived from (a) Gray's Oral Reading Paragraphs; (b) either the Haggerty Reading Examination, Sigma 1, Test 2 (for the primary grades) or the Monroe Silent Reading Test (for intermediate grades); (c) the Monroe Iota Word Test for reading isolated words. Apparently other standardized reading tests which yield grade scores may be substituted for those originally used by Monroe. Monroe derived the grade score for arithmetic from the Stanford Test in Arithmetic Computation. Mental ages were obtained from the Stanford Revision of the Binet-Simon Tests. Tables are provided to transmute mental age and chronological age into grade scores. With these scores available, the reading index is computed which gives a single measure of reading proficiency. The Reading Index is obtained by comparing a child's composite reading grade with the average of his chronological, mental, and arithmetic grades.

Once a reading case has been identified in terms of a low reading index, an analysis of his reading defects is made. This is achieved through a classification of errors made while

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<sup>13</sup>M. Monroe, Children Who Cannot Read, (Chicago: University of Chicago Press, 1932).

responding orally in the following three tests: (1)Gray's Oral Reading Paragraphs consists of twelve paragraphs of increasing difficulty. Grade scores on this test range from early first grade up to grade eight. (2)Monroe's Iota Word Test measures accuracy for reading isolated words. The test consists of 53 words printed on three cards. Many of these words are such that reversals are possible if the child is having orientation difficulties. Grade scores range from 1 to 5.5 (3)Monroe's Word Discrimination Test consists of 47 words. Each word is presented in a group of six other confusion words, or arrangements, of letters. The groups of words are printed on a series of six cards, seven or eight groups per card. The key word is given orally by the examiner and the child then points out the word he thinks he heard spoken. Grade scores range from 1 to 5.5.

Errors are carefully recorded on all three tests. These errors are then analyzed and tabulated according to the following classification: faulty vowels, faulty consonants, reversals, addition of sounds, omission of sounds, substitution of words, repetition of words, addition of words, omission of words, refusals and words aided (refuses to attempt a word or a word has to be supplied by the examiner after a delay of 15 seconds).

In addition to the basic series of diagnostic tests described above, Monroe lists several supplementary tests that may be employed if that seems desirable. They include test of mirror reading, mirror writing, auditory word discrimination, visual-auditory learning, sound blending, and

handedness and eyedness tests.

The Monroe program for the analysis of reading difficulties contains the following favorable features: (a) Directions for giving and scoring the tests and for interpreting the results are clear and are complete in detail. (b) The technique is especially useful for dealing with more severely retarded reading cases. It was originally employed with a group of reading defects cases with a mean reading index of 0.49, i.e., 49 percent of expectation.<sup>14</sup> (c) The program is readily modified for use with slow-learning children as shown by Kirk.<sup>15</sup> (d) Remedial instruction based upon the diagnosis is highly successful in relieving reading disability. This is true for the moderately retarded as well as for the severely retarded.

The Monroe program of diagnosis has certain limitations: (a) It tends to be time-consuming, exacting, and laborious. (b) It appears not to be the most appropriate technique for dealing with moderately retarded readers. (c) The applicability of the profile of errors is somewhat limited, i.e., to average reading grades 1.4 to 5.8, with greatest accuracy between 2.0 and 4.9. (d) The program of remedial instruction based upon the diagnosis tends to be extremely detailed, exacting, and time-consuming. There is a strong emphasis upon phonetics and other exacting drills. The tests can be used only by a trained clinical worker.

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<sup>14</sup>Ibid., pp. 233-36.

<sup>15</sup>S. Kirk, Teaching Reading To Slow-Learning Children, (Boston: Houghton-Mifflin Co., 1940).

In summary, the Monroe technique of diagnosis provides an excellent method for dealing with the more severely retarded reading cases. However, the extensive analysis involved in the diagnosis is not necessary for a large proportion of the disability cases which occur in our schools. It is one of the most carefully worked out systems and has proven its value in reading clinics.<sup>16</sup>

#### Gates-McKillop Reading Diagnostic Tests

The Gates-McKillop program for analysis of reading difficulties is described in the 1962 revision of Gates-McKillop Reading Diagnostic Tests.<sup>17</sup> This program of diagnosis, in its third edition, is based largely upon about forty years' experience of Gates at Teachers College, Columbia University.

In the Gates-McKillop procedure, the formal identification of reading disability requires that we measure mental age, measure silent reading ability, and know the child's actual grade placement. Mental age as determined by the Stanford-Binet Test is considered to provide the best criterion of a child's verbal ability with which to compare his reading, although some other good individual test, such as the Wechsler Intelligence Scale For Children, may be used. Then one or more standardized silent reading tests appropriate to the child's reading level are given. The mental age and silent

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<sup>16</sup>Ibid., pp. 236-37.

<sup>17</sup>A. I. Gates and A. McKillop, Reading Diagnostic Tests, (New York: Bureau of Publications, Teachers College, Columbia University, 1962).



reading scores are converted to grade scores. Finally, to determine whether or not a child should be able to keep up with his class, his average silent reading age is compared with his grade location. Ordinarily the more important comparison is between average silent reading grade and mental grade. This comparison will reveal the degree of reading retardation that is given a rating of low or very low varies with grade level. For example, at grades 3.0, a child reading between grades 1.7 and 2.2 is rated low, and at 1.6 (or below), very low. But a grade six, a reading grade of between 3.9 and 4.5 is rated low, and of 3.8, very low. A child whose average silent reading is either low or very low in comparison with his mental grade is considered a reading disability case. To discover the specific kinds of difficulties involved in a case of reading disability, we resort to the detailed diagnostic tests. It will not be necessary, however, to give all the diagnostic tests to all reading cases. The skilled examiner will be able to select those tests essential to secure the diagnostic information he needs as a basis for determining the proper remedial instruction for a particular child.

The diagnostic tests will be briefly described in the order in which they are listed in the order in which they are listed in the test materials. Note will be made of the contents of only one of the two equivalent forms.

The Oral Reading Test is composed of seven paragraphs of increasing difficulty. The child begins with the first paragraph and continues until he makes eleven or more errors

in each of two consecutive paragraphs. The child's errors are recorded for each paragraph. Grade scores range from 1.6 to 7.5. Also, information on the child's behavior while the reading is going on should be recorded using the check-list or in the form of notes. These data supplement the error analysis in an important way. An outline form is given for the scoring summary and another for analysis of errors. Analysis of the errors plus reference to the appropriate tables will indicate whether the child is making excessive errors in each of the following categories: words omitted, words added, repetition, mispronunciation, full reversals, reversals of parts, total of all reversals, wrong beginnings, wrong middles, wrong endings, wrong several parts. Observation of performance during the reading yields such information as degree of skill in the use of various word-recognition techniques and clues, signs of nervous tension, ability to phrase, and enunciation habits.

In the Word-Flash Presentation Test the material consists of four columns of ten words each. The first twenty words (two columns) progress from short easy words to longer more difficult ones, for example, from so to superstition. The second twenty words are similarly arranged. All forty words are used. Starting with the easy words, the examiner exposes each word through a rectangle window in a card (tachistoscope) for one-half second. The first two columns of words are used and then the other two columns. This flash presentation test is employed to determine how well a child can recognize at a single glance words differing in difficulty. The

number of correct responses is converted to a grade score for comparison with other results, such as mental grade and average reading grade.

The material of the Words Untimed presentation test consists of four columns of words, each column arranged from easy to difficult. The test may be shortened by using either two or three columns. The words are read horizontally, i.e., the first word of each column, the second word of each column etc. This test determines the child's ability to unlock each isolated word, one after another. Plenty of time is allowed for each word. The child is encouraged to employ whatever techniques of analysis he possesses, but he is not to be helped in his analysis. The test is continued until ten consecutive words have been missed. Every pronunciation is written in the blank. From observation of the child's behavior and from analysis of his errors, the accompanying checklist of difficulties is filled in. The total score for the test is converted into a grade score for comparison with other results. For instance, a comparison with silent or oral reading grade will provide an estimate of how well the child employs context clues in reading. These clues are, of course, present in silent and oral reading but not in the perception of isolated words. An appreciably higher score either in silent or oral reading than in either the timed or untimed word perception, therefore, would suggest that the child makes very good use of context clues when they are available. The principal contribution this test makes is to provide an opportunity to observe the techniques a child uses to work out

the recognition and pronunciation of words. The materials for the Phrase-Flash presentation test consists of 26 phrases of two to four words each. Starting with short phrases, the examiner exposes each through the window in his tachistoscope card for one-half second. All words in the first column are presented before those in the second column. The recording is the same as for flash presentation of words. The total score, converted into a grade score, may be compared with silent reading scores or other test scores available.

The Recognizing and Blending Common Word Parts test and the following three tests deal with knowledge of word parts and word attack. The test consists of 23 "words" such as "spack" listed in the left column. The child reads down the column, pronouncing each "word." If he fails a word, columns 2,3, and 4 are uncovered so that the line appears: spack sp ack spack. The child then tries to sound the initial consonant blend, the rest of the "word," and then to blend the parts to read the column 4. The pupil's performance on this test will determine whether or not the next three tests should be given. It is suggested his performance be compared with what he does on certain other tests.

In the Naming Capital Letters and Naming Lowercase Letters test the results are compared with those on certain other tests.

The next four tests require recognizing the visual forms of sounds. The test of Nonsense Words consists of twenty lines of four words each. The child listens while the examiner says one of the words in each line. The pupil points to the word pronounced. A second trial is given to allow the pupil to check

his response. This test supplies valuable information concerning what the child tends to see when he hears word sounds.

In the Initial Letters test the examiner pronounces a series of 19 words while the child listens carefully to the sound at the beginning of the word and then points to the letter in the booklet that makes the sound. A second trial is given for each word to allow the child to check his responses.

In the Final Letters test the child listens for the sound at the end of each of 14 words spoken by the examiner. For each word, the child points out in a row of five letters the letter that comes at the end of the pronounced word. A second trial is given for the child to check his response.

In the Vowels test the five vowels are told to the child as they are pointed out in the test materials. Then the examiner pronounces the twenty words of the list (ten in each form) while the child tries to identify the vowel in the middle of each word and points to it in the list of vowels. A check trial is given.

In the Auditory Blending test the examiner pronounces by parts (i.e., he sounds) each of fifteen words. There is a brief pause of about one quarter of a second between the parts of a word. The child then tells what the whole word is.

The material of the Spelling Test consists of two columns of twenty words each. In each column, the words increase in length and difficulty, e.g. from is to philosopher. The examiner pronounces each word for the child and asks him to spell it aloud. A check-list is given to facilitate recording of kinds

of errors and methods of spelling.

The Oral Vocabulary Test consists of thirty multiple-choice items ranging from easy to difficult may be used when a pupil's score on the vocabulary test in the Stanford-Binet test is not available. It is especially designed for pupils in grade 4 and above. This test is not very reliable when applied to pupils of average and lower ability in the first three grades.

The material of the Syllabication Test consists of twenty "words," each of two or more syllables. These sound somewhat like real words although they are not, for example, "foter" and "bashola." It is a test of ability to combine syllables into words, not just to identify the syllables.

The Auditory Discrimination test consists of fourteen pairs of words. In some pairs the two words are the same, in others they are different. The examiner pronounces the two words of a pair while the child, sitting with his back to the examiner, listens. The child decides whether the two words spoken are the same or different. Each pair of words is pronounced once only.

Gates and McKillop state which tests may be omitted if previous responses have been adequate. Along with the directions for scoring, suggestions are given for interpreting results and hints as to what remedial methods to use. All the tests were standardized on the same population. Unlike previous editions of the test, there is now no provision for recording such supplementary information as data on vision, hearing, speech, adjustment, school performance, home conditions, and

a summary of the diagnosis and the recommended remedial steps.

The Gates-McKillop program for analysis of reading difficulties possesses the following favorable features: (a) It is perhaps the most complete program of diagnosis available. Apparently the tests have been designed so as to identify any and all types of reading difficulties. (b) The program is readily adapted to a case of reading disability of any degree of severity by a judicious selection of appropriate tests. (c) The provision for converting raw scores into grade scores is especially helpful in identifying and evaluating difficulties. (d) All tests in the series are carefully standardized. (e) The suggestions for remedial work are helpful. (f) In addition to directions for evaluating the examiner is told what to look for throughout the testing.

The Gates-McKillop Reading Diagnostic Tests do have certain limitations: (a) They can be used safely only by a person who has had thorough clinical training in their administration and in evaluating the results. This prohibits their use in many school systems. (b) Completion of a diagnosis with these tests is a relatively long and laborious task. (c) The scoring and rating of the test results are complicated in some instances. (d) Evaluation of performance on a particular test becomes confusing when the examiner is directed to compare this test performance with that on each of a large number of other tests as to grade levels or ratings with no suggestion as to which are the more important comparisons. As one instance of this, test performance for Words-Untimed presentation is to be compared with about 24 different scores or ratings.

(e)The examiner is not given adequate help in selecting which tests to use with the less severe cases of disability, although directions are given for choosing only those tests that are necessary for each particular case.

In summary, Bond and Tinker feel that the Gates-McKillop technique of diagnosis constitutes an excellent comprehensive program. Although complicated and exacting to use, it can be adapted by the skilled clinician to any type of disability case. In nearly all instances, the directions are clearly stated. Of all the diagnostic techniques available, the Gates-McKillop program is perhaps most inclusive and most satisfactorily standardized for broad usage. Its tests, together with previous editions by Gates, have enjoyed extensive and successful use over many years.<sup>18</sup>

#### Bond-Balow-Hoyt Silent Reading Diagnostic Tests

Traditionally, any system for thorough diagnosis of reading difficulties has required individual testing by a skilled examiner. Such a diagnosis tends to become time-consuming and sometimes decidedly complicating and exacting. In the ordinary school system, programs of this kind frequently are not feasible or are actually impossible. Furthermore, the majority of children with reading disabilities in our schools suffer from only moderate degrees of retardation. There is need for a diagnostic technique which will satisfactorily identify the specific difficulties of these pupils and which can be employed by the skilled teacher who lacks clinical training. The Bond-Balow-Hoyt Silent Reading Diagnostic

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<sup>18</sup>Ibid., 238-44.



Tests are designed to help the classroom teacher analyze the specific reading needs of her pupils. These are group tests, in contrast with most diagnostic tests which call for individual administration by a reading specialist and tend to be time-consuming. The Silent Reading Diagnostic Tests can be given to a whole class at a time by the classroom teacher. The tests measure silent reading abilities, thus emphasizing the kind of reading done most frequently.

The Silent Reading Diagnostic Tests, published in 1970, are designed to be used with pupils of any age who read at second through sixth grade levels. Reading skills tested are those usually taught in the elementary school, the skills generally found necessary for functional reading ability. Also, the tests are useful in formulating remedial reading programs in the junior and senior high schools for pupils at these levels with relatively severe reading retardation. Each test is allowed a maximum of ten minutes and it is suggested that the test be given in three periods of thirty minutes each.

The Silent Reading Diagnostic Tests have eight subtests that serve to evaluate the most important areas of word recognition.

The Words in Isolation test is composed of 54 items in which the pupil selects a word that describes a picture. This test gives a measure of the child's recognition vocabulary plus his errors, which are classified according to the location of an error within a word and on the basis of letter reversals.

The Words in Context test is composed of 30 items in which the pupil selects a word that logically completes a sentence, thus indicating his ability to use context clues in word recognition. Errors are classified as in Test 1. The errors in Test 1 and 2 are then added to determine the error tendencies of the pupil.

The Visual-Structural Analysis test utilizes 30 words containing the most common prefixes and suffixes. When the pupil can separate the stimulus word from either prefix, suffix, or both, he will know the root word. Although introductory work is provided in the primary grades, visual-structural analysis is taught more thoroughly in the intermediate grades, although it does measure as low as second grade.

Test 4, Syllabication measures ability to separate words into syllables. This test also measures knowledge of six rules of syllabication having greatest applicability. It best measures the achievement in this area of pupils in the intermediate grades where most emphasis is placed upon syllabication. However, the test ranges from second to mid-seventh grade.

In the Word Synthesis test the ability to blend words together visually and phonetically is measured. The series of paragraphs used has many lines that end in hyphenated words. The hyphen separates a common blend, syllable, or affix from the remainder of the word. The test works well in grade 2 through 7.5.

In the Beginning Sounds test, 30 items are used containing common initial blends and digraphs. The pupil selects

the letters that have the same sound as the beginnings of the words read by the examiner. This test functions best at second, third, and fourth grade levels.

Auditory and visual discrimination are involved in the Ending Sounds test. The child selects the letters that represent the same sound he hears at the end of the stimulus word read by the examiner. Most of the 30 items represent the most common endings. Although the test measures responses from grade 2 through 7.5, it functions best at grade 2 through 5.

In the final test of Vowel and Consonant Sounds the pupil selects the letter that represent the initial sound in the word pronounced by the examiner. It is the knowledge of phoneme-grapheme association that is tested. The 30 items measure up to the seventh grade, but the focus of discrimination is at the primary grades.<sup>19</sup>

Diagnosis of reading difficulties by means of these Silent Reading Diagnostic Tests has certain advantages: (a) The test can be administered and the results interpreted and used by any competent classroom teacher. (b) Directions for scoring and interpretations are clear, direct, and relatively uncomplicated. (c) The tests are economical of time. They can be given to a whole class at once. (d) Identification of reading difficulties is easily and quickly achieved by means of the profile. Use of the profile avoids the laborious task of referring to tables of norms. (e) The technique provides an important practical aid for improving adjustment to individual needs in reading instruction. (f) Emphasis is upon

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<sup>19</sup>Ibid., pp. 244-46.

diagnosing silent reading abilities and skills in contrast to most other detailed diagnostic tests. (g)The tests provide a complete diagnosis of the essential skills. (h)Use of these tests will lessen the need for a reading specialist since many of the reading difficulties can be taken care of more effectively by the classroom teacher. Furthermore, those cases in need of the help of a reading specialist are identified by the tests.

The Silent Reading Diagnostic Tests have certain limitations: (a)The technique is not designed for use with cases of extreme reading disability or nonreaders. A more elaborate program of individual testing will be necessary for diagnosis of their difficulties. (b)The diagnosis is based upon silent reading. Some clinical workers will wish to obtain the supplementary information that is provided by an oral reading test. (c)The tests are most effective for pupils with reading abilities ranging from about grade 2 to grade 6.

In summary, the Bond-Balow-Hoyt Silent Reading Diagnostic Tests provide a new approach to the diagnosis of reading difficulties. They make it possible for the classroom teacher or the clinician to diagnose in an effective manner the difficulties of a major portion of retarded readers in our schools. Proper use of these tests should lead to improved reading instruction in the elementary school. Although these are group tests, they serve the same purpose as individual tests.<sup>20</sup>

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<sup>20</sup>Ibid., pp. 249-50.

Spache Diagnostic Reading Scales

The Spache Diagnostic Reading Scales consist of a series of integrated tests developed over a period of eight years to provide standardized evaluations of oral and silent reading skills and of auditory comprehension. The tests were planned to be employed in determining the proficiency of normal and retarded readers at elementary school levels and of retarded readers of junior and senior high school age. In the test battery are three word-recognition lists, twenty-two reading passages of graduated difficulty from grades 1.6 to 8.5, and six supplementary phonics tests which are tests of consonant sounds, vowel sounds, consonant blends, common syllables, blending, and letter sounds.

Administration of the word-recognition lists serves three purposes: (a) To estimate the instructional level of reading. The grade level obtained from these lists indicates which reading passage to select. (b) To reveal the pupil's methods of word attack and analysis. The kinds of errors the pupil makes in reading the words reveal the kinds of difficulty he has in analyzing words. These errors are classified by use of the word analysis check-list provided. If further study of procedures in word analysis seems warranted, the supplementary phonics tests are given. (c) To evaluate the pupils sight vocabulary.

The six phonics tests are designed to provide a detailed analysis of the child's ability to relate symbols and sounds. Their use helps the clinician or teacher to identify the needs of a pupil in the recognition and use of letter sounds, use of consonant blends, identifying common

syllables and blending.

The Spache program for analysis of reading difficulties possesses the following favorable features: (a) Tests may be employed to determine the proficiency of normal readers in the elementary school as well as of retarded readers in both elementary and high school. The tests provide, therefore, an important tool for the classroom teacher in adjusting to individual needs. (b) There is ample provision for summing up the results of testing and listing medical checks, home conditions, etc., plus tentative remedial recommendations. (c) Directions for administering tests and interpretations of results are clearly stated with adequate cautions. (d) The suggestions to de-emphasize adhering to rigid standards are useful both to clinician and classroom teacher. (e) The Diagnostic Reading Scales are useful for dealing with cases of mild, moderately severe, and severe difficulties. (f) The tests may be administered either by an able and alert classroom teacher or by a clinician.

The Spache program has certain limitations: (a) Since many decisions are left to the judgment of the examiner, he should probably have some guidance in using the tests. (b) The concept of reading levels is different from that used by other writers and may be somewhat confusing to some who use the test. (c) Directions for interpreting the meanings of specific kinds of errors in oral reading are limited as compared with those given in some other diagnostic tests. (d) The speed of reading scores may not be particularly useful.

The Spache Diagnostic Reading Scales comprise one of the more carefully organized programs for individual diagnosis. Although somewhat exacting to use, the scales are well adapted for diagnosing the reading proficiency of normal readers in the elementary school and of all disability cases in both elementary and high school. The check-lists and provision for recording various kinds of data are very helpful.<sup>21</sup>

#### Doren Diagnostic Reading Test

The Doren Diagnostic Reading Test measures the degree of which children have mastered word-recognition skills. There are eleven units for testing recognition skills: letter recognition, beginning sounds, whole word recognition, words within words, speech consonants, ending sounds, blending, rhyming, vowels, sight words, and discriminate guessing.

The Doren can be administered to a whole class, a small group, or a single individual. The test may be used at the third-grade level to check deficiencies as well as in the intermediate grades. Any able classroom teacher can administer the test satisfactorily. The Doren Test may be used to discover the needs of all pupils as well as for diagnosing the difficulties of retarded readers.

Diagnosis of recognition skills by means of the Doren test has certain advantages: (a)The test can be administered and the results interpreted by any competent classroom teacher; (b)Directions for scoring, interpreting, and suggestions for remedial work are direct and clear; (c)the test is economical of time since groups as well as individuals can be tested;

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<sup>21</sup>Ibid., pp. 251-52.

(d)Use of the profile of errors quickly identifies what difficulties of recognition skills a pupil has; (e)The test has broad applications in classroom teaching as well as to remedial work in a clinic; and (f)Use of these tests throughout the first four grades will provide aid when needed for diagnostic teaching in the classroom.

The Doren test does have certain limitations: (a)The test has no measure of comprehension. (b)It provides no means of estimating a pupil's potential reading level and consequently it is impossible to determine whether a pupil in a certain grade is retarded or not. Even though pupils finishing the third grade have been exposed to all the recognition skills listed, the teacher cannot know whether a child is achieving up to his potential. In other words, no provision is made for individual differences in learning ability; (c)The diagnostic uses of the test are limited largely to the end of the third grade and to the fourth grade since the recognition skills measured are those to which the pupils have been exposed by the end of grade three. (d)The author fails to point out that the test can be used for retarded readers in the fifth and sixth grades as well as the fourth.

In summary, the Doren Diagnostic Reading Test provides an excellent device for teachers in the primary grades who need to evaluate the progress of the children in learning the word-recognition skills to which they have been exposed. Deficiencies of the class as a whole in learning these skills as well as those of individual pupils are revealed by its use. The test also has value for diagnosing deficiencies among



retarded readers at the end of grade three and in the intermediate grades. Presumably the test was devised primarily for aid in diagnosing teaching of reading in the classroom situation where cases of mild and moderate deficiency can be remedied by the teacher. It is not appropriate for use with severe and complicated cases of reading difficulties. For such cases, other detailed diagnostic techniques must be employed.<sup>22</sup>

#### Stanford Diagnostic Reading Test

The Stanford Diagnostic Reading Test contains a series of measures designed to identify needed areas of instruction in the fundamental skills of reading. It is intended for use in the early part of some instructional sequences, such as at the beginning of the school year. The assumption is that, in order to improve pupil competence in a certain area, it is first necessary to find out what learning problems a pupil has and then to eliminate them as completely as possible.

These tests are for group administration and are to be given by the classroom teacher. Although the use of the test results is centered around classroom instruction, the findings also have value in a clinic setting.

The tests have been prepared on two levels with two forms at each level. A third level is presented being constructed. Level I is for use from the latter part of grade 2 to the middle of grade 4. Level II is for use from the latter part of grade 4 to the middle of grade 8 and also may be used to good advantage with poorly performing high school students.

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<sup>22</sup>Ibid., pp. 253-55.

The subtests in Level I are : Reading Comprehension, Auditory Discrimination, Syllabication, Beginning and Ending Sounds, Blending, and Sound Discrimination. In Level II the tests are: Reading Comprehension, (literal and inferential), Vocabulary, Syllabication, Sound Discrimination, Blending, and Rate of Reading.

The Stanford Diagnostic Reading Test may be used effectively in the educational process in the following ways: (1)administering the test in the fall to help teachers identify needed areas of instruction, followed by a general reading achievement test in the spring to determine the results of intervening instruction; (2)administration of a general reading achievement test, followed by use of the diagnostic test with those pupils who fall significantly below a certain score on the achievement test to discover reasons for their low achievement score so that appropriate remedial steps can be taken; (3)the test may be profitably used by teachers, counselors, and clinicians with pupils needing highly individualized help.

Use of this test has certain advantages: (a)The tests can be administered and interpreted by any competent classroom teacher. (b)Directions in the manual are clear and complete. (c)Excellent suggestions for remedial instruction are included in the manual. (d)Since it is a group test, it is economical in terms of time. (e)Emphasis is upon silent reading abilities. (g)Many of the reading difficulties disclosed by the test can be corrected by the classroom teacher. (h)There are two forms at each level of the test.

The Stanford Diagnostic Reading Test has certain limitations: (a)The test is not suitable for extreme reading disability cases or for nonreaders. (b)Since the test is based upon silent reading; some clinical workers will want to supplement it with an oral reading test. (c)The test does not measure difficulties in grade 1 or in the first part of grade 2. (d)Certain subtests are more effective for only a limited range of grade levels.<sup>23</sup>

Newkirk<sup>24</sup> cautions that any standardized test is only a measure of performance at one time. At the time of the test the student may be hungry, angry, sleepy, or nervous. For any number of reasons the student may be distracted and consequently his test score may be lower than it could be. Newkirk therefore finds the following limitations in the commonly used reading tests.

(1)A standardized reading test purports to measure the student's reading ability by having him read passages which may be of no interest to him.

(2)The type of reading comprehension measured on reading tests is not the type of comprehension needed for most kinds of reading.

(3)Tests of reading comprehension tend to overemphasize factual recall of relatively insignificant facts.

(4)Because of standardizing procedures, many standardized tests may be inappropriate for low socioeconomic and

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<sup>23</sup>Ibid., pp. 255-59.

<sup>24</sup>Thomas Newkirk, "Limitations of the Standardized Reading Test," English Journal 64 (March 1975): 50-52.

minority groups.

(5) Reading tests may actually test preexisting knowledge as much as they test reading comprehension.

(6) Rigid time restrictions create an unrealistic environment for the testing of reading.

In summary, it was this authors intent to describe for the reader various tools which may be employed in formally diagnosing reading disability. The tests described were grouped according to the classifications of (a) group survey tests, (b) group diagnostic tests, and (c) detailed individual techniques. Mention was also made of reasons why caution should be exercised in placing total emphasis on only formal means of diagnosis.

The relationships of various factors to a child's ability to read will be discussed in the following chapter.

## CHAPTER VIII

### FACTORS RELATED TO READING

#### Reading and Environment

Frymier<sup>1</sup> in pursuing the subject of motivation, found that positively and negatively motivated students differ markedly in their perception of time. The low-motivated student is typically preoccupied with the present, obsessed with the past and fearful of the future. Those students who really want to learn generally are conscious of the present, past, and future, but do not freeze on one aspect of time as do their less motivated counterparts. The results of a study by Coleman<sup>2</sup> et al., point to a family background of boys with reading disability which includes a domineering mother who exerts pressure on her male child to develop "strength" often equating this strength with educational achievement. The child's ineffective approach to and feeling of inadequacy in the performance of educational tasks results from such parental pressure. Heilman<sup>3</sup> expands on this position when he reports that

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<sup>1</sup>Jack R. Frymier, "Motivating Students To Learn," Psychological Factors in the Teaching of Reading, Eldon E. Ekwall, ed. (Columbus, Ohio: Charles E. Merrill Co., 1973), pp. 161-65.

<sup>2</sup>James Coleman, Frieda Bornston, and Jack Fox, "Parental Attitudes as Related to Reading Disability in Children," Remedial Reading: Classroom and Clinic, Leo Schell and Paul Burns, eds. (Boston: Allyn and Bacon, Inc., 1972), pp. 74-81.

<sup>3</sup>Heilman, Principles and Practices of Teaching Reading, 3rd ed., pp. 31-32.

the home environment and patterns of overprotection, psychological rejection, excessively high standards, perfectionism, or unfilled psychological needs stemming from the family configuration, are related to reading failure.

The promotion of family harmony is often dependent upon the activities in which it is engaged. Habits, attitudes, values and ways of thinking appear to be behaviors learned from the family and modified to some degree by outside influences. Robinson<sup>4</sup> et al. equate reading interest and ability to family activities. Such things as media use, family trips, and library usage were found to be highly related to success in reading. Zeller<sup>5</sup> emphasized the imitative aspects of reading. He reports a significant and positive relationship existed between success in reading and such experiences as looking at books and magazines, having someone read aloud, and being encouraged to show an interest in words, letters, and numbers. He concludes that the parents of more successful readers provided a better model for success in reading, i.e., were more frequent users of books and were fond of words. The writings of Wilson and Hall<sup>6</sup> additionally place stress on family activities which involve the child.

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<sup>4</sup>Helen Robinson, Samuel Weintraub, and Carol Hostetter, "Summary of Investigation Related to Reading," The Reading Teacher 18 (February 1965): 334-35, 346.

<sup>5</sup>Robert Zeller, "The Social Psychology of Reading," The Reading Teacher 17 (May 1964): 583-88.

<sup>6</sup>Robert Wilson and Mary Ann Hall, Reading and the Elementary School Child (New York: Van Nostrand Reinhold Co., 1972), pp. 313-19.

The results of a study conducted by Albert Koppenhauer<sup>7</sup> on reading and home environment indicated that parents should provide a home environment which enhances intellectual growth and emphasizes verbal development. Higher reading achievement in their children could result from such efforts. Process characteristics related to intellectual growth are: (a) nature of intellectual expectations of the child, (b) nature of intellectual aspirations for the child, (c) information about the child's intellectual development, and (d) the nature of rewards for intellectual accomplishments. Process characteristics related to verbal development are (a) emphasis on the use of language in a variety of situations, (b) opportunities provided for enlarging vocabulary, (c) emphasis on correctness of language usage and (d) the quality of language usage of parents.

#### Reading and Parents

The relationship between the failure of parents to read to small children and the later deficiency in reading interest and skills of those small children needs more study. The question is not only one of motivation and interest in reading. The capacity for imagery, the ability to see a "knight in armour," for example, when one hears the words, is developed as parents read and explain what they read to very small children.<sup>8</sup>

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<sup>8</sup>J. F. Rossman, "Remedial Readers: Did Parents Read to Them at Home?" Journal of Reading 17 (May 1974): 622-25.

Russell<sup>9</sup> points out the importance of parents' reading to small children to enrich language development and to aid children in understanding what reading means. Freshour<sup>10</sup> suggests that oral language development is an important foundation for reading which is enhanced as the parent reads to the small child. Swift<sup>11</sup> finds that encouraging a mother to read to her child so enriched the vocabulary and skills of the parent that she herself aided reading development in various ways. Dechant<sup>12</sup> finds it strange that reading theory and teaching have concerned themselves "largely with psychological, sociological, physical, and neurological matters but have not concerned themselves rigorously enough with language." Raven and Salzer<sup>13</sup> enquire into Piaget's theories of child development and find little encouragement there for those who advocate systematic reading programs before age four. Indeed, perhaps storytelling with pictures would have greater value. Wardhaugh<sup>14</sup> suggests that the "theories of language

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<sup>9</sup>D. H. Russell, Children Learn to Read, (New York: Ginn and Co., 1961).

<sup>10</sup>F. W. Freshour, "Beginning Reading: Parents Can Help," The Reading Teacher 25 (March 1972): 513-16.

<sup>11</sup>Marshall Swift, "Training Poverty Mothers in Communication Skill," The Reading Teacher 23 (January 1970): 360-67.

<sup>12</sup>Emerald Dechant, Reading Improvement (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973).

<sup>13</sup>R. Raven and R. Salzer, "Piaget and Reading Instruction," The Reading Teacher 24 (April 1971): 620-39.

<sup>14</sup>Ronald Wardhaugh, "Theories of Language Acquisition in Relation to Beginning Reading Instruction," Reading Research Quarterly 7 (Fall 1971): 168-94.



acquisition that are available to us today are irrelevant in deciding issues in beginning reading instruction," and he feels that one cannot easily link deficiencies in language acquisition and reading failure.

### Reading Readiness

There is overwhelmingly anecdotal, bibliographical and scientific evidence that children learn to read early, that is before they are of school age or before they become six years old. Yet, the educational system generally does not appear to recognize the need to stimulate children any earlier than grade one, based on the rationale that children will not be ready for reading until they are about six years of age. Today's four- and five-year olds (according to Cangemi and Laird)<sup>15</sup> are more sophisticated in their language experiences than were their predecessors, for they are literally bombarded with words that have real interest and meaning to them. For example, engrossing words appear on highway signs, posters, labels and various commodities; in numerous newspapers, magazines and books; on television shows of one kind or another; in the form of verbal interaction with better educated parents and in the language exposure made accessible in nursery and Sunday schools. Readiness for reading in terms of age six must be reexamined in the content of current changes in the world of today.

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<sup>15</sup>Joseph Cangemi and A. Laird, "When Are Children Ready to Learn to Read?" Reading Improvement 12 (Spring 1975): 47-49.

Binet's contribution of the concept of mental age has been of great value to the testing movement and has added to our understanding of intellectual readiness and maturity. However, according to Cangemi and Laird this concept seems to have been mistakenly equated with reading readiness, and the early literature on the subject is far from clear about readiness in terms of chronological or mental age. The literature has not demonstrated complete agreement as to the appropriate age a child is ready to be taught to read. Suggested ages have ranged from five and one half to ten years of age.<sup>16</sup>

More recent opinions regarding reading readiness as a multifaceted phenomenon would include, besides chronological and mental age, drawing conclusions, facility in distinguishing between visual symbols,<sup>17</sup> adroitness in word recollection<sup>18</sup> and a "teachable" moment relative to individual differences. This view has also been emphasized by Gates<sup>19</sup>

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<sup>16</sup>G. Arthur, "A Quantitative Study of the Results of Grouping First Grade Classes According to Mental Age," Journal of Educational Research 12 (1925): 496-502; E. B. Huey, The Psychology and Pedagogy of Reading (New York: Macmillan, 1908); C. H. Judd, Reading, Its Natural Development, (Chicago: University of Chicago Press, 1918); P. Klapper, Testing Children to Read, (New York: Appleton, 1914); G. T. Patrick, "Should Children Under Ten Years Learn to Read?" Popular Science Monthly 54 (1898-1899): 315-328; E. I. Woods, "A Study of Entering B<sub>1</sub> Children in Los Angeles City Schools," Journal of Educational Research, 1937).

<sup>17</sup>M. Petty, "An Experimental Study of Certain Factors Influencing Reading Readiness," Journal of Educational Psychology 30 (1938): 215-30.

<sup>18</sup>D. Durrell, Improving Reading Instruction (Yonkers, New York: World Books, 1956).

<sup>19</sup>A. Gates, "The Necessary Mental Age For Beginning Reading," Elementary School Journal (1954): 506.

who pointed out that if reading readiness in terms of mental age and chronological age is to have meaning it must be considered with other factors, such as type of reading program, teaching method utilized, individual preferences, and the interactive effects of these variables.

According to Malmquist<sup>20</sup> there is a growing trend to introduce reading instruction at the kindergarten level. In some circles, early reading ability tends to be a status symbol. It has been clearly shown that five year olds can learn to read in the sense that they can sound out some words and identify some phrases.

There are specialists in early childhood education in the United States who are opposed to systematic teaching of reading skills to all children in kindergarten. They are of the opinion that most young children at the kindergarten level are not sufficiently mature to endure formal teaching without harmful results. On the other hand, there are others in the United States claiming that new psychological theory and available research studies support the hypothesis that it is to an advantage for all children in the kindergarten to receive reading instruction.<sup>21</sup>

In Sanacore's<sup>22</sup> opinion when to start a child in a reading program is one of the most important decisions that

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<sup>20</sup>Ebe Malmquist, "International Overview of Primary Reading Practices," Journal of Reading 18 (May 1975): 615-24.

<sup>21</sup>J. Brzeinski, M. Harrison, and P. McKee, "Should Johnny Read in the Kindergarten?" The Education Digest 33 (October 1967): 44-46.

<sup>22</sup>Joseph Sanacore, "Checklist For the Evaluation of Reading Readiness," Elementary English 50 (September 1973): 858-60.

a teacher has to make. The child who is ready to read but who is not directed properly may become bored and direct his energy toward less meaningful tasks. Conversely, the child who is placed in a reading program before he has developed the proper readiness skills may become frustrated and develop a lasting negative attitude toward reading. Dechant<sup>23</sup> contends that a child who is started in a reading program before he is ready for it falls further and further behind and develops a strong aversion toward reading. According to Dechant the child actually learns not to read which in his opinion is quite different and far more serious than not learning to read. Bond and Tinker<sup>24</sup> also discuss problems that may develop if a child is placed in a reading program before he has attained readiness. They state that the "inability to cope with the assignments produces frustration which leads to feelings of inadequacy, inferiority, insecurity, and perhaps even rebellion." Such a child is likely to develop an attitude of indifference to reading. He may even come to hate reading and all persons and activities connected with reading activities.

Todd<sup>25</sup> feels that although educational research has progressed, there is no substantial evidence to prove that reading instruction should not begin at home, that it does

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<sup>23</sup>Emerald Dechant, Diagnosis and Remediation of Reading Disability, (West Nyack, New York: Parker Publishing Co., 1968): p. 65.

<sup>24</sup>Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, 1967, p. 140.

<sup>25</sup>Charles Todd, "Should Reading Be Taught at Home?" The Reading Teacher 26 (May 1973): 814-16.

not already begin at home, that it should not become a requirement for school entrance.

This may seem somewhat unrelievable, but according to Todd the facts should be considered without emotional bias. Teachers have insisted on teaching reading in the primary grades and have discouraged parents from taking an active part in the process. But in recent years, first grade teachers throughout the nation have observed more and more entering pupils who are already good readers.

This is partially the result of young children watching special television programs such as Sesame Street, the effect of publications aimed at parents, the greater maturity of youngsters in the '70's, and the preparation given by kindergarten, Head Start, and other preschool programs. The major reason, however, according to Todd, appears to be that a parent or someone else has read to and listened to the child.

Pikulski<sup>26</sup> offers the following ways for parents to help a child who is having reading difficulties.

(1) Listen to children; give them many opportunities to use language but do not become impatient if they cannot express themselves clearly.

(2) Take time to carefully explain things that are happening to and around children. When you ask them to do something, tell them why you think it should be done.

(3) Point out parts of the environment that children might miss. Give labels to these things.

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<sup>26</sup> John Pikulski, "Parents Can Aid Reading Growth," Elementary English 51 (September 1974): 896-97.

(4) Introduce new experiences. Take trips, provide the opportunity to join clubs and other organizations. These things will help to foster new interests.

(5) Point out letters and words as they are encountered in the child's everyday world or on television, i.e., STOP, RESTAURANT, and titles on movie marquees. Do this in as natural a way as possible and do not become upset if the child does not seem interested or remember the words.

(6) Children usually model themselves after their parents; therefore, parents would do well to provide a good reading model by reading themselves. It is not uncommon to find that the parents of children with reading problem do very little reading themselves. Fathers more frequently fall into this category than do mothers.

(7) Read to children. This is an excellent way to build the language foundation and thinking skills necessary for becoming an effective reader. Choose books carefully for reading to them.

(8) Encourage children to secure their own library card, and take them to the public library. But do not force them to read any book or at any particular time.

(9) Read books that are too difficult for them to read themselves in order to stimulate interests.

(10) Buy books if they express an interest in them.

(11) As new interests are beginning to develop, try to find reading materials that fit these interest areas.

(12) Read textbooks from science or social studies to children in order to help deal with the facts and concepts

introduced in class. Spare children the torture of trying to deal with materials that are frustrating. Parents and teachers can cooperate in this endeavor.

#### Reading and Language

According to Smith<sup>27</sup> not only does the development of language in young children serve as a foundation for reading; language reinforces reading throughout the school years. There appears to be evidence of close interrelations between general language abilities and achievement in reading.

Loban<sup>28</sup> made an intensive and extended longitudinal study of language used by children from kindergarten through grade nine. The same children were sampled at regular intervals over a period of seven years. One of his conclusions was that those who are high in general language ability are also high in reading ability and those who were low in general language ability are also low in reading ability.

Strickland<sup>29</sup> made an extensive investigation of the language of elementary school children. Her studies indicated a close relationship between general language and reading ability.

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<sup>27</sup>Nila Smith, "Early Language Development: Foundation of Reading," Elementary English 52 (March 1975): 399-402.

<sup>28</sup>Walter Loban, The Language of Elementary School Children, NCTE Report No. 1 (National Council of Teachers of English, 1963).

<sup>29</sup>Ruth Strickland, The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children, 38 (Bulletin of the School of Education: Indiana University, July, 1962).

Milner<sup>30</sup> investigated the effect upon first grade reading achievement of childrens' use of language in the home. She found those high in reading ability came from an enriched verbal environment and engaged in conversation with their parents more often than the low achievers.

Several studies in addition to those mentioned above have shown similar results concerning mutual interrelationships in general language and reading ability.

Many other studies have been conducted to ascertain if there are corresponding relationships between reading ability and each of the following separate language strands of speaking, listening, spelling, and writing. The results of these studies indicate a favorable relationship between reading and these separate language arts.

The reading skill is a composite of skills and it is affected by each of the separate language skills. Without any effort to integrate the various strands of language skills, all of them just naturally interweave and intertwine with reading. Since this is the case, conscious efforts should be directed toward making the best possible use of the language skills that children bring to school with them, and to continuously improve all of the language skills as well as reading throughout their school life.<sup>31</sup>

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<sup>30</sup> Esther Milner, "A Study of Relationships Between Reading Readiness in Grade One School Children and Patterns of Parent-Child Interaction" Child Development 22 (June 1951).

<sup>31</sup> Smith, "Early Language Development: Foundation of Reading, pp. 399-402.



### Reading and Readiness Tests

Reading readiness tests are attempts to measure the level of development of children in those abilities which have been shown to be related to reading. Most readiness tests measure part or all of the following abilities: visual perception, auditory perception, vocabulary, verbal comprehension, and motor skills. Test results which can be reported on a psychograph or profile for each child give the teacher the advantage of being able to identify a child's specific areas of strength and weakness. This information gives the teacher a guide to the kinds of experience she must provide. Tests which give only a total quantitative score have some value but are not as valuable as those tests which give norms and results for each sub-section. Some of the more commonly used readiness tests are Gates Reading Readiness Tests, Lee-Clark Reading Readiness Test, Metropolitan Readiness Test, Murphy-Durrell Diagnostic Reading Readiness Test, and Ilg and Ames Developmental Test.

A psychologist once said, "Teachers will give a battery of test to determine if a child has six toes and all they really have to do is take off his shoe to see." What he was trying to emphasize was the need for the teacher to rely on her extensive training and experience to help her make judgments. The old concept of the test being more scientific and accurate than the teacher's judgment is slowly being replaced by the attitude that the test should be considered as just one more tool for the teacher to use to supplement her professional judgment. This by no means implies that

standardized tests should be discarded. It means, rather, that these tests should be used wisely.<sup>32</sup>

There have been many efforts to measure, predict, and define readiness for school and potential problems in learning.<sup>33</sup> There are reports that teachers' judgments predict performance as well as school readiness tests do and that they are useful in identifying high risk children. Dykstra<sup>34</sup> reports that the correlations between readiness tests given in kindergarten and different achievement measures generally are between .40 to .60; this makes these tests only moderately useful, and not very useful in individual cases.

Others have devised test batteries specifically for early identification of children with potential problems. Tobiessen et al.<sup>35</sup> found the Schenectady Kindergarten Rating Scales moderately useful in predicting the performance of children in grade 1 who were likely to have learning and

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<sup>32</sup>Kaluger and Kolson, Reading and Learning Disabilities, pp. 123-24.

<sup>33</sup>L. Eaves, D. Kendall, and J. Crichton, "Early Identification of Learning Disabilities: A Follow-Up Study," Journal of Learning Disabilities 7 (December 1974): 632-38.

<sup>34</sup>R. Dykstra, "The Use of Reading Readiness Test For Diagnosis and Prediction: A Critique," The Evaluation of Children's Reading Achievement, T. C. Barrett, ed., (Newark, Delaware: International Reading Association, 1967); B. Keogh and C. Smith, "Early Identification of Educationally High Potential and High Risk Children," Journal of School Psychology 8 (1970): 285-90; N. Haring and R. Ridgway, "Early Identification of Children With Learning Disabilities," Exceptional Child 33 (1967): 387-95.

<sup>35</sup>Jon Tobiessen, D. Duckworth, and W. Conrad, "Relationships Between the Schenectady Kindergarten Rating Scales and First Grade Achievement and Adjustment," Psychology in the Schools 8 (1971): 29-36.

impulse control problems. Pate and Webb<sup>36</sup> published a group test that is reported to identify young children with potential learning problems. In their follow-up of children after three years in school, they found that the screening test identified 84% of the children who failed in the primary grades.<sup>37</sup> Rogolsky<sup>38</sup> summarized some of the work in screening for learning disabilities and concluded that language and perceptual-motor factors are reliable predictors for school success, whereas gross motor performance is not. The Vane Kindergarten Test<sup>39</sup> is designed to predict school achievement in the early grades, but a large sample of test results shows good reason to question its usefulness.

A recent valuable contribution is the work of Jansky and de Hirsch.<sup>40</sup> In a follow-up of children tested in kindergarten with their Screening Index, they identified 76% to 83% of the children who failed in reading at the end of grade 2.

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<sup>37</sup>J. Pate and W. Webb, "Predicting Failure in the Primary Grades," Educational and Psychological Measurement 30 (1970): 459-62.

<sup>38</sup>Maryrose Rogolsky, "Screening Kindergarten Children: A Review and Recommendations," Journal of School Psychology 7 (1968-1969): 18-27.

<sup>39</sup>Paul McKnab and Marvin McKnab, "The Vane Kindergarten Test as a Predictor of First Grade Achievement," Journal of Learning Disabilities 5 (1972): 57-59.

<sup>40</sup>J. Jansky and K. DeHirsch, Preventing Reading Failure: Prediction, Diagnosis and Intervention, (New York: Harper and Row, 1973).

Summary

An attempt was made in this chapter to discuss reading and the environment, reading and parents, reading readiness, and reading and language as factors which may be related to reading ability. The chapter was concluded with a brief discussion of reading readiness tests. With the above in mind, the author would like to give an overview of specialized methods which may be used to remediate a reading disability.

## CHAPTER XIX

### OVERVIEW OF SPECIALIZED REMEDIAL METHODS

Certain highly specialized approaches to both pre-academic training and reading instruction have been developed for children with some type of learning disorder regardless of the classificatory label attached to them. One will find, therefore, that some of the systems were developed for deaf children, some for aphasic children, and others for children labeled dyslexic, brain damaged, or language disordered.<sup>1</sup> The futility of labeling methods may be exemplified by recalling Maria Montessori,<sup>2</sup> who developed methods for teaching retarded, deprived children. It is not unusual or irrational to use a method devised for teaching language to deaf children when teaching hearing, language delayed children, because the system, with or without modification, may work equally well with both groups.

The important consideration in selecting a teaching method is not for what group it was designed, but for what groups it will work. One may go so far as to use materials prepared for strengthening kinesthetic senses of the child

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<sup>1</sup>Patricia Myers and Donald Hammill, Methods For Learning Disorders (New York: John Wiley and Sons, Inc., 1969), p. 81.

<sup>2</sup>Maria Montessori, The Montessori Method, (New York: Strokes, 1912).

while, with other materials, reinforcing his visual abilities.

In attempting to categorize the specialized methods for teaching children with specific learning disabilities, several different methods of classification were considered. The teaching methods could be classified as synthetic or analytic, but such a classification was deemed unsuitable for two reasons.

First, there is little agreement as to which methods are analytic and which are synthetic.<sup>3</sup> Diack<sup>4</sup> states that the analytic methods are the whole word or sentence approaches, and that the synthetic methods begin with letters and build them up into words. Lehtinen,<sup>5</sup> however, refers to her teaching method, which is strongly phonic-oriented, as analytic. To reduce the possibility of confusion accruing from the disagreement on terms, it seemed better to eliminate the analytic-synthetic dichotomy.

The second reason for discarding the categories of analytic and synthetic was quite pragmatic in nature--not all of the methods described could be pigeonholed in these categories. Some of the systems are not methods in the strictest sense of the word but are sets of sequential procedures aimed at developing various skills and, as such, are not "methods" of teaching reading, spelling, writing, or any

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<sup>3</sup>Myers and Hammill, Methods For Learning Disorders, p. 82.

<sup>4</sup>H. Diack, Reading and the Psychology of Perception, (Nottingham, England: Palmer, 1960).

<sup>5</sup>Strauss and Lehtinen, Psychopathology and Education of the Brain-Injured Child (1947).

other academic subject.

The methods and techniques are presented in the remainder of this chapter according to the primary orientation emphasized in the instructional system. Each group of methods was presented in overview at this point along with a brief description of the category; mention is made also of the specialized methods included within the category. The seven categories include the following systems: perceptual-motor, multisensory, language development, phonic, structural test-related and neurological organization.<sup>6</sup>

#### Perceptual-Motor Systems

Much of the recent work in developing methods and techniques for teaching learning disabled children has focused upon the perceptual-motor problems presented by many of the children; in actuality, many of the techniques suggested would be considered readiness activities by primary teachers.<sup>7</sup> The systems included in this category are those developed by Barsch,<sup>8</sup> Freidus,<sup>9</sup> Getman,<sup>10</sup> and Kephart.<sup>11</sup> The techniques

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<sup>6</sup>Myers and Hammill, Methods For Learning Disorders, p. 82.

<sup>7</sup>Ibid., p. 83.

<sup>8</sup>R. Barsch, Achieving Perceptual-Motor Efficiency: A Space-Oriented Approach to Learning (Seattle, Washington: Special Child Publications, 1967).

<sup>9</sup>E. Freidus, "Methodology For the Classroom Teacher," The Special Child in Century 21, J. Hellmuth, ed., (Seattle, Washington: Special Child Publications, 1964); "The Needs of Teachers For Specialized Information on Number Concepts," The Teacher of Brain-Injured Children, W. Cruickshank, ed., (Syracuse, New York: Syracuse University Press, 1966).

<sup>10</sup>G. Getman, How to Develop Your Child's Intelligence, (Luverne, Minnesota: Announcer, 1962).

<sup>11</sup>Kepart, The Slow Learner in the Classroom, (1960).

emphasize training in visual-perceptual areas; spatial orientation, directionality, eye-hand coordination, etc., are discussed in detail.

Seldom do the authors mentioned above discuss structured programs of instruction in reading or other school subjects. Instead they seem to believe that the child's difficulty in reading has its genesis in a more basic problem -- perceptual-motor deficits--and once the child is trained thoroughly in perceptual-motor areas, he can be taught to read by any of the standard methods.

#### Multisensory Systems

The best known and best defined of the multisensory methods of teaching is the system designed by Fernald.<sup>12</sup> In the initial stages of the Fernald approach, equal emphasis is placed upon the visual, auditory, kinesthetic, and tactile (VAKT) modalities of the child. Although tracing of letters for tactile-kinesthetic effect is mentioned by Gillingham and Stillman,<sup>13</sup> the tactile and kinesthetic elements are not an integral part of their method. Stuart<sup>14</sup> recommends the use of multisensory techniques when teaching children with "specific language disabilities" and

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<sup>12</sup>G. M. Fernald, Remedial Techniques in Basic School Subjects, (New York: McGraw-Hill, 1943).

<sup>13</sup>A. Gillingham and B. Stillman, Remedial Training For Children With Specific Disability in Reading, Spelling, and Penmanship, 7th ed., (Cambridge, Massachusetts: Educators Publishing Service, 1965).

<sup>14</sup>M. F. Stuart, Neurological Insights into Teaching, (Palo Alto, California: Pacific Book, 1963).



marshalls an impressive amount of research to buttress her arguments. Although Stuart does not offer a remedial instruction program, she does provide the reader with an excellent approach to reaching a core curriculum of art and music, utilizing many perceptual-motor activities. Also included in the multisensory category are the techniques of Cruickshank<sup>15</sup> and Lehtinen.<sup>16</sup>

#### Language Development Systems

The methods that best illustrate this category are those designed by Barry,<sup>17</sup> McGinnis,<sup>18</sup> and Myklebust<sup>19</sup> which were developed for children with auditory receptive language disorders or, in their term, aphasic children. In the McGinnis system, known also as the "Association Method," children are taught initially to associate sounds with pictures whose names begin with the sound being taught.

The graphic symbol is included in the association, but at the beginning the emphasis is upon fostering a meaningful

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<sup>15</sup>W. M. Cruickshank, F. Bentzen, R. Ratzebury, and M. Tannhauser, A Teaching Method For Brain-Injured and Hyper-active Children (Syracuse, New York: Syracuse University Press, 1961).

<sup>16</sup>Strauss and Lehtinen, Psychopathology and Education of the Brain-Injured Child, (1947).

<sup>17</sup>H. Barry, The Young Aphasic Child: Evaluation and Training (Washington, D. C.: Volta Bureau, 1961).

<sup>18</sup>M. McGinnis, Aphasic Children: Identification and Education by the Association Method (Washington D. C.: Volta Bureau, 1963).

<sup>19</sup>H. R. Myklebust, "Learning Disabilities: Definition and Overview," Progress in Learning Disabilities, Vol. 1, H. R. Myklebust, ed., (New York: Grune and Stratton, 1968): 1-15.

association between a sound and a familiar picture, rather than between two abstract events, such as a sound and a letter.<sup>20</sup>

### Phonic Systems

The methods that have been included in the auditory category are those relying primarily upon auditory-visual and visual-auditory associations between sounds and letters or letters and sounds. The approach taken in these methods, exemplified by the systems of Spalding<sup>21</sup> and Gillingham and Stillman,<sup>22</sup> is essentially auditory in nature. Provisions are made in the phonic systems for strengthening visual associations, but these associations always are related to the graphic symbol, that is, the graphic representation of the sound.<sup>23</sup>

In the writings on phonics, there is some disagreement. Some adhere to the fact that children should learn only simple phonic rules and not a detailed study of irrelevant or illogical rules. They should practice habitual letter combinations.<sup>24</sup> Samuels<sup>25</sup> believes that letter sound is much

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<sup>20</sup>Myers and Hammill, Methods For Learning Disorders, p. 84.

<sup>21</sup>R. B. Spalding and W. T. Spalding, The Writing Road to Reading, (New York: Morrow, 1957).

<sup>22</sup>Gillingham and Stillman, Remedial Training For Children With Specific Disability in Reading, Spelling, and Penmanship, 7th ed., (1965).

<sup>23</sup>Myers and Hammill, Methods For Learning Disorders, p. 85.

<sup>24</sup>Avis Agin, "Overview of Recent Research in Reading," Elementary English 52 (March 1975): 370-75.

<sup>25</sup>S. J. Samuels, "Letter-Name Versus Letter-Sound Knowledge in Learning to Read," Reading Teacher (April 1971): pp. 604-608.

more important than letter name. The methods are widespread and some are very innovative, i.e., Alpha One with letter people to Ideophonographic methods (82 characters give visible image to every sound). One author, Rohwer<sup>26</sup> even believes that we should postpone reading and other skills until junior high years. He believes that early childhood is not the time to teach skills that can be learned quickly and effectively in later years.

### Structural Systems

Although Fitzgerald<sup>27</sup> and Pugh<sup>28</sup> have not developed methods for teaching specific subjects, such as reading and spelling, they have devised systems for teaching the structure of the English language as it is expressed vocally and graphically. The techniques were designed originally for deaf children who manifest great difficulty in acquiring the proper structure of the language. The methods, however, have been used successfully with many types of children, although little has been published regarding results.

Time and again, the teacher of learning disordered children is cautioned to provide careful structure for the children under his tutelage, both in the physical surroundings and in the presentation of tasks to be learned. Very

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<sup>26</sup>W. D. Rohwer, "Start of Three R's Urged at Junior High Level," Arizona Republic (March 10, 1973).

<sup>27</sup>E. Fitzgerald, Straight Language For the Deaf (Washington, D. C.: Volta Bureau, 1963).

<sup>28</sup>B. Pugh, Steps in Language Development (Washington, D. C.: Volta Bureau, 1947).

seldom are suggestions given as to how structure can be provided in learning; much has been written about structuring the physical environment. The Fitzgerald Key gives the teacher, in at least one area--language expression-- a technique for incorporating structure in teaching.<sup>29</sup>

#### Test-Related Systems

The systems discussed within this category are related directly to two diagnostic test batteries, the Illinois Test of Psycholinguistic Abilities<sup>30</sup> and the Marianne Frostig Developmental Test of Visual Perception.<sup>31</sup> Without question the procedures classified as "test related" systems could be discussed in other categories. For example, the remedial technique developed by Frostig are perceptual-motor, but because the suggestions for remediation are so closely associated with the child's performance on a specific test, as is not true of systems in other categories, the decision was made to mention the Frostig and the Illinois test-related approaches at this time.<sup>32</sup>

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<sup>29</sup>Myers and Hammill, Methods For Learning Disorders, p. 84.

<sup>30</sup>S. Kirk, J. McCarthy, and W. Kirk, Illinois Test of Psycholinguistic Abilities, Revised Edition, Examiner's Manual, (Urbana: University of Illinois Press, 1968).

<sup>31</sup>M. Frostig, P. Maslow, D. Lefever, and J. Whittlesey, The Marianne Frostig Developmental Test of Visual Perception, 1963 Standardization, (Palo Alto, California: Consulting Psychologist, 1964).

<sup>32</sup>Myers and Hammill, Methods For Learning Disorders, p. 85.

A Neurological Organization System

Delacato<sup>33</sup> has proposed a theory of neurological disorganization as the basis of learning disorders and has developed a system of therapy based upon the theory. The methods suggested by Delacato have produced widespread discussion and controversy, and no attempt is made in this text to resolve the conflict simply, the theory and treatment program are presented. Many teachers undoubtedly will find that the motor training described by Delacato can produce desirable results in the children they teach, at least in the area of motor development if in no other areas. Many learning disabled children manifest aberrations in motor coordination, gross and fine, and for this reason, Myers and Hammill feel some teachers might wish to incorporate elements of the Delacato regimen in physical education programs.<sup>34</sup>

In addition to Delacato, both Freidus<sup>35</sup> and Kephart<sup>36</sup> also present many techniques that focus upon the development of motor skills in children.

From the multitude of methods presented, both the diagnostician and the teacher must have some rational basis

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<sup>33</sup>C. Delacato, The Treatment and Prevention of Reading Problems (Springfield, Ill.: Thomas, 1959); C. Delacato, The Diagnosis and Treatment of Speech and Reading Problems (Springfield, Ill.: Thomas, 1964).

<sup>34</sup>Myers and Hammill, Methods For Learning Disorders, p. 85.

<sup>35</sup>Freidus, "Methodology For the Classroom Teacher," (1964).

<sup>36</sup>Kephart, The Slow Learner in the Classroom, 1960.

for selecting an appropriate method for teaching a particular child. The decision must be made in light of the child's specific learning disabilities as measured and in light of the types of disability best ameliorated by various methods.

In an ideal situation diagnostician and teachers would work together closely within the same theoretical frame of reference. Diagnosticians would have an intimate knowledge of the remedial methods, which was derived from direct observation, and in all likelihood would continue to evaluate the children. Because of this close association, teachers would be familiar with diagnostic information and its implications for instruction. In situations such as the one just described, the transition from diagnosis to remediation is accomplished without hindrance.<sup>37</sup>

Niles and Hutson<sup>38</sup> feel that approaches to reading can be described best in terms of Whole Word approach or Component Analysis approach. The many teaching programs are essentially combinations that vary the emphasis on one or the other of these.

The Whole Word approach emphasizes mastery through associating the verbal label with the visual configuration of the word. Component Analysis may take several forms, but they all attempt to teach the child ways to analyze the

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<sup>37</sup>Myers and Hammill, Methods For Learning Disorders, pp. 85-86.

<sup>38</sup>Jerome Niles and Barbara Hutson, "Trial Teaching: The Missing Link," Psychology in the Schools 11 (April 1974): 188-91.

written word into parts that are associated with sounds. The best known is the phonics approach, in which the child is taught to decode words by utilizing letter sound associations. The "word family" method employs lists of similar words such as bat, cat, at, fat; the child is taught to substitute one initial consonant sound for another. The currently popular linguistic method is similar except that the child is not taught directly the consonant or vowel sound in isolation, but is expected to abstract the individual sounds through experience with many words in which the letter has similar sounds.

Gentry<sup>39</sup> feels the kinesthetic approach to word recognition occupies a unique status in American reading methodology. In the half-century since Fernald and Keller<sup>40</sup> outlined their hand-tracing technique, this method has achieved a theoretical position equal to that of the more firmly established visual and auditory approaches. Few educators would take exception to Mills'<sup>41</sup> observation that "... reading authorities seem to agree that there are three basic approaches to the teaching of word recognition--the visual, the phonic, and the kinesthetic..." In addition, eclectic theorists can point to a substantial body of research that tends to support

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<sup>39</sup>Larry Gentry, "Clinical Method in Classroom Success: Kinesthetic Teaching," Reading Teacher 28 (December 1974): 298-300.

<sup>40</sup>G. Fernald and H. Keller, "The Effects of Kinesthetic Factors in the Development of Word Recognition in the Case of Nonreader," Journal of Educational Research 4 (1921): 355-57.

<sup>41</sup>R. Mills, The Teaching of Word Recognition, (Fort Lauderdale, Florida: The Mills School, 1970).

the multisensory maxim: where the visual and auditory channels fail, tactile and kinesthetic mechanisms often fail.<sup>42</sup>

Unfortunately, due to the one-to-one teaching situation which is required, the Fernald technique and similar kinesthetic methods appear to be almost exclusively limited to clinics and special education classrooms.<sup>43</sup>

### Summary

In this chapter the author gave an overview of specialized remedial methods. The methods were divided into the following categorical systems: perceptual-motor, multisensory, language development, phonic, structural, test-related, and neurological organization.

In the following chapter, the author will attempt to summarize the preceding chapters as succinctly as possible.

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<sup>42</sup>A. Berman, "The Influence of the Kinesthetic Factors in the Perception of Symbols in Partial Reading Disability," Journal of Educational Psychology 30 (1939): 187-88; G. M. Fernald, Remedial Techniques in Basic School Subjects (New York: McGraw-Hill, 1943); M. Talmadge, A. Davids, and M. Danifer, "A Study of Experimental Methods of Teaching Emotionally Disturbed Brain Damaged, Retarded Readers," Journal of Educational Research 56 (1963): 311-16; R. Anderson, "Physiologic Considerations in Learning: The Tactual Mode," Learning Disorders 3, J. Hellmuth, ed., (Seattle, Washington: Special Child Publication, 1968): 41-58; Mills, The Teaching of Word Recognition, 1970.

<sup>43</sup>Gentry, "Clinical Methods in Classroom Success: Kinesthetic Teaching," pp. 298-300.



## CHAPTER X

### SUMMARY AND CONCLUSIONS

The purpose of this investigation was to present the recent findings on the subject of reading disability; its causes, diagnosis, and methods of remediation. The author limited the examination of literature to that dealing with children in the primary grades from middle class homes and of average or above average intelligence who are having difficulty interpreting visual stimuli.

The nature of reading as a complex process was discussed. Because reading is a composite of many specific abilities it is necessary to break down general comprehension into the specific skills that constitute it.

All the literature surveyed by this author indicate that there is no single cause of reading disability. Rather there are many causes of reading disability: physical, intellectual, emotional, neurophysical, environmental, and educational.

The disabled reader was described according to severity and was classified as a simple retardation case, a specific retardation case, a limiting disability case, or a complex disability case.

During the discussion on diagnosing reading disability, informal and formal testing procedures were described.

The author also attempted to present the various difficulties in reading that these tests may show.

Though many factors may be related to reading ability, emphasis was placed upon reading and the environment, reading and parents, reading readiness, reading and language, and reading and readiness test.

The specialized remedial methods described by this author were discussed according to the following systems: perceptual-motor, multisensory, language development, phonic, structural, test-related, and neurological organization.

It is this author's hope that this investigation will provide other interested readers with a consolidated examination of reading disability in all its ramifications. This author has attempted to view all aspects of reading disability with the hope that those who read this paper will come to a better understanding of children who suffer from this disorder.

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