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THE DIAGNOSIS AND REMEDIATION OF A SEVERELY DISABLED READER: A CASE-STUDY

By

Edmund Vincent Burke

A DISSERTATION

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A CASE-STUDY

ABSTRACT

THE DIAGNOSIS AND REMEDIATION
OF A SEVERELY DISABLED READER:
A CASE-STUDY

By

Edmund Vincent Burke

This is a case-study of a severely disabled reader. The individual in the study is an eleven year old caucasian boy who had not progressed beyond an equivalence of grade one in reading despite five years of audio-visual reading instruction at school and three years of similar instruction at a reading center. Psychologists had diagnosed the individual as having a central nervous system impairment which handicapped numerous phases of his intellectual functioning. Their prognosis was that it was doubtful that he would ever read significantly above his present level.

The case-report describes in detail the procedures that the investigator used in the diagnosis and remediation of the individual.

Etiological data was gathered from several sources: interviews with his parents; teachers and others who knew him; his file at the Reading Center; school reports; and from the individual himself. As the data was gathered it was organized under four headings for later analysis: physical, sociological, educational and psychological factors.

Therapeutic data about the individual's strengths, weaknesses and behavior in reading were obtained from the administration of standardized tests and informal procedures. These data were grouped under the four signs of the Sherman Model of Reading and Learning:

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sight vocabulary, decoding performance, fluent texting and comprehension.

When sufficient pertinent etiological and therapeutic data had been gathered, recorded in a daily diary, and analyzed, the investigator selected ten learning principles which were incorporated into the remedial instruction. It was also decided to use a language experience approach combined with a multi-sensory approach to quickly develop the individual's reading skills, particularly his sight vocabulary.

During the sixteen weeks of remediation, the individual learned three hundred sight words through a method somewhat similar to Stages 1 and 2 of the Fernald technique. Words were obtained from language experience stories or from a basic sight word list. Each word was written in large cursive letters onto a flashcard and was learned by tracing and saying and by writing and saying the word until it could be reproduced and recognized when it was flashed.

The investigator composed sentences and stories solely from known sight words to facilitate the development of fluent texting and comprehension. Each reading passage was typed on a primary typewriter and the same format was used each time so as not to hamper either fluency or comprehension.

By the end of the remedial period the individual had improved in three of the four signs on the Sherman Model of Reading and Learning. His sight vocabulary, measured by the Slosson Oral Reading Test, had increased from a raw score of thirty-four to forty-five words. His fluency had improved and he showed that he was able to read

meaningful units of language when he read aloud. His reading comprehension was good, particularly when he read the passages aloud. He was administered the Gates-MacGinitie and his grade equivalence had increased from 1.5 to 2.4 at the end of the sixteen weeks of remediation.

To my wife, Joy, and my
children, Kristen and Jaime

They did without
so that I could further my education

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E. V. B.

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CHAPTER I

STATEMENT OF THE PROBLEM

The Need

The first recorded systematic study of the reading process in an English-speaking country was carried out during the 1880s and was followed, some twenty years later, by the first published report of reading disability - the case of a young boy who could not read because of "congenital word blindness" (Harris and Sipay, 1980, p. 10). Since that time, learning to read has maintained pride-of-place in research and has attracted the attention of researchers from many disciplines: education, medicine, psychology, neurology and linguistics. Rupley and Blair (1977) stated that the literature is more replete with research in the subject matter of reading such as the psychology of reading, methodological approaches to reading instruction, diagnosis and remediation of deficits in reading than in any other area in the curriculum.

This writer was impressed by the quantity and quality of research in the diagnostic and remedial aspects of reading and the insights gained into each of these areas. However, it was disconcerting at the same time, to note that so much of this knowledge was fragmentary and somewhat indecisive. Concern was brought on by eminent scholars who issued admonitions such as these:

STATEMENT OF THE BOOBTEN

a. No one fully understands the extremely complex process we call reading. . . . Most models of reading are partial in that they are concerned with specific aspects (e.g., perceptual or cognitive), stages (beginning or skilled reading), or modes (oral or silent reading) and do not attempt to account for all phases of the reading process. No model can be called the most acceptable; the search continues (Harris and Sipay, 1980, p. 6).

b. Psychology is commonly regarded as the study of behavior. And because reading is one type of behavior . . . it might be assumed that psychologists have devoted considerable time and effort to studying it systematically. Unfortunately such is not the case . . . (and) there has not emerged and does not exist at present a systematic and well-formulated psychology of reading. . . . (Those with an interest in reading) have tended to select various psychological positions to support certain of their own practices and beliefs. These are fragmentary and piecemeal (Kingston, 1968, pp. 7, 15).

c. Research has not been very helpful to teachers in this matter of comprehension. . . . We still know next to nothing about the process, even though we are continually devising new measures of whatever it is (Early, 1976, p. 145).

d. Anyone who knows the literature on beginning reading is forced to conclude that much still needs to be learned about what it is and how it should be taught. Those who know the literature and are also aware of what goes on in classrooms must face up to another inevitable conclusion, namely, the failure of classroom practices to reflect what is known (Adams, Anderson, and Durkin, 1978, p. 153).

e. Despite over thirty years of research on specific reading and writing disabilities in children with normal intelligence, the results are contradictory as indicators of either causes of the disability or remedial programs that help persons overcome them (Valtin, 1979, p. 34).

Statements like these, out of context as they are, tend to lead one to believe that there has been little real advancement in

reading-related areas since the 1880s, however, this could not be further from the truth. Although there may be no general consensus about the processes involved in learning to read, the etiology of reading disabilities, or how we may best diagnose or remediate disabled readers, never before have we been exposed to such a rich variety of theoretical processes, models of reading, instructional and remedial procedures, and diagnostic instruments. Why then does so much confusion and uncertainty exist in the pedagogical applications of this knowledge, particularly in regard to the diagnosis and remediation of disabled readers? Perhaps part of the answer lies in theories we hold about the etiology of reading disability.

If one were to support the causation theory of Samuel L. Blumenfeld (1974), the English-speaking world could soon be rid of reading disabilities:

> Dyslexia is a learning disorder caused by applying hieroglyphic instruction techniques in teaching children to read an alphabet writing system. I say it is a learning disorder because we know it can be unlearned . . . the technique for curing dyslexia . . . (is) merely unlearning and relearning how one is taught to read . . . dyslexia is a learning disorder, not a disability because children who get it are quite able to learn. . . . Their problem is that they learn too well and try too hard to assimilate what really cannot be assimilated. Dyslexia is a learning disorder because it is caused by a teaching disorder. When you impose hieroglyphic instruction method on an alphabetic writing system you create symbolic disorder - that is, disorder in the use, or I should say misuse, of symbols - which in turn creates a learning disability, which in turn can be straightened out by creating symbolic order (p. 2).

In the view of the investigator, Harris and Sipay (1980) provide a more credible view of the possible causes of most instances of reading disability. They cite several single-cause theorists who,

during the 1950 to 1970 era, advocated that reading disability in an individual could be traced to a single cause. Their list of possible causes include: inheritance of the disability, brain damage, neurological dysfunction, maturational lag, deficiencies in body chemistry, verbal deficit, and, the one that is still currently popular as a main cause, perceptual motor deficit.

One reason that the single-factor theory appears more plausible than Blumenfeld's is that it ties in neatly with the notion that reading is mainly a two-fold process:

> There is the mechanical aspect, the physiological responses to the print, consisting of certain oculomotor skills, the eye movements, through which sensations are conveyed to the brain; and second, the mental process through which the meaning of the sense impressions is perceived and interpreted, involving thinking with shift inferences (Hildreth, 1958, p. 19).

The multi-factor theory of reading disability is the most widely accepted among educators, psychologists, and other interested in reading disability (Roswell and Natchez, 1971; Harris and Sipay, 1980; Bond and Tinker, 1967). The multi-causal theorists argue,

> The cause of reading disability can never be pinpointed accurately. They are complex, often obscure, and always interrelated. One cannot isolate a single cause, diagnose it, treat it and then dismiss a child as "cured" of his disability. Often the reading disability itself can be a symptom of some deep-seated emotional problem (Roswell and Natchez, 1971, p. 11).

Robinson's study in 1946 undoubtedly popularized the multi-factor theory of reading disabilities, however, her findings did not preculde the rare possibility of a single cause accounting for reading disabilities in some children (Harris and Sipay, 1980). Otto and Smith (1980) interpret her data to suggest that "in

general, the more severe the reading problem, the more factors can be identified as possible causes . . ."(p. 98). Also cited is the Pressey, et al. (1959) report which has direct bearing on the investigation in this dissertation: " . . . diagnosing a learning problem is quite different from attempting to isolate a germ that is causing an illness. . . . They conclude that diagnostic and remedial efforts must be guided by recognition of the complex nature of the individual and of learning" (p. 98).

Jules Abrams, in the Foreward to the book Disabled Readers: Insights, Assessment, Instruction, edited by Sawyer (1980), mentioned that during the past fifteen years there has been much interest in, and concern for, disabled readers and such children are still being referred to child psychiatric clinics and therapists. He concludes:

> Unfortunately, all too often the children are approached with a unitary orientation so that extremely important aspects of their unique reading disability are ignored . . . reading problems can be caused by any number of a multiplicity of factors, all of which may be highly interrelated. Many professionals are involved in working with children with reading disabilities. However, there is a tendency for each professional discipline to look at this serious problem through its own window of specialization. This tendency often obscures vital factors which may contribute to, or at least exacerbate, the basic difficulty (p. v).

Rossman's (1980) argument seems logically to continue from that of Abrams and she very strongly advocates a case study approach for disabled readers:

> I must know as much as possible about the emotions, needs, desires, and problems of each disabled adolescent reader . . . if I must avoid assemply-line approaches and generalizations which never seem to apply to a specific case, then as I teach I must get acquainted with specific young persons . . . in dealing with pupils, schools and society must have clearer and more

> comprehensive views of them, at once particular and supportive and which recognizes individuals as persons who are trying to emerge with some self-esteem, some skills and some success in solving problems (p. 28).

If we accept the statements:

a. each reading disabled person has a pattern of differing etiologies (Ekwall, 1976) and

b. each child brings a unique set of variables to any learning situation (Sherman, 1979)

must we not therefore accept the conclusion that the most efficient means of assisting the disabled reader - knowing him as an individual, being aware of his learning strengths and weaknesses, offering appropriate remediation - is through an extensive study of him - an indepth case study? Martin (1971), in Ekwall, writes in support:

> It seems most prudent to try to understand how the child can best learn rather than focus on the reasons he doesn't learn when taught by traditional methods. If educators and others can recognize the factors and the environment in which the child will best learn - including maturation, perceptual strengths, style of learning - individualization of that child's teaching to capitalize on those strengths presently holds our most promising assistance to the (reading) handicapped child (p. 471). (My parentheses)

The Purpose

This is a case study - an indepth investigation and detailed analysis of a child who is severely disabled in reading. The child in the study attends regular school where he receives small group instruction from the school's reading specialist, and he also attends a university reading center for reading remediation.

In this study the investigator seeks to:

a. gather personal information about the child from his school reports and his Reading Center file and through

interviews and observations,

b. identify the individual's reading strengths and weaknesses through the administration of standardized and informal tests,

c. determine appropriate remediation based on (a) and (b),

d. record the results of each intensive tutoring session on cassette tape and in a daily log, and

e. monitor and evaluate progress.

Though the etiology of the child's reading disability will be investigated and some statements made about the possible causes of his disability, this aspect will be given less attention than the identification of strengths and weaknesses and the subsequent reading remediation. This is not meant to suggest that causal factors are unimportant in recommending remediation; rather, " . . . to determine which of these characteristics (causal factors) may have interfered with the child's learning to read, and their relative importance in this case, is a difficult detective job at best and often cannot be solved" (Harris and Sipay, 1980, p. 252). Chall (1978) quotes Black (1974):

> The placement of children with learning disabilities in programs for remediation should be based upon the presence and nature of the achievement problem, not upon the presence or absence of a concomitant factor such as a visual-perceptual dysfunction . . . emphasis for these children should be upon good teaching of reading. . . . The most efficient way to remediate reading problems would seem to be the teaching of reading (p. 35).

This quote provides the essence for this case study.

The child's school reports and his file at the Reading Center show that traditional, well-tried methods - the auditory-visual

methods that had worked with typical children - had not resulted in the development of measurable competence in reading or improved his ability to deal with any of the four basic reading skills: sight word acquisition, decoding, fluency and comprehension. Consequently, it became the task of the investigator to identify appropriate remedial approaches and determine which of these would be most effective, taking into account all of the information that was known about this child as an individual and as a learner.

An additional purpose of this study lies mainly in the fact that there is a dearth of material of sufficient informative value, about disabled readers and the approaches and techniques used to assist them. Many of the reports that are available are neat succinct summaries of the research: bones without flesh. Harris (1970) strongly stresses the importance of detailed case studies:

> Printed materials can provide vivid examples of how diagnosis, planning, remediation and evaluation are carried out in leading centers. Published case reports, however, have not been numerous and most of them have been presented non-technically or in a brief and compressed way, due to limitations imposed by the professional journals in which they have appeared (p. xxi).

Teachers in classrooms, reading specialists in schools, clinicians in reading centers and college professors of reading need much more information about disabled readers and the approaches and techniques used in their remediation programs. An indepth and detailed case study of the kind undertaken here will assist in meeting this need, and it may lead to future research of a more controlled nature with a larger sample population.

Questions To Be Investigated

Three questions were investigated during the period of research. The first two questions received the greatest portion of the investigator's time and attention. The last question received attention throughout the time of research and was answered by the end of the period.

a. The investigator has access to the child's school and reading center files and is able to interview the child's parents, teachers and others who know him. How efficiently is the investigator able to diagnose the reading disability and determine appropriate remediation?

b. The VAKT technique enforces careful, systematic observation of words; makes necessary a consistent left-to-right direction in reading; provides for learning through repetition; gives the learner a sense of progress and accomplishment; and reinforces visual impressions through the sensory impressions of tracing, writing, and saying the words (Harris and Sipay, 1980). If the individual's present audio-visual approach to reading was discontinued and a remedial approach such as the VAKT used instead, would the individual show higher gains in reading skills?

c. Reading disability occurs among children in all parts of the world and that in many countries classroom teachers are solely responsible for the diagnosis and remediation of the disabled readers. How feasible would it be for teachers to replicate the remediation procedures of this

study or to incorporate the principles and methodology of this study into their classroom and remediation practices?

The Theory

The theory for the research that was carried out had to meet several criteria since the subject in this study had failed to learn to read after five years of conventional/traditional approaches at school and three years of similar approaches in the reading center. The criteria below were obtained from various sources (Bond et al., 1979; Roswell and Natchez, 1971; Wilson, 1972; Otto and Smith, 1980; Harris, 1981) and were selected because some were pedagogic and others developed the learner's self-concept:

a. Remedial instruction must be based on diagnosis.

b. Rapport must be developed between the teacher and learner.

c. Success must be reinforced throughout the program.

d. Learning must be cumulative with frequent review.

e. Learning materials and tasks must be meaningful.

f. A variety of remedial techniques must be used.

g. Spaced practice must be included in the program.

h. Achievable goals must be set.

i. Cooperation must be an integral part of the program.

j. Skills development must be the major goal of the program.

The search for theories that might include these criteria resulted in the use of the Sherman Model of Reading and Learning (Sherman, 1979) and the subsequent selection of the Fernald technique.

The Fernald approach incorporates almost all of the criteria in that it is highly individualized - each teacher working on a one-to-one ratio with the child, using a language experience approach for gathering words for sight vocabulary development and reading. It is success-oriented and capitalizes on the interests and motivations of the learner. Perhaps the two best features of the program are that it has been used successfully on occasions with severely disabled readers and that it is radically different from other techniques and approaches that have been used unsuccessfully. The VAKT approach uses multisensory "bombardment" to learn words (Otto and Smith, 1980). It is believed to be vital that visual, auditory, kinesthetic and tactile impressions be made of each new word until the learner is able to recognize and reproduce the word correctly.

The Sherman Model of Reading and Learning also satisfies many of the criteria. The model primarily directs the clinician to a more reliable, efficient and valid diagnosis of the learner's needs if he is to become a proficient reader. According to this model, reading is a complex act comprised of subsystems or signs:

Sign #1: A reader has a sight vocabulary adequate for his grade placement or material demands.

Sign #2: A reader has decoding insight and application appropriate to grade placement or material demands.

Sign #3: A reader fluently integrates language in meaningful semantic and syntactic units.

Sign #4: A reader can comprehend, infer, and remember what is read.

Each sign has a subsystem of effecting factors: task variables (skills), learning variables (conditions) and unique child variables (basic givens). Sherman advocates that a child who is "healthy" in all four signs is a reader: the child who is deficient in any sign is a non-reader. The four signs can be observed to operate independently or they may interact. As a result, "deficits in one (sign) can affect only that sign, or it can affect each of the other three" (Sherman, 1979, p. 4). This model will simply identify the sign(s) in which the child is weak and may provide sufficient information to the diagnostician to explain why this is so.

The Fernald VAKT and Sherman Model of Reading and Learning neatly complement one another in meeting the criteria used for this study.

Definitions

Several terms will be used regularly throughout this study and in order to avoid any confusion in meaning, definitions of how the terms are used are provided. The words in parentheses are synonyms. Whenever possible, the source of the definition has been recognized.

Dyslexia (congenital word blindness): defective reading. The reading impairment is associated with cerebral dysfunction (Kelly and Vergasou, 1975, p. 46). It may represent a developmental failure to profit from reading instruction (Harris and Sipay, 1980, p. 136).

A situation in which a child is unable to read with proper facility despite normal intelligence, intact senses, proper instruction and normal motivation (Money, 1962, p. 211).

Dyslexia has been qualified as "specific" (meaning reading failure in contrast to general learning failure) or "developmental" (in contrast to acquired, or loss of previously acquired skill).

Reading Disability: reading is significantly below expectancy for both age and intelligence and is disparate with the learner's cultural, linguistic, and educational experience (Harris and Sipay, 1980, p. 138).

Reversal (strephosymbolia): changing positions of letters, syllables, or sound units within words; also used to refer to turning letters backwards (Jordan, 1977, p. 191).

Rotation: turning around certain letter forms within words (Jordan, 1977, p. 191).

Severely Disabled Reader (severe reading disability): refers to disabled readers whose general level of reading ability is extremely below expectancy (Harris and Sipay, 1980, p. 144).

The symptoms that often appear in cases of severe reading disability are also often common to learning disability cases in general:

a. Reversals of letters or words.
b. Short or erratic memory for words.
c. Oral rereading not improved after silent reading or after first oral reading.
d. Inability to hold information in memory until needed.
e. Difficulty in concentration.
f. Inability to see whole realtionships or form a Gestalt.
g. Emotional instability.
h. Tendency towards impulsiveness.
i. Poor eye-motor coordination.
j. Difficulty in sequencing.
k. Inability to work rapidly.
l. Omissions of words and phrases.
m. Directional confusion.
n. Poor auditory discrimination.
o. Hyperactivity.
p. Poor syntax, stuttering or speaking haltingly.
q. Achievement in arithmetic considerably higher than in reading and spelling (Ekwall, 1976, pp. 226-227).

Summary

Reading is, without doubt, the most researched area in the school curriculum. Tomes exist that describe the reading process per se and reading disabilities, however, our knowledge of these areas has been described as piecemeal and fragmentary. Clearly, further research is

still needed.

In this chapter, several controversial issues are raised: the disruptive nature of etiological factors; single-cause versus multiple-cause theories, and, the importance of a thorough understanding of the disabled reader. The writer puts forward that the best way to thoroughly understand a disabled reader and to gain an appreciation of his problems is through the case-study approach. This approach allows for the collection of all pertinent data - the possible causes of the reading disability, from multi-disciplinary perspectives; the diagnosis of specific strengths and weaknesses in reading; and information about the learner as an individual and as a learner - so that the best treatment may be given to him.

Case-studies can provide vivid examples of how diagnosis, planning, remediation and evaluation are carried out in leading centers (Harris, 1970) and, this writer contends that detailed studies of disabled readers are needed for reference by reading specialists in schools and by clinicians in college reading centers.

The case-study approach was used by this writer in his investigation of a disabled reader. The research questions, the theory, and the methods and techniques used in the diagnosis and remediation, have been presented in the chapter.

CHAPTER II

A SURVEY OF RELATED LITERATURE

Research in reading disability, until the 1940s, was very largely the domain of men in the medical sciences: physicians, opthamologists and neurologists, as it was popularly held that the cause of the disability was a basic constitutional condition (Harris and Sipay, 1980) within the individual, brought about by a neurological dysfunction or a congenital weakness.

Since that time, reading ability has been seen as a societal problem mainly because of the statistics and information that are available about children who experienced reading difficulties:

> a. Reading disorders have been reported as the major single cause of the 700,000 annual school drop-outs in the United States (Brown, 1978, p. v).
>
> b. Seventy-five percent of juvenile delinquents are significantly retarded in reading (Brown, 1978, p. v).
>
> c. The American Association of Junior Colleges estimates that from one-third to one-half of new students to their colleges have significant reading problems, and, in the most disadvantaged areas, about twenty percent of these students are unable to profit from programs in reading instruction and remediation (Satz, 1977, p. 43).

Brown and Satz both provide many more instances, however, just three examples will suffice here to show that reading disability is a societal problem.

There has been an acceleration of interest in reading disorders during the last four decades among professional from a wide range of disciplines: psychology, linguistics, sociology, special education, psychiatry, and education, many of whom have undertaken research in this area and published their findings. Medical professionals, too, have continued their investigations and these, combined with those from their multidisciplinary colleagues have increased our knowledge of the phenomenon and our understanding of the difficulties disabled readers experience. Despite these advancements, there is little information that is definitive about the incidence of reading disability nor is there consensus among researchers as to the underlying causation or pathogensis.

The therapeutic diagnosis and remediation of reading disability have fallen within the realm of educators, including classroom teachers, with some input as to the etiological factors coming, in most cases, from professionals in other disciplines. The process of diagnosis, followed by appropriate remediation, is often made complicated by such cliches as:

a. the child is constantly growing and changing (Ekwall, 1976, p. 1).

b. the unique and complex nature of the disabled reader - as an individual and as a learner (Stauffer, 1980, p. 128).

c. the complex skill of reading, involving a number of rather different components (Rutter, 1978, p. 6).

d. the possibility that a multiplicity of causal factors contributed towards the disability (Otto and Smith, 1980, p. 98).

e. the identification of the "best way" to form a match between pupil type and instruction type (Zigmond, 1978, p. 440).

Here, as with the determining of causal factors of reading disability, researchers have found few ready solutions and definitive answers to the problems of diagnosis and remediation. Research in these areas will be discussed at length in the latter part of this chapter.

In this chapter, the writer will discuss research related to four areas of reading disability:

a. Etiological Diagnoses.

b. Therapeutic Diagnoses.

c. Remedial Approaches and Techniques.

d. The Sherman Model

Etiological Diagnoses

With present day understanding of the complex processes involved in reading, there is little wonder that the one-time popular notion of the single-factor theory is no longer acceptable and that, in lieu, the multi-causal theory is more widely accepted.

Various advocates of the single-cause theory argued that all, or most cases, of reading disability could be ascribed to one cause and although this single cause could not always be proven, it was often hypothesized to be the causal factor by the researchers. There were, of course, many single factors, any one of which could be identified as "the cause." Blumenfeld (1974), the most simplistic of the single-factor theorists, suggests that reading disability in English, results from applying hieroglyphic instructional techniques in learning

to read an alphabetic writing system. Others (Hallgren, 1950; Herman, 1964; Critchley, 1970) have been cited in Harris and Sipay (1980) as believing that reading disability is genetically linked and therefore passed from parents to one, some or all of their children. Various other single-factor theories have been proposed: neurological dysfunctions, verbal deficit, maturational lage, chemical excess or deficiency, and perceptual-motor difficulties, each of which will be discussed in greater detail in this subsection.

According to Valtin (1980), dyslexia or reading disability was once thought to be an "isolated" phenomenon:

> . . . professionals held relatively clear opinions about the manifestations and causes of dyslexia. In general, the following hypotheses were proposed: 1) Dyslexia is related to disturbances in visual perception (for example, difficulties in the recognition and differentiation of figures); 2) a basic phenomenon of dyslexia is directional confusion, which was believed to show itself in reversal and rotation errors, especially while reading, and in rotation of figures and left/right confusion; 3) left-dominance (left-handedness, left-eyedness, and mixed hand-eye dominance) was postulated as a causative factor in dyslexia, in conjunction with disturbed spatial abilities; 4) dyslexia was thought to be congenital (inborn) weakness and therefore, relatively independent of the sociocultural milieu (pp. 34-35).

Valtin does not subscribe to the single-factor theory and conducted several empirical studies to question the theory and to show methodological weaknesses in the research of the single-cause theorists.

The supporters of the pluralistic viewpoint of reading disability do not dispute the factors identified by the single-cause theorists, in fact, they accept all of these factors and have added many more. Adherents of the many-factor theory have had their viewpoints succinctly summarized by Ekwall (1978):

> A student's ability or inability to read is affected by a number of factors . . . socioeconomic, psychological, educational, and physical . . . and many of these cannot be completely isolated since they often appear in conjunction with other factors that are believed to contribute to problems in reading. For example, because of the nature of the student's environment he is likely to possess combinations of physical, psychological, socioeconomic and educational problems all of which contribute to his reading disability"(p. 19).

Similar views have been expressed by Fernald (1943), Harris and Sipay (1980), Bond and Tinker (1967), and Roswell and Natchez (1971).

In the ensuing review of research into the etiology of reading disabilities, the four headings: physical, educational, sociological and psychological, used by Ekwall (1978) and Carter and McGinnis (1970) will be used, and the main causes of reading disability will be discussed under each of these.

Physical Data

There are very many factors under this heading that may affect a learner's achievement in reading, however, only the major ones - those that have attracted research - will be discussed.

Visual Factors

Reading is, to a very large part, a visual activity and it follows that if a child is experiencing reading difficulties, he should be examined for visual deficiencies. There have been many studies that have looked for a relationship between visual deficits and reading ability, yet, an exact statement of the relationships is not available (Ekwall, 1978; and Harris and Sipay, 1980) because people vary in their ability to compensate for visual handicaps:

> One child might be greatly handicapped by a visual defect while another might perceive adequately on the basis of very poor retinal images. Statistically, it has been shown that defective visual acuity is not much more frequent among reading failures than among non-failures, although individual cases occur in which failure is definitely the result of impaired vision. . . . The mere existence of low acuity is to be regarded as a possible but not invariable cause of poor reading (Eames, 1962, p. 427).

Valtin (1980), who studied one hundred pairs of dyslexic and normal children, found that for most dyslexics, failure in reading could not be attributed to disturbances in visual perception. She reports findings that were contrary to what was commonly believed, "Surprisingly, . . . the dyslexic children were actually faster than the nondyslexics (on Thurstone's test of Perceptual Speed" (p. 35). She cites two other studies from Germany wherein similar findings were reported.

Though it would be foolish to suggest that there is no tie at all between visual deficiencies and reading, researchers have been unable to determine the degree of causal relationships of visual defects such as the lack of clear-cut retinal images; the lack of precision in discrimination of complex visual patterns; and, the lack of precision in discrimination of the spatial orientation of patterns - defects identified by Monroe (1932) - and eye movements.

Auditory Factors

Bond and Tinker (1967) take the stance that the hard-of-hearing child is, as a rule, educationally retarded. For them,

> . . . reading achievement depends considerably upon language development and speech facility. Instruction in reading usually involves a large oral component. There the child needs to follow oral

> activities of both the teacher and other pupils, associate oral speech with printed and written words, make rather fine auditory discriminations between certain words, and use auditory techniques in word analysis. The child who does not hear satisfactorily will be handicapped in these activities (p. 111).

In Robinson's (1946) review of research between auditory acuity and reading disability, she cites a good number of studies that show hearing loss and reading achievement relationships. Her reference to Gates and Bond's research sums up her own view, as well as the more widely accepted view today: "Gates and Bond found a low correlation between hearing loss and final reading achievement . . . the pupils in the near-failing group showed a greater amount of hearing loss . . ." (p. 51). Ekwall (1976), on the other hand, interprets Robinson's study as, "her study reinforces the general opinion that insufficient auditory acuity is relatively unimportant as a cause of severe reading disability."

Robinson (1972) reports the study of Dykstra in 1966 wherein he found that when "good" and "poor" readers were tested on auditory discrimination, the latter were found to score lower as a group. Consequently, Dykstra was able to conclude there was a like between auditory deficits and lower reading discrimination test scores of young children. Strang supports Dykstra's findings and adds, "children with auditory defects tend to learn better by visual methods than by auditory or phonic methods" (cited in Carter and McGinnis, 1970, p. 52).

There have been many studies which have looked at the relationships of auditory discrimination and auditory memory and reading disability. Ekwall (1976) reviewed several of these studies and concluded,

"It would again be difficult to determine the percentage of reading failures caused from difficulties with auditory discrimination since it is often just one of several or many causal factors likely to be contributors. . . . Little is known concerning the relationship between auditory memory and reading. Various studies indicate that a larger percentage of disabled readers have impaired auditory memory span or ability to sequence than do good readers" (pp. 6 and 7).

Carter and McGinnis (1970) also reviewed the research in this area and they raise the point that children vary in the rate of development of both auditory discrimination and auditory memory. They concluded, ". . .(these) are not well developed in some children until the age of nine" (p. 52) - some three or four years after formal reading instruction has been introduced. It is perhaps unfortunate that there have been few longitudinal investigations of auditory deficits and reading disabilities from which to draw conclusions about developmental lag or the usefulness of early intervention.

As with the conclusion drawn about visual factors, the effect of auditory deficiencies on reading vary from one individual to another. Harris and Sipay (1980) provide a quote that sums up this point: "the handicapping effect of partial hearing loss is much greater for some people than for others. Some people make up for their sensory weaknesses by concentrating intently and getting the greatest possible meaning out of what they do hear . . ." (p. 304). It has been suggested that children who have inadequate auditory discrimination may be helped through intervention programs, however, training of auditory memory per se seldom has a beneficial effect on children's reading

ability (Ekwall, 1976).

Speech Factors

Bond and Tinker (1967) reviewed research of speech defects and reading disability and they suggest that there was a relationship between the two factors. They drew many of their conclusions from Monroe's study in 1932, wherein the relationship was suggested. Monroe found that a child with faulty speech was confused by the way words were pronounced since he heard them one way and produced them another. He was also confused when he transformed written or printed words into speech. Sometimes, the translation of print into speech resulted in a breakdown of comprehension.

Bond and Tinker (1967) raised one other point that related defective speech to reading disability:

> . . . emotional involvement created by defective speech may contribute to reading disability. Real or fancied reactions of the teacher or classmates to errors of articulation during oral reading may cause the child embarrassment and accentuate his self-consciousness . . . (and make him) unwilling to engage in oral reading. . . . This general emotional stress due to speech defects may, therefore, be responsible in some cases for difficulty in learning to read (p. 115). (My parentheses)

Harris and Sipay (1980) concur with this viewpoint

Although there were many kinds of speech defects, Harris and Sipay (1980) note that indistinctiveness and rapid, jerky, stumbling speech, called cluttering, occurred most frequently among poor readers. They summarized several studies in this area and stated that children who are slow in speech development during the preschool years are likely to develop reading disabilities later. They cited the study

of de Hirsch, Jansky and Langford - a longitudinal study to predict reading disability in grades one and two from language proficiency tests administered in kindergarten, and Lyle's study in 1970, in which it was found that retarded speech development and articulatory speech defects between the ages of two and one-half years and four years showed a clear-cut relationship to reading retardation.

Rutter (1978), like Harris and Sipay, carried out a review of research and came to the conclusion:

> . . . because reading is a highly complex activity which utilizes a great number of skills, it has not proved easy to determine the relative importance of each skill in either reading competences or reading difficulties . . . one way of examining this matter is to determine the frequency of reading difficulties in children with different sorts of specific handicaps (p. 7).

He got support for this idea from a follow-up study in Edinburgh in which it was found that two years after starting school, one-third of the speech retarded pupils in the study were backward in reading and spelling, compared to about one-in-twenty in the control group. Reading disability was found to occur both in children with a true delay in spoken language and in those with articulation defects.

Clearly, there is little doubt about the link between speech defects and reading retardation. However, with our current knowledge it can be hypothesized that the causal realtionship exists very much in the beginning stages of learning to read, when phoneme-grapheme concepts are being developed.

Neurological Factors

Researchers have been attracted for many decades to finding the degree of relationship between neurological dysfunctions and reading disabilities. Some researchers have been engaged in rather esoteric studies of the relationship and their findings have been somewhat speculative and of dubious value to those who are concerned with the remediation of disabled readers: others have been more gainfully employed as far as the reading clinician or classroom teacher is concerned. It will be very largely the research of the latter group that will be discussed here.

Cerebral Dominance

It was believed, until recently, that the speech center and the center which was used for motor processes such as reading were located in the "language center" on the left side of the brain (Carter and McGinnis, 1970). This notion tied in well with the lateral dominance theory wherein right-handed individuals used the left hemisphere to process aural and written messages. Left-handed individuals were less fortunate, for they used the right hemisphere - the non-language center - to process these same messages and, as a result, were less efficient. This misconception was popluarly believed until the 1950s when neurologists were able to make more direct observations of the functions of the brain.

Harris (1979) cites the research of neurologists Penfield and Roberts in the 1950s to waylay the notion that right-handed people used the left hemisphere for language and language-related tasks while left-handed people used the right hemisphere of the brain: "Penfield's

results agreed with those of the Wada test in showing that the left hemisphere is usually dominant for speech regardless of handedness of the individual, with the exception of those who have cerebral injuries early in life in whom other brain centers may take control of speech" (p. 339). Harris also provides information from Sperry and others in the late 1960s when a new type of brain operation provided new insights into hemispheric functions:

> A number of ingenious studies . . . revealed that each hemisphere is dominant for some functions and non-dominant for others. Receptive and expressive language, analytic reasoning, and sequential processing seem to be left hemisphere functions while simultaneous perception of visual forms such as faces and geometrical figures and perception of music and other non-linguistic sounds seem to be right hemisphere functions. The right hemisphere is not totally nonverbal; it is capable of limited understanding of language, mainly nouns, but cannot produce speech (p. 339).

Another means that has been used to study cerebral activity is the electroencephalograph (EEG) - a device that can measure and record brain impulses through electrodes attached to the head. The usefulness of EEG as an index of diverse forms of brain pathology is well recognized and acclaimed (Benton, 1978), however, both Benton (1978) and Harris (1979) question how helpful EEG studies have been to gaining further insights into the etiology of reading disability.

The whole issue of lateral dominance and its relationship with reading per se, or reading disability, is far from being settled. Carter and McGinnis provide a brief review of the research findings and they conclude, "Obviously, there is a lack of agreement on the relationship between dominance and reading disability. Because so little agreement exists, it may be assumed that dominance is only

one of the possible factors to be considered in a study of reading disability" (p. 56). Ekwall (1976) concurs: "The research on the relationship . . . is voluminous . . . however, there are still no clear-cut answers as to what we should test for or what we can do about these problems when they are found to exist" (p. 8).

Directional Confusion

Directional confusion would, in most circumstances, be considered within the main heading, "Neurological Factors." However, because recent research has tended to disassociate reversals and rotations with neurological dysfunction, the writer has chosen to treat directional confusion as a separate entity.

Directional confusion, or reversals, are recognized as normal in all young children - both weak and strong letter recognizers (Cohn and Stricker, 1979). However, when they do not cease by late second grade or early third grade, they become a source of concern because, then, reversals are thought to be indicative of perceptual disorders, resulting from either neurological dysfunction or developmental delay (Moyer and Newcomer, 1977). This notion developed very largely from Orton's study in the 1920s. Harris and Sipay (1980) cite Orton's various studies and suggest that he "postulated that reversals were the prime symptom of 'the reading disability,' which he termed 'strephosymbolia' (twisted symbols) . . . reversals reflected the failure to develop a clear dominance of one cerebral hemisphere. When the less dominant hemisphere took over sporadically, reversals occurred" (p. 426).

Orton's theories held sway for many years, however, today they have little credibility among neurologists (Moyer and Newcomer, 1977) except for his theory that young children must reach a certain level of maturity before they develop a dominant cerebral hemisphere. Until they reach this level of maturation they are thought to lack the perceptual organization necessary to recognize the correct orientation of letters (Moyer and Newcomer, 1977). Orton's theory makes good sense, however, it cannot be considered definitive since the exact function of cerebral dominance in reading ability is unresolved (Harris and Sipay, (1980).

There have been several counter-proposals to Orton's theory on reversals but only two will be discussed here. The first was put forward by Moyer and Newcomer (1977) who, from an extensive review of research on this subject, concluded that reversals often result from nothing more than unfamiliarity with the concept of directionality as it relates to letter discrimination. The writers continue, "the ability to successfully discriminate between such letters can be learned easily by most children when they are instructed properly. Until children encounter those letters of the alphabet that have mirror image counterparts, they have no occasion to consider spatial orientation. . ." (p. 428). For Moyer and Newcomer, reversals are relatively trivial and easily corrected by the teacher who plans an instructional program using their recommended procedures. These writers finish up on a rather skeptical note which defeats their whole argument: "Should a thorough training program of this type fail, the teacher might then be justified in considering the possibility of a

perceptual or neurological problem and might refer the child to appropriate specialists for further evaluation and treatment" (p. 429).

The second counter proposal was put forward by Laurita in 1976, cited in Cohn and Stricker (1979). These authors suggest that Laurita found an explanation for older children continuing with reversals, drawing on animal and human studies in laboratories. He found that when laboratory subjects become overloaded and frustrated they were unable to make simple visual discriminations that they had been able to make earlier. As a result, "they became fixated in this inability" (p. 536). Laurita, in his report, outlines a method that he found successful - "a method that does not assume fundamental perceptual or cognitive deficit" (p. 537).

Other Physical Factors

There are literally many dozens of other physical factors that researchers have indicated as possible causes of reading disability. However, limitations of time prohibit anything more than a mere listing of them: general health, poor definition, malnutrition, vitamin deficiencies, allergies, glandular disturbances, infected tonsils and adenoids (Ekwall, 1976). Carter and McGinnis (1970) mentioned many of these same factors, however, they conclude, "In these studies many variables have not been controlled. Consequently, we cannot infer that a causal relationship has been established between these physical conditions and ability to read" (p. 53).

Educational Data

Educational factors have an important part to play in the causation of reading problems and disabilities since the school, the teacher, and the methods and materials - each in their own way - determine what, when, and how the individual child reads. According to Bond and Tinker (1967), "among all of the factors that are considered possible causes of reading disability, the group of conditions classed as educational stand out as tremendously important" (p. 138).

The School

Both Carter and McGinnis (1970) and Bond and Tinker (1967) comment that schools lack a unified educational philosophy and appear to be trapped in the controversy of 'Reading versus Pupil Development.' Some school administrators advocate "the chief goal of the school should be the happy, well-balanced and socially competent individual, whereas, others stress the idea that learning to read is the major objective of education in the early grades" (Carter and McGinnis, 1970, p. 68).

Those who adhere to the first philosophy - "the happy, well-balanced and socially competent individual" - tend also to support such viewpoints as "putting pressure on the children to read sometimes produces personality maladjustments . . . (and) emphasis upon reading destroys interest in learning since . . . reading is an activity foreign to the real interests of children in these grades" (Bond and Tinker, 1967, p. 138) and automatic promotion through the grades.

The other group - those who see reading as a primary goal of the school - tend to argue for individualization of instruction so that the student's strengths and weaknesses, and interests, are taken into account and thereby, reading is pleasurable. The second group would also oppose automatic promotion on the grounds that the curriculum requirements are not met by disabled readers and as they move through the grades, they get further behind their peers:

> This produces a wider and wider range in reading ability in successively higher grades. At the same time the curriculum requirements have remained fairly rigid. Consequently, much of the material assigned to pupils in the higher grades is too difficult for the reading ability possessed by many pupils. . . . Too frequently we try to force the child to adjust to the curriculum . . . (and) as the poorer readers are promoted from grade to grade, they drop farther and farther behind, and eventually become disabled readers" (Bond and Tinker, 1967, p. 139).

Carter and McGinnis (1970) concur with this last viewpoint.

Obviously, rigid curriculum requirements and automatic promotions were both well-intended administrative decisions, however, it could be questioned whether they have had the intended results. Research studies tend to show that disabled readers have not really benefitted from these decisions.

The Teacher

The roles of the classroom teacher and the reading specialist have been examined critically in research studies with many different and interesting conclusions about their association with disabled readers.

The classroom teacher's effect on pupils' reading achievement is well documented (Rupley and Blair, 1978; Rupley, 1977; Drum and Calfee, 1979) and the general conclusion is that experienced, effective teachers account for a great portion of their pupils' progress. Rupley and Blair strongly believe, ". . . (the teacher) is a primary factor in determining whether children will be successful in learning to read" (p. 970). Bond and Tinker (1967) agree that the teacher may have a strong positive or negative influence upon progress in reading:

> Pupils are fortunate indeed if their teacher is so able, well-trained, and sympathetic that he maintains good pupil-teacher relationships and is able to achieve a proper balance in the orderly development of skills and abilities in a sequential reading program. . . . The teacher who is inept . . . will be unable to adjust reading instruction to the numerous and varied needs of pupils in her class. Under such conditions, certain pupils will be in difficulty (p. 143).

What makes a teacher effective as a reading teacher in the classroom? Harris and Sipay (1980) cite several research studies that give answers to the question and, from their findings, they identified teacher-pupil rapport as the main factor. These authors answer the question in the negative, that is, they identify nine teacher characteristics which aggravate the learning problems of pupils:

> 1) failing to ensure that the child is ready for a specific new learning; 2) teaching a child with materials that are too difficult and frustrating; 3) instructing the child's group at a pace that is too fast; 4) not calling on a particular child as often as other children; 5) ignoring specific errors until they become well-learned habits; 6) often failing to notice and give approval when the child does make a correct response; 7) expressing disapproval or even sarcasm when the child makes mistakes; 8) allowing or encouraging other children to express disdain or derision for the child's effort;

> 9) expecting a child to perform poorly because his or her older brother or sisters did so" (p. 310).

Are classroom teachers adequately trained to teach reading, particularly to disabled readers? Howlett and Weintraub (1979) and Buike, Duffy and Burke (1980) express similar points of view: teachers are basal-bound. Buike, et al., report that teachers made relatively few decisions about the teaching of reading: "(they) abdicated decisions concerning what was learned by students to the commercial materials" (p. 18). These authors saw sufficient evidence of basal-bound teaching to suggest that teacher preparation programs were at fault. Farr (1969), in a study some years earlier, reported that many teachers were unable to respond to a questionnaire survey in which they were asked to identify the areas, crucial to the teaching of reading, on which they lacked knowledge. He concluded, "it appears that many teachers do not know what they do not know" (p. 23). The writer could go on quoting and citing other examples of the classroom teacher's poor preparation to teach reading, in particular to disabled readers, however, the two examples that have been given adequately answer the question.

In many schools, reading specialists are responsible for diagnosing and remediating reading problems, however, their effectiveness has been questioned. Cohen, et al. (1978) feel that classroom teachers are reluctant to work with the reading specialists because they fear they will be unfairly evaluated. Teachers feel that reading specialists, who work on a small teacher/pupil ratio, are unable to appreciate the logistics of working with thirty pupils in the one

classroom. The teachers also felt that the reading specialists failed to provide them with information about their students' progress and they resented this since they were primarily responsible for these students. Finkelstein (1978), a New York reading specialist, sums up the classroom teacher's attitude towards the specialist:

> Some teachers are threatened by an "expert" who is going to tell them what to do in their classroom on the basis of seeing the child a few times on a one-to-one basis. Good teachers especially find it hard to acknowledge that an outsider (that is, someone who is not on the day-to-day firing line of the classroom) can succeed with their more challenging pupils" (p. 291).

She adds that teacher attitudes are changing and that they are more willing to refer disabled readers to the specialists and to work cooperatively in the diagnosis and remediation programs.

Cohen, et al. (1978) report from their study that where there has been cooperation between the reading specialist and the classroom teachers there have been beneficial results. Teachers do not feel alienated from their pupils; they tend to use more sophisticated individualization techniques for the whole class; they learned to record and maintain pupil record files; and most important, they supplemented the programs of the reading specialists when the pupils were again under their care.

Generally, it is felt that classroom teachers are materials-oriented in their reading programs and, in most cases, they are not especially well-trained to handle disabled readers. It will indeed be a step forward when teachers and reading specialists work

cooperatively. Teachers' attitudes are changing. They are more willingly referring disabled readers to the specialists, and complementing the work of the specialists with these pupils in their classrooms.

The Methods and Materials

Classroom teachers and reading specialists are constantly on the lookout for methods and materials that they can use more efficiently and that will result in more rapid, and permanent, acquisition of reading skills. Since the search is on-going, the lack of materials, that prescribe both teacher and student behaviors for each lesson, has been identified as a causal factor in why certain pupils fail to become good readers.

Bond and Tinker (1967) provide a good summary of the literature about methods and materials for disabled readers. In the first instance, they suggest that the curriculum in the early elementary school is so demanding of the teacher's time that "she is unable to individualize the program satisfactorily" (p. 140). Buike, et al. (1980), reached a similar conclusion, finding that " . . . having students ready for the next year's teachers" (p. 18) was a prime concern of the teachers they observed. Progress, for the teachers in the study, was discribed in terms of how many books the students completed during the year. Duffy and McIntyre (1980), in a follow-up of their paper for the American Educational Research Association, found that most of the teachers whom they observed were basal-bound, either through school or district mandate, and that they "appear to believe that

students learn by completing commercial materials . . . 'teaching' (is) when he/she asks students to recite these materials" (p. 12). Duffy and McIntyre also found that assistance to the poorer readers was minimal: ". . . an incorrect response is the signal for providing help and that such assistance should take the form of impromptu cues . . . brief enough to avoid disrupting the pace of the activity . . . if the student does not respond to such cues quickly enough, another student is typically asked to provide the answer" (p. 12).

Bond and Tinker (1967) draw attention to the importance of materials that are both interesting and meaningful to disabled readers. It is no easy task to find materials that match the interests of the poor readers with the level at which they can read. This becomes increasingly difficult as the disabled readers get older and their interests become more sophisticated. On the question of meaningful materials, Bond and Tinker report that where there has been excessive use of meaningless materials or activities, the students "develop unfortunate attitudes which harden into obstacles to learning to read" (p. 141). These authors recommend that one way to make reading meaningful is to integrate it with other school subjects and activities and not teach it apart, as something of little consequence in the classroom scene. If children can see a reason for reading, their interest may be aroused and they may be motivated to try harder.

Bond and Tinker (1967) raise one last point that is well worthy of mention: excessive emphasis upon one or other of the reading skills. They provide the example of phonic drills: "Sometimes . . . drills are separated so far from the real act of reading that the child is

not able to bridge the gap. Not only is he unable to transfer what is learned in the drill to actual reading, but also he does not see the reason for the drill. . . . Inappropriate emphasis upon the basic reading skills may prevent effective reading" (p. 141). These authors are not recommending that drill or recitation per se not be used, rather, that they be used in moderation and in meaningful ways.

Many researchers and authors make mention of methods and materials as a possible causal factor of reading disability, however, relatively few have included as comprehensive a survey of this area as Bond and Tinker. There is considerable scope for further research if we are to do more than speculate about the causal relationship between ineffective methods and materials and children's reading disabilities.

Sociological Data

Schools are, very largely, middle-class institutions and as such, they reflect middle-class values, aspirations and behaviors. This being the case, it is not surprising to find that between one-quarter and one-third of pupils in compensatory reading classes are from disadvantaged backgrounds (Sawyer, 1979). Hence, it is not unusual to find sociological factors being investigated as possible causes of reading disabilities.

Parents

Parental attitudes have an enormous effect on the learning potential of their children. Carter and McGinnis (1970) cite the study of Kurtz and Swenson who, through interviews of parents,

teachers, and children, found very marked differences in the attitudes and behaviors of parents of readers (overachievers) and nonreaders (underachievers). Parents of the former group had pride, confidence, affection and interest in their children. They read to their children, played with them and whenever possible, attended school with them. The investigators found the parents of the underachievers did not demonstrate these behaviors nor did they espouse these attitudes. Carter and McGinnis also cite the studies of Shaw and Dutton, and Preston who found that parents of underachievers held significantly strong negative attitudes towards their children: "A child who failed to read was considered by his parents to be 'abnormal, queer, not quite right'" (Carter and McGinnis, 1970, p. 62).

Mothers were found to play a significant part in their child's reading achievement. Stewart, cited in Carter and McGinnis (1970), reported that mothers of retarded readers have strong ambivalent feelings toward their children: "The mothers were somewhat hostile to their children and experienced guilt feelings which made them generally overindulgent or overprotective" (Carter and McGinnis, 1970, p. 62). Entwisle (1977) agrees with the view expressed by Stewart and adds that research on child-rearing practices show that parents, particularly the mother, have a very real and deep influence on their offspring. She contends that middle-class practices affect the development of particular cognitive skills which may help or hinder their children as they start to read; foster the kind of speech that relates steadily to reading materials; develop

self-esteem, confidence and the desire to achieve; develop visual and auditory perception; and encourage the feeling of ability to control the environment - factors which are deemed important in learning to read. These factors were not found in the practices of lower-class or disadvantaged families. Consequently, children from these families have to acquire these skills and attributes when they come to school and it is the teacher's task to design developmental programs to assist them.

The Home

Ekwall (1976) put forward an interesting concept about the socio-economic status of the home and modality shifting of the children who live there:

> Several recent studies have indicated that socio-economic status does have an effect upon visual and auditory discrimination . . . noisy conditions prevalent in large families, often from low economic levels, impair children's ability to discriminate between auditory and visual stimuli . . . many of these same children have difficulty in shifting from one modality to another and back again" (p. 17).

Ekwall bases his concept on the Katz and Deutsch study in 1963 wherein they found that disabled readers experienced significantly greater difficulty in modality shifting than did good readers.

Deutsch is again cited by Ekwall (1976) for his 1967 study of the composition of the home, including broken homes. Apparently, Deutsch reached the conclusion that the membership of the home, in terms of who actually lived there, had a greater effect on the children than the actual number of occupants.

Carter and McGinnis give examples of the types of home from which many disabled readers come. There is generally no reading material; there is a lack of interest in reading; the children have few experiences in looking at books or magazines or even having someone read to them or play word or letter games with them. Miller (1972) is in agreement with Carter and McGinnis' description. She adds that such homes are impoverished of physical stimuli for concept development and building; there is little parent-child interaction; and little, if any opportunity to engage in firsthand and vicarious experiences of the kind that are essential for being able to comprehend the content of books in the elementary grades.

The language of the home, be it a foreign language or a dialect of English, has been identified as a significant obstacle to reading achievement by several writers (Sawyer, 1979; Drum and Calfee, 1979; Carter and McGinnis, 1970; Miller, 1972). Ekwall (1976) raises the question of whether dialect differences in fact cause reading retardation. He cites the studies of Rystrom (1968) and Labov (1969) which found that dialectical differences of disadvantaged children did not hinder learning to read. Miller (1972), however, disagrees and strongly suggests that the use of non-standard language in the home does have a detrimental effect on reading and learning:

> Many parents of the disadvantaged typically employ a restricted language style which uses few complex sentences, few elaborated verb forms, few adjectives and adverbs, and an imprecise vocabulary. The style of language the disadvantaged child learns at home does not effectively enable him to interpret primary grade reading materials or to understand the elaborated language used by his teachers" (p. 293).

The writer is certainly convinced that home factors play a real and very vital part in the child's learning to read.

The Community

The community, as a possible causal factor of reading disability, has not been widely researched, however, the evidence that has been accumulated is worthy of thought by those involved in reading remediation.

Carter and McGinnis (1970) suggest each community reflects the characteristics of its predominant economic-social groups and consequently depressed areas produce disadvantaged children. They cite the report of Allen H. Barton, in 1963, in which it was pointed out that during the first six years of formal education, children from working-class homes generally read below their actual grade levels. Barton also found that children from the lower-skilled, lower-paid, working-class homes read even more poorly. Miller (1972) attributes the poor reading achievements of disadvantaged children to the restricted language code they learned in their homes and neighborhoods. These children were, therefore, unable to understand the middle-class, elaborate language style used by the public school system. "As a result of this impoverished vocabulary and experiential background, culturally disadvantaged children usually have entered school with insufficient readiness for all school learning, and they have experienced more and more difficulty as they progressed through the elementary grades" (p. 41).

Rutter (1978) draws a rather interesting comparison between the part of the country where children live and their reading attainments, however, he does not offer any convincing reasons for the occurrence of this phenomenon. He refers to studies in the United Kingdom where it was found that reading standards in Scotland were significantly higher than in England "in spite of the fact that social disadvantages are more prevalent in the former area (Scotland)" (p. 11) and to a second study, where children in London were found to experience twice the number of specific reading difficulties as children who lived on the Isle of Wight, an area of small towns and countryside off the coast of England. Rutter believes that the differences in these two examples are due to two factors: the amount of interest parents take in their children's school work, and the emphasis schools in different areas place on reading.

Children from impoverished backgrounds are disadvantaged when they come to school and are required to learn to read. Teaching methods must be adjusted to meet the needs of these students, otherwise, they are likely to begin poorly in reading and continue to experience difficulty.

Psychological Data

The importance of psychological factors in any kind of learning cannot be overstressed. To the same point, the importance of these factors as possible causes of learning disability, including reading disability, must not be overlooked.

Many factors have been identified by educational psychologists as possible causes of reading disability. Some are thought to be

single-cause factors: others are thought to work with other factors in causing poor achievement in reading.

Mental Maturity and I.Q.

Mental maturity implies a readiness within the individual to learn and to apply what has been learned (Carter and McGinnis, 1970). Once it was believed by many that the child of six years of age, or thereabouts, possessed adequate mental maturity to learn to read. The characteristics of mental maturity were: alertness, able to identify fine and gross differences; able to pay attention and to remember; able to comprehend the function of symbols; be facile in language usage; and, to generalize and infer. Tests were devised to determine the child's mental maturity, or mental age, and if it was above the six-plus cutoff point, the child was thought to be ready to learn to read.

Today, research has shown that children, much younger than six-plus years of age, can be taught to read (Gould, 1976; MacKay and Sims, 1976; Price, 1976; Durkin, 1972). Gould discusses "natural readers" in her handbook for parents of pre-school age children and she identifies these children as those who are fascinated by print and who want to learn to read well before they begin school. Gould, like others who have investigated early reading, talks of readiness for reading in a somewhat vague manner and refers to "critical periods" in the young child's development as the time to begin reading. She warns, "trying to teach a skill before the critical period is wasteful and often frustrating for both teacher and student. On the

other hand, waiting beyond the critical period is unproductive because the child's natural aptitude for achievement and growth has subsided" (p. 38).

During the 1940s, 1950s, and to some extent during the 1960s, a number of research studies were done to determine whether there was a relationship between intelligence and reading achievement (Bond and Tinker, 1967; Ekwall, 1976). The results seemed promising as the correlation between the verbal sections of tests and intelligence was low (Ekwall, 1976). This led Ekwall and others, (Spache and Spache, 1969; Ames and Walker, 1964; Strang, 1964) to conclude:

> We should not place a great deal of faith in I.Q. scores as predictors of potential reading ability . . . the I.Q. is a fairly good predictor of reading ability for children with extremely high I.Q.'s or for children who are mentally retarded . . . children with very low I.Q.'s are at a considerable disadvantage in learning to read . . . a low I.Q. is often an important hindering factor. For this reason it is often helpful to administer an individual intelligence test as part of the normal diagnostic procedure with a disabled reader" (p. 12).

Today, mental maturity and I.Q. are not considered good indicators of reading potential. However, both do provide the diagnostician with useful information about the verbal abilities of the disabled reader - information that may be helpful when planning remediation.

Emotional Maturity

Ekwall (1976) asks the question: Is reading disability caused by emotional problems or are emotional problems caused by

reading disability? This very same question has been asked by other researchers (Robinson, 1945; Fernald, 1943; Bond and Tinker, 1967; Harris, 1970) but the answer has managed to elude them.

Researchers have, however, reached a general agreement on what emotional maturity means in an individual (Carter and McGinnis, 1967) and have identified some characteristics that are thought to be indicative of an emotionally mature child:

a. Can easily make home-to-school adjustments,

b. Can accept changes in routine quickly and calmly,

c. Can accept opposition and defeat,

d. Assumes responsibilities,

e. Plans and works to schedule,

f. Talks to others without shyness or undue boldness, and

g. Cares for equipment and materials (Carter and McGinnis, 1967, p. 59).

The emotionally insecure child would not have these.

Irving D. Harris (1961), cited in Harris and Sipay (1980), reported that many of the emotional difficulties of the child resulted from conflict with parents, particularly mothers, and in some cases, conditions within the family home heightened the child's anxiety and fears until it interfered with learning. McGinnis (1963), cited by Carter and McGinnis (1970), found that parents of inferior readers expressed attitudes that encouraged their children's dependence upon them.

There is little doubt about the need for emotional maturity in being able to read. Similarly, there is little doubt that there is

a relationship between reading disability and emotional problems. The question for further investigation by researchers is: Are emotional problems the cause or the symptom of reading disability? Whichever, the remedial reading teacher would be well advised to consider the problem.

Self-Concept

Though relatively little is known about the incidence of self-concept being a cause of reading disability (Ekwall, 1976), research has shown a very positive relationship between reading achievement and the individual's self-concept (Harris and Sipay, 1980; Cohen and Kornelly, 1970; Stauffer, 1980). Therefore, it cannot be ignored as a possible causal factor, or at least a contributing factor, to reading disability.

The feelings of worthlessness and, often times, hopelessness may convince the individual that he is "dumb" or stupid (Harris and Sipay, 1980) and that he does not have the potential of his peers to learn to read. In turn, these feelings result in shame, hurt and a dislike for reading and bookish-things. According to Carter and McGinnis (1970), "he fails to get satisfaction, security and recognition in a manner pleasing to himself and at the same time acceptable to his group (his parents, teachers and peers) . . . he may become agressive, put on a bold front. . . . On the other hand, he may become timid and withdrawn . . ." (p. 60). (My parenthesis)

Parents, teachers and classmates have all been identified as influential forces in self-concept development. Parents are probably

the most influential of the three groups and when the child fails to achieve well in reading, "his parents are likely to show strong disappointment . . . may nag, threaten, or punish him" (Harris and Sipay, 1980, p. 321). Begab (1967), quoted by Harris and Sipay (1980) supports the notion of the influential role of parents in self-concept formation: "Some parents are unable to face the facts . . . (they) project blame elsewhere for the child's short-comings . . . the obstetrician is blamed . . . the pediatrician is blamed . . . sometimes parents blame each other . . . the teacher is included as a target for blame . . . the child is the ultimate loser" (p. 323).

The disabled reader is also very sensitive to attitudes and behaviors toward him at school. Teachers are particularly important people and disabled readers are sensitive to their attitudes and reactions (Ekwall, 1976). Metheny (1980) found teachers in classrooms to have very definite beliefs about the learning potentials of pupils from high and low socio-economic backgrounds and that these expectations were reflected in their teaching. Metheny was referring specifically to the socio-economic background of pupils, however, this writer wonders whether it is not also true that teachers have very different attitudes and levels of expectation for good and disabled readers, and, whether they do not betray these feelings to the pupils - another example of the self-fulfilling prophecy.

Harris and Sipay (1980) make a point that teachers in classrooms would do well to think about, in relation to the disabled reader and his peers: "Any child outdistanced by other children is apt to be

disturbed by lack of progress. At first he is likely to try harder. If his efforts are misdirected and fail to bring improvement, eventually he develops a strong feeling of frustration" (p. 321). This feeling may become so exaggerated within the individual that he may feel alienated by his classmates and rationalize that he cannot learn to read because of brain dysfunction or some other improbable cause.

There are many different ways that a low self-concept may manifest itself in a child's behavior and to describe even some of them would be a whole topic in itself. Teachers and clinicians, at best, should be aware of the importance of self-concept in learning of any kind and be au fait with its possible manifestations.

Short-term Memory

Jorm (1979), in reviewing research on dyslexia, advocates that there is now sufficient evidence to conclude that many disabled readers have an impairment of the visual and auditory-verbal short-term memory. He found there is no conclusive evidence to suggest long-term memory impairment.

The idea of visual impairment among disabled readers is not new. The British ophthalmogist, Morgan, used the term "word blindness" in 1896 to refer to the inability to recode the written words into speech and Orton, an American neurologist, in 1937, coined the term "strephosymbolia" to describe much the same condition. More recently, Jordan (1972) referred to this inability as visual and auditory dyslexia. Jorm investigated this problem too, and advocated that to a large extent the inability to read is due to short-term

memory deficits.

Jorm concludes that short-term memory deficit affects the reader at two levels. The first, visual short-term memory, affects the individual as he recodes the letters of a word into their phonological presentations as he has difficulty remembering which letters he has already analyzed. This confusion results in repeating letters, omitting others and most important, uncertainty about the word itself when it has been recoded. At the second level, the auditory-verbal short-term memory deficit follows from the first level but here, comprehension of the isolated word and the stringing together of isolated words is affected.

Carr (1980) supports Jorm's theory. He writes, "because of difficulty with reading operations, poor readers are inordinately slow and inefficient at recoding new items into short-term store. . . . The inefficient encoding and forgetting . . . causes a back log or traffic jam in short-term store that interferes with comprehension" (p. 8). Carr, however, questions whether the storage capacity of short-term memory is to be blamed. He suggests that the trouble arises "in getting codes for words into short-term store to begin with, and in forgetting them after their information has been integrated into a longer-term respresentation of the text of which they are a part" (p. 8). Carr's view, in the second instance, is somewhat similar to that of Torgeson and Goldman (1977) cited by Jorm, who suggest that the disabled reader's problems stem from "a lack of inclination or ability to use efficient task strategies" (Jorm, 1979, p. 24).

The issues are far from settled and, at this stage, the teacher of disabled readers can do little more than be aware that short-term memory and/or learning strategies may be a possible cause of reading disability.

Modality Learning

The question of whether to match the learner's perceptual modality preference and the method of instruction has been raised in educational literature for several decades (Tarver and Dawson, 1978) and to date, the issue is unsettled. Educators and reading clinicians have been arguing whether instruction should focus on a) the learner's modality preference - his strengths; b) the learner's perceptual deficits; or c) the multisensory approach.

Wepman (1967) and Sabatino and Hayden (1970), both cited by Tarver and Dawson (1978), recommend that if remediation is made relevant to the individual's modality preference, the child will sense that he is progressing and thereby, develop a positive attitude toward reading. The results of studies that have concentrated on the learner's modality preference have provided certain insights, however, they have not resulted in general consensus of opinion.

Spache (1976), for example, reviewed the research of Bruininks (1970), Robinson (1968) and Sabatino (1972) each of whom identified the more efficient modality of their subjects and then contrasted the effectiveness of a certain method or methods with disadvantaged, average and learning disabled children respectively. Spache (1976) concludes:

> While these three studies are not in complete agreement, there does appear to be some point in

> relating method of approach to modality, particularly in the auditory channel. The results of these experiments seem to indicate that when a method is specifically related to the child's modality (as phonics to the auditory channel or word form to the visual), the results are clearer than when the method is mixed, as in a basal (p. 69).

Tarver and Dawson (1978) also reviewed the research studies of Hallahan and Cruickshank (1973) and Wallace and Kauffman (1973) wherein the remediation programs were matched with the learner's perceptual deficit. The rationale for the deficit-oriented approach is "that it permits the development of a detailed individualized prescription" (Tarver and Dawson, 1978) and though this approach has appealed to teachers and reading clinicians, the results of such studies have not been convincing.

Critics of the deficit-oriented approach and the modality-preference approach, to a large extent, have accused the advocates of these approaches of not taking all important factors into account in their research and, in some instances, of working from faulty assumptions. The critics list the following as the more important factors and faulty assumptions: a) the difficulty of reliably identifying perceptual strengths and weaknesses (Spache, 1976); b) the assumption that improved perceptual performance in one modality will generalize to other modalities and result in overall improved perceptual functioning (Tarver and Dawson, 1978); c) the role of intersensory integration in learning (Kirk and Kirk, 1971, cited in Tarver and Dawson, 1978); d) the modality-preferences of each child are unique and therefore, they are not generalizable to other children; e) the assumption that perceptual strengths and weaknesses

are stable and unchanging (Spache, 1976) and f) the assumption that the modality preferences of all children can be identified (Spache and Spache, 1978).

Adherents of the multi-sensory approach to reading maintain the main advantage of this approach is that it caters to the individual's unique learning style. This approach provides opportunities for the learner to capitalize on his perceptual strengths and, at the same time, train his perceptual weaknesses (Tarver and Dawson, 1978). The multi-sensory approach is still in vogue with disabled and severely disabled readers, however, Tarver and Dawson (1978) caution clinicians and others that: "a multi-sensory approach should be used judiciously because indiscriminate bombardment of multi-sensory stimulation may result in overloading of the central nervous system" (p. 7).

Tarver and Dawson (1978) suggest that there is sufficient evidence from research to conclude that modality preference has not been demonstrated to interact significantly with methods of teaching reading. However, this view is not accepted by all who have reviewed research in this area. Teachers and reading clinicians may do best to follow the advice of Spache (1976) who suggests that research has not been conclusive and therefore, teachers and others should explore the area for themselves.

Therapeutic Diagnoses

Etiological diagnosis is concerned with finding the causes of the individual reading disability: therapeutic diagnosis, on the

other hand, is more concerned with the individual's performance in the reading act - identifying strengths and weaknesses in reading as well as determining other factors, within the individual or in his immediate environment that affect reading achievement. Since etiological factors have already been considered, they will not be discussed again under "Therapeutic Diagnosis" unless it is necessary or pertinent to do so.

In some reading centers, clinicians use standardized tests almost exclusively to diagnose reading disabilities (Liu, 1980; Farr, 1969): in others, both standardized and informal procedures, such as informal inventories of reading skills and interest and attitude surveys, are used to gain a more thorough understanding of the individual and his ability (Bond and Tinker, 1967; Farr, 1969).

The use of standardized tests in diagnosing reading disability has been strongly recommended (Bond and Tinker, 1967) and recommended with caution (Farr, 1969) by those who have reviewed research on therapeutic diagnosis. Bond and Tinker (1967) advocate that:

> Standardized measurements are the most valuable instruments for analyzing the child's strengths and weaknesses. They are also needed for collecting many of the related facts that enter into the formulation of a remedial program . . . standardized tests allow the diagnostician to compare a disabled reader with his more fortunate typical counterpart. In this way, strengths and weaknesses can be located with a minimum of clinical bias . . ." (p. 161).

Farr (1969) questions the usefulness of much of the information gained from the administration of standardized tests, particularly in those instances where only one set of subtests is given to the

individual. He points out the limitations of drawing conclusions from one test:

> Performance on any one reading test is only a sample of an individual's behavior in one given situation under a single set of conditions. Significant differences in performance can occur when the time of day of test administration, the content of the reading material on the test, or the examiner administering the test are varied (p. 7).

Farr (1969) recognizes that diagnosticians have to work with existing standardized tests but warns them to interpret the results of such tests cautiously for there is some doubt that reading sub-skills can be reliably measured:

> . . . it is quite clear that the measurement of reading behavior is based on logical rather than empirical evidence. Research studies regarding the measurement of sub-skills of reading are very limited . . . there is more negative evidence to support existing measures of the sub-skills of reading . . . many tests fail to measure validly what they purport to measure . . . no one seems to know whether sub-skills of reading can be measured . . . (p. 71).

Harris and Sipay (1980), like Farr, recognize many of the positive aspects of using standardized tests in the diagnosis of reading disability and they, too, warn that "subtests may not have sufficient reliability for diagnostic use with individuals" (p. 165).

Bond and Tinker (1967) strongly recommend the use of standardized measures in therapeutic diagnosis, however, they also put forward an equal case for the use of informal procedures to complement the information gained from standardized measures:

> The diagnostician should feel free to explore further, by informal means, any leads as to the nature of a particular reading disability that comes to light during the standardized procedures. Many times informal explorations supply more insights for planning a

> remedial program than does the standardized diagnostic programs (pp. 160-161).

Harris and Sipay (1980) also argue in favour of informal procedures since standardized test grade-equivalent scores tend to over-estimate the instructional level of disabled readers:

> Children whose reading skills are weak tend to guess more than good readers do, and their scores . . . may at times over-estimate the instructional level by a year or more. . . . Standardized tests are, then, less accurate for poor readers than good readers (p. 205).

They conclude that when there is a discrepancy between the estimate given by a standardized test and an informal procedure, such as an Informal Reading Inventory, the latter is usually a more dependable guide.

Farr (1969) arrives at a similar conclusion about the reliability of informal procedures. He suggests that since informal procedures use a wide variety of data gathering techniques, over a period of time, "it is not surprising that they are more reliable and valid measures than standardized reading tests. After all, the more behavior which is sampled, the more likely the assessment is to be accurate" (p. 98).

The relative merits of the different standardized tests and informal procedures will not be discussed here. In lieu, this writer would recommend that Appendix I in Bond and Tinker (1967) and Appendix A in Harris and Sipay (1980), and Chapter 7 of Spache (1976) be read for succinct summaries of the more widely used tests. More detailed information could be obtained from Buros (1968, 1972, 1975, 1978).

In this section, five general principles of therapeutic diagnosis will be discussed:

a. Diagnosis must be pragmatic.

b. Diagnosis must be pertinent and thorough.

c. Diagnosis must include subjective and objective information.

d. Diagnosis must be efficient.

e. Diagnosis must be on-going.

These principles should serve as guidelines for those who are interested in, or about to carry out, therapeutic diagnosis.

Diagnosis Must Be Pragmatic

There seems to be no debate in the research literature about whether or not therapeutic diagnosis should be practical and applicable. Bond and Tinker (1967), for example, suggest that because reading is a complex act, requiring a number of skills, there are a large variety of factors which may interfere with achievement. Hence, in therapeutic diagnosis, the diagnostician collects all kinds of data about the individual so as to identify possible factors that may be interfering with progress. The diagnostician searches for the individual's strengths and weaknesses in reading and for other characteristics within his make-up and his environment that need to be corrected before remediation can be successful (Bond and Tinker, 1967).

Spache (1976) agrees that diagnosis should be pragmatic. He quotes Peter Pumfrey who, at the Eighth Annual Study Conference of the United Kingdom Reading Association, said "the heart of diagnosis is the interpretation of a series of observations coupled with the

ability to relate the interpretations to a plan for remedial teaching" (Spache, 1967, p. 9). Spache then continues, suggesting that diagnosis must be analytic, not descriptive, if it is to be pragmatic: "the mere listing of the results of a whole group of tests is not a diagnosis . . . diagnosis would be the interpretation of the probable meaning, educationally speaking, of test scores" (p. 9). He warns the reading teacher away from using esoteric tests such as, eyedness, handedness, memory for designs, and the like, for such tests yield descriptive information about the individual which is not easily translated into treatments that may be carried out in the school or reading center.

Otto and Smith (1980) also support the notion that therapeutic diagnosis be pragmatic: "diagnosis in reading involves collecting and interpreting information about the student's strengths and weaknesses as a reader. . . . This information is used to make informed and sensible decisions about what and how the student should learn next" (p. 98).

Diagnosis Must Be Pertinent And Thorough

Collecting pertinent data about a disabled reader, particularly someone thought to be a severely disabled reader, is both costly and time-consuming. Therefore, it is recommended that the diagnostician formulate a plan that he should follow. Such a plan should make mention of how data is to be collected: the techniques that are to be used; information about the tests - the reliability, validity, time needed for administration, number of subtests, administration details,

scoring and interpretation of scores and the like.

Bond and Tinker (1967) do not directly suggest that the diagnostician draw up such a plan. Nevertheless, they do stress the need for familiarity with the measuring instruments as well as knowledge of the kinds of information to be obtained:

> The time, energy, and expense involved in getting the necessary information is so great that everyone making diagnoses should appraise the measuring instruments being used to make sure they are efficient and that they add to the understanding of the children's instructional needs. There should be grave concern lest unnecessary overlap in testing occur. The more reliable and valid measures should be used (p. 158).

These authors emphasize the importance of developing a reading profile wherein all pertinent details of the individual such as reading measures and other physical, psychological, emotional and educational information, be kept. They also stress that information pertinent to the optimal adjustment of the child be the only kind kept on the profile.

Burke (1979), too, recommends the development of a comprehensive profile for each disabled reader but warns against making reports too elaborate for fear that they become unwieldly and too laborious and time-consuming to maintain. He feels that with only pertinent information available, "the teacher is better able to understand the individual and to devise an organized scheme of work that will be both interesting and encouraging" (p. 67).

Spache (1976), like the other authors, advocates that diasnosticians develop a total picture of the disabled reader. He mentions, however, that it is not always possible to pinpoint the actual causes

of the disability during the exploratory phase of the diagnosis, no matter how thorough the collection of data has been: "There are no nice, neat ways of proving that this or that area is the precise reason for the student's problem, in most cases. All we can derive from the facts that we have accumulated are clues as to probable causes, clues to be tested. . ." (p. 10).

Diagnosis Must Include Subjective And Objective Information

Bond and Tinker (1967) and Otto and Smith (1980) advocate that a thorough diagnosis of the disabled reader involved collecting and interpreting information. The first two authors speak to this point: "in diagnosing the learning difficulty of a disabled reader, an analysis of his reading, his physical and sensory characteristics, and various personality and environmental factors must be made" (p. 159). They point out that often it is not within the reading diagnostician's professional competence to carry out such a thorough investigation into all of these areas and they may, therefore, need to call for specialized help from other professionals such as social workers, physicians, psychologists, otologists, neurologists, and the like. These professionals, along with the diagnostician, may each administer standardized tests and informal measures to obtain objective data about the individual, and they may also gather subjective information about the individual through observations, surveys, conferences, and interviews with people who know the individual.

Standardized measures, and many informal procedures, provide objective information about the child's reading strengths and weaknesses. The ways in which these tests have been normed may also allow the diagnostician to compare the individual being tested to age or grade peers or assign him to an approximate grade level. According to Bond and Tinker (1967), standardized tests are the diagnostician's most valuable and reliable instrument for many of the appraisals which must be made, and more importantly, "they give him typical basic facts upon which to make judgements as to what is best for the case of atypical learning he is trying to remedy" (p. 161). Farr (1969) acknowledges that many of the better standardized tests describe reading behavior and provide objective data of how a student performs in relation to other students at one point in time, however, he believes, "they rarely account for why the student performs as he does" (p. 80).

Farr (1969), Bond and Tinker (1967) and others emphasize that a thorough diagnosis of a disabled reader must also entail the collection and analysis of subjective data, that is, data that may reflect the biases of the diagnostician, observer, or informants. For Bond and Tinker (1969),

> . . . informal appraisals also have value in that they are, at times, the only or the most appropriate methods of gaining information. . . . Such information may be of real significance in formulating a remedial program and therefore should be collected, even though at times it may be of questionable validity (p. 163).

Farr is a much stronger advocate for the collection and analysis of subjective information. He feels that information gathered

informally about the disabled reader is more reliable and valid than that obtained from standardized measures. This is so, because informal approaches use a wide variety of procedures to gather information over a period of time.

Otto and Smith (1980) sum up the views of many authors who have written about the need for objective and subjective information in diagnosing reading disabilities. For them, "good diagnosis builds not only on test results but also on experiences with the student during instruction. Good diagnosis involves heavy doses of testing, common sense, and intuition" (p. 128).

Diagnosis Must Be Efficient

Calfee, Drum and Arnold (1979) draw attention to the cost factors involved in testing, not just the cost in financial terms but also in terms of time. These authors were referring specifically to the purchasing, administering, scoring, and interpreting of tests, however, their remarks are equally true for gathering and analyzing information through informal procedures. Their remarks point out how essential it is that therapeutic diagnosis be efficiently carried out so as not to be wasteful.

Many authors have written about therapeutic diagnosis for clinicians and reading teachers in schools and all have in one way or another, emphasized the importance of efficiency in testing and gathering data about the disabled reader. Ekwall (1976), for example, advises diagnosticians to be discriminatory in the types of tests they administer and the kinds of information they gather. He warns against

using the same tests, mindlessly, time again, regardless of the individual's apparent problems, simply because of personal biases or familiarity with the tests.

Peters (1977) also speaks to the point of efficiency in data gathering, however, he is more concerned with the effects testing has on the individual. For him, testing is an ominous experience for many individuals and therefore, data must be gathered as efficiently as possible, with the individual's well-being in mind at all times.

Otto and Smith (1980) and Bond and Tinker (1967) have addressed the question of efficiency in testing and data gathering and they believe that efficiency is best maintained if levels of diagnosis are delineated and each disabled reader is examined in the light of one of three levels. For Otto and Smith (1980), this trichotomy is particularly useful because it not only takes into account the severity of the reader's disability but classifies the individual to one of three levels of diagnosis.

The first level of diagnosis, the survey-level, is intended to screen out those who appear to have reading problems. These students are identified by their poor day-to-day performance on reading tasks or through poor scores on achievement tests. According to Otto and Smith (1980), "data gathered at the survey level provide general information indicating that a student seems to be doing more poorly in reading than other students at the same grade level" (p. 103). Information at this level is obtained from tests, the individual's cumulative record, and other sources. In some cases, those who are identified through the screening process can be helped through additional

or individualized attention in reading; in other cases, further more detailed, diagnosis is indicated before they can be helped by remediation. Those in the latter group are referred for further diagnosis at the next level.

At the second level, the specific-level, the individual's specific strengths and weaknesses in reading are systematically examined through standardized and informal measures, observations, surveys, and interviews. The data is recorded and analyzed and as a result of the analysis, it may be possible to devise instruction to assist the disabled reader. On the other hand, it may become evident that still further diagnosis is needed before remediation could begin.

Individuals who pass through to the third level, the intensive-level, are generally severely disabled readers. Bond and Tinker (1967) suggest that individuals who arrive at level three:

> . . . will need careful case studies made of their reading skills and abilities. In addition, they may need appraisals made of their mental, physical, and sensory characteristics; their attitudes toward reading; their adjustment to the reading problem; and their environmental surroundings (p. 157).

These authors very strongly stress the importance of having all of this pertinent information before the remediation program is formulated. Peters (1977) supports the notion of the three levels of diagnosis and contends that at the third level, the problems tend to be more complex than at the other levels, and the diagnostician may need the assistance of professionals from other disciplines to arrive at a comprehensive understanding of the individual's reading disabilities.

Reading diagnosis is expensive in terms of cost and of time, consequently it should be efficient. Bond and Tinker (1967) advocate that efficiency is enhanced with the three-level screening system, "which enables the diagnostician to go as far as and no further than is necessary to formulate a remedial program" (p. 158).

Diagnosis Must Be Ongoing

Remediation programs very often fail because diagnosis is not ongoing during the period of remediation. Sometimes, the diagnosis is done before the remediation programs begin; in other instances, diagnoses are made before and after remediation. Bond and Tinker (1967), Spache (1976), and Otto and Smith (1980) emphasize that if diagnosis is to be beneficial to the disabled reader, it must be ongoing.

Bond and Tinker (1967) neatly summarize the views of these authors when they say:

> When the remedial program is successful, reading disability is dynamic rather than static. The original diagnosis indicated the instructional needs of the disabled reader at the time remedial instruction was undertaken. The remedial program based on it was designed to alter the child's reading profile in ways that would encourage better overall growth in reading. As remedial work progresses, however, study of the child should be continued further. If the remedial instruction has been effective, the needs of the child will have changed and the remedial program may require modification. Diagnosis must therefore be continuous (p. 165).

Spache (1976) adds to this view by suggesting that diagnosis and remediation not be thought to be curative, "but rather as steps we take to help the students' immediate problems in reading and in dealing with school demands" (p. 12). He is of the opinion that if

diagnosis and remediation are to be supportive of the diabled reader, they must be ongoing during and after the period of remediation.

Remedial Approaches And Techniques

When all pertinent information has been collected about the disabled reader - his strengths and weaknesses in reading as well as information about him as an individual and as a learner - "we should look for the right 'match' between the pupil type and instruction type" (Zigmond, 1978, p. 441). Finding the right "match" appears to be an easy task because of the number and variety of approaches and commercial programs available, however, the matching process is not quite so easy.

Otto and Smith (1980) look briefly at the issue of matching a disabled reader with a particular methodology. They draw attention to the fact that diagnostic test results do not directly assist the clinician with information about which instructional approach is best able to meet the individual's needs. For these authors, ". . . the proof of the pudding is in the trying. No teacher knows how effective a program is going to be with a disabled reader until the program is tried" (p. 217).

Zigmond (1978) is basically of the same opinion as Otto and Smith, however, he raises the question of uniqueness of each child and each child's learning environment. He suggests that teachers and clinicians have been asking the question: "What is <u>the</u> optimum reading method?" instead of "What is the optimum reading method for <u>this</u> particular child?" He finds that the second question raises many more, very pertinent, issues about the child and his environment than the first

question does:

> . . . The choice of an instructional method depends upon many additional variables not now being considered in most studies: the characteristics of the child's classroom; the environment in which the child lives; the availability of such supplementary aids as resource rooms, volunteers, and teaching machines; and, most important, the specific characteristics of the individual child (p. 441).

Zigmond is careful to mention that there is no real answer to the issues the question raises, mainly because of uniqueness of the learner:

> There appears to be no guidelines to help the practitioner determine what student variables (motivation, self-concept, language, social, cognitive, or perceptual levels; rate or style of learning; attentiveness) are significant in learning to read or to assist him to use knowledge about individual differences in such variables in selecting a reading program" (p. 442).

Because of the unique characteristics of each disabled reader and his learning environment, and because "no single program has been found to be effective with all students who have reading problems" (Otto and Smith, 1980, p. 217), clinicians and teachers should be familiar with several approaches to select from and try with poor readers.

In this section, several different approaches and techniques will be discussed:

a. The Language-Experience Approach.

b. The VAKT Approach.

c. The Hegge-Kirk-Kirk Approach.

d. The Orton-Gillingham-Stillman Approach.

e. A Neuropsychological Technique.

f. Basal Readers.

The writer decided to select from these approaches and techniques and not from the many others that are available, for two main reasons:

1) These have been used with some success with disabled readers and are still in popular use in clinics and schools.

2) There exists a plethora of reports about the use of these approaches and techniques with individuals and groups of disabled readers.

The Language-Experience Approach

The essential characteristics of the language-experience approach is that the disabled reader sees a relationship between oral language and printed and written language. According to Otto and Smith (1980) this approach:

> . . . provided a perfect fit in regard to the student's experiential background, vocabulary development, and the materials he or she is using to develop reading skills. . . . We have known the language-experience approach to appeal to students who seem indifferent to learning to read or who have negative attitudes towards commercially developed reading materials. High school students with serious reading problems who reject commercial materials at their reading level as being too babyish sometimes respond positively to stories, essays, plays, commentaries, or whatever of their own creation (p. 219).

The approach is based on several assumptions:

a. The individual's oral language is better developed than his reading ability (Otto and Smith, 1980).

b. The individual dictates or writes his own stories and is therefore familiar with the vocabulary, syntax and the content.

c. The individual sees reading as "talking written down" (Spache, 1972) - his own thoughts or experiences in writing.

d. The individual can use memory cues to recall words he has dictated but cannot, as yet, read (Otto and Smith, 1980).

e. The individual reacts positively to things that are relevant to him (State Board of Education).

f. The individual is able to see an integration of all the language skills: speaking, listening, reading and writing (Fry, 1977).

When using the language-experience approach, the individual either dictates or writes his own stories or messages. When he dictates the story, he watches as each word is written or typed so that he may recall the words from memory even if he is unable to recongize them in isolation. Once the story has been typed, the individual is encouraged to read it aloud to the teacher who assists with any difficulties in the initial stages. As instruction proceeds, and as the individual develops a sight vocabulary, he may be introduced to words of greater currency - words that occur frequently in printed materials.

In the early stage of this approach, the main emphasis is sight-word development. According to Otto and Smith (1980), "phonics and other word-attack skills are taught incidently as instruction proceeds and as the pupils indicate a readiness to derive generalizations from analyzing their own language in print" (p. 221). Transferences from the individual's own stories to other commercial materials is slow, occurring as the individual shows he is ready.

Critics of the language-experience approach have raised several points that are worthy of mention. They suggest that:

a. high-utility vocabulary may not be introduced early enough, or, may not be repeated often enough in stories for the individual to become familiar with them,

b. the individual may be exposed to incorrect grammar when his stories are written just as they are dictated,

c. the individual may not be able to read his own stories because of poor writing or poor spelling,

d. the approach lacks sequential development.

Spache (1972) reviewed several research studies which used language-experience and he concluded that his approach produced reading performances equal, if not superior, to other methods in many instances. He also mentioned that there were improvements in writing mechanics, spelling, vocabulary, and the quality of written work when this approach was used.

The VAKT Approach

This approach, sometimes referred to as the Fernald or the Kinesthetic approach, was first described by Grace Fernald and Helen Keller in the early 1920s. This approach was used by them to assist disabled readers who had not learned to read through the traditional audio-visual approach which was used in schools.

Fernald (1943) recognized that there were many possible causes of reading disabilities among children and that "in most of these cases, individual work and correction of the faulty condition resulted

in normal learning. Many of these cases can be treated successfully in a schoolroom using accepted techniques . . ." (p. 31). Those children who failed to respond to in-classroom treatment were then treated on a one-to-one basis using the kinesthetic approach in a clinical setting.

Ofman and Shaevitz (1963) describe the Fernald method as:

> . . . a person is taught to read by responding to a felt need for a word in a story writing attempt. He asks the teacher for the word he needs but does not know how to write. The teacher writes the word on a slip of paper, pronouncing the word as it is written. The student is then asked to trace the word with his finger and pronounce it at the same time. The student traces the word as many times as he needs to before he can write and read it on his own. He uses the word in his story and may refer to it at any future time (p. 137).

Meyers (1978), describes the Fernald technique much as it is described in the quote above, however, he adds, ". . . . the teacher types the story immediately. The child rereads the story. The child writes the word on a card and files it in a file box" (p. 615). Meyers also points out a very important factor in this technique: "Fernald's technique begins with a reconditioning of the child's attitude toward self and toward reading by avoiding stressful situations and by encouraging success" (p. 615).

Bond and Tinker (1967) describe the Fernald method as having the following important features:

> (a) The child learns effectively the left-to-right sequences of perception by his simultaneous tracing-sounding and writing-sounding of words. (b) The visual structure of the word is associated with appropriate sounding of the pronounceable units of the word. (c) Skill in phonics is learned without having been taught

> formally. . . . (d) The very nature of the program leads to skill in syllabication. (e) The Fernald method, therefore, teaches left-to-right direction of word perception, the visual form of words, skill in phonics . . . and use of context clues for identification and recognition of words. Added to all this, the child is strongly motivated by working with materials in which he is much interested . . ." (p. 475).

There have been testaments as to the success of the VAKT approach with disabled and severely disabled readers (Witman and Riley, 1978; Berres and Eyer, 1970; Fernald, 1943). Witman and Riley modified the technique slightly, using the chalkboard in lieu of paper for tracing and writing, and they found that the boys in the experiment were helped by the method, and that their attitudes toward reading improved.

Berres and Eyer (1970) report the case-study of a severely disabled reader - a boy who attended the Fernald School at UCLA. This child was described as having minimal brain dysfunction; immature, hyperactive, and unable to accept direction or responsibility; perceptual distortion and poor coordination; difficulties at home. After treatment at the Fernald School, over a number of years, "dramatic changes occurred in personality and self-concept as well as in the ability to function independently and to assume responsibility. In addition, John became an adequate, interested student" (p. 46).

There are some who have been very critical of the Fernald technique with disabled readers and have not reported favorable results with this approach (Ofman and Shaevitz, 1963; Myers, 1978; Ekwall, 1976; Johnson, 1978). Ekwall is skeptical of the effectiveness of the Fernald approach, saying that research has not shown

this approach to be any more effective than more commonly used approaches. He advocates that if this approach has been successful with severely disabled readers, it is probably due to the pupil/teacher ratio that the approach demands.

Ofman and Shaevitz (1963) cite the study of Roberts and Coleman wherein it was found that retarded readers were significantly better able to learn new material if kinesthetic components were added. However, the authors question whether the essential variable of kinesthesis was adequately isolated and whether pertinent attention cues were sufficiently controlled in the study to draw the conclusion.

Johnson (1978) found that in her studies some pupils appeared overloaded by the multisensory stimulation required by the Fernald approach. She also reported that some disabled readers did not acquire or generalize phonic principles from the tracing-sounding activities they participated in.

Myers (1978) cites the studies of Forster (1941), Harris (1962), and Shea (1956), in which Fernald's method was used and he writes:

> There is no conclusive evidence which totally supports or rejects Fernald's method. Recent developments in the area of cognition and individual differences in learning suggest that Fernald's technique may very well work for some children but not all. Theories as to who can learn by this method should be researched more extensively (p. 618).

The Hegge-Kirk-Kirk Approach

The Hegge-Kirk-Kirk Approach was popular during the early 1940s when the book Remedial Reading Drills was first published. The

authors devised this phonic approach primarily for mentally retarded and dull-normal children (Bond and Tinker, 1967), using drills, multi-sensory techniques (visual, auditory, kinesthetic and tactile) and concrete associative aids for learning new sounds and for the retention of these.

According to Bond and Tinker (1967), reading of any kind is delayed until the individual has shown adequate progress in phonics: "Sentence reading, story reading, and teaching words as wholes are introduced at the appropriate places as the child progresses" (p. 469). These authors emphatically recommend the approach: "This method is successful" (p. 469), however, several pages later in their book, they qualify this statement by adding "Kirk's method works best for institutional cases" (p. 471).

Relatively little mention is made of the Hegge-Kirk-Kirk Approach in recent times, however, according to Professor Cyrus Blair (personal communication) the approach is still used in some reading centers.

The main criticisms that have been levied at the Hegge-Kirk-Kirk Approach are that it relies heavily on drill, which can become meaningless repetitions for the disabled reader, and that actual reading is delayed until the child shows adequate progress. Those who adhere to the view that reading is "getting a message from print or writing" would object to this approach.

The Orton-Gillingham-Stillman Approach

The Orton-Gillingham-Stillman approach was developed during the 1930s for individuals with normal to superior intelligence who

experienced difficulties in learning to read by the sight method (Johnson, 1978). The approach was based on neurologist Orton's explanation of the cause of reading disability.

Ekwall (1976) interprets Orton's theory as:

> Orton believed that the two halves of the brain were alike in size and design and reversed in pattern. . . . Orton believed that it was, therefore, logical to conclude that records, or engrams as they were called, of one hemisphere would be mirrored copies of those of the other. He felt that if a student failed to establish a normal physiological habit of using exclusively those of one hemisphere, a confusion in orientation may result causing a student to be unable to recognize differences in pairs of words which would be spelled backward . . ." (p. 229)

Orton was emphatic when he suggested that reading problems were neurological, not visual, in most cases:

> . . . visual factors, particularly those of eye movements and those of minor visual errors do not loom so large when we appreciate that we are dealing with a malfunction of a memory area of the brain and not with a malfunction of the visual areas. . . . The same child who misreads "was" as "saw" will copy it as "was" consistently. He does not copy backwards, hence he does not see it backwards. . . . The mirroring process is in the mnemonic, or memory, centers and not in the visual centers, and the child sees things in exactly the same orientation as we do, but he misinterprets them because he misreads them. He sees it as "was" but he interprets it as "saw" (p. 64).

The Gillingham approach, as the Orton-Gillingham-Stillman approach is known, was based on two main principles for remediation. The first was that multisensory associations - visual, auditory and kinesthetic - are established while tracing and sounding visually presented words or syllables. At all times, left-to-right direction is emphasized. The second principle involved the learning of

individual letters; the fusion of these into blends and syllables, and the eventual formation of small, then larger, words.

There have been many reported successes with disabled readers when the Gillingham method has been used. Johnson (1978) cites the report of Childs in 1965 in which she reported the reading development of twins who were taught to read by different methods. Childs says that the twin who was taught by the Gillingham method progressed from a grade equivalency of 3.3 to 4.3 within a six month period whereas his twin, who was also severely dyslexic, only moved from 4.1 to 4.5 under normal public school during the same period.

Johnson (1978) also cites the study of Kline and Kline (1975) who reported a ninety-six percent success rate for severely dyslexic children who followed the Orton-Gillingham approach. The Klines felt that most severely disabled readers need at least two years of remediation for good results, and in some cases, an even longer period is needed.

Otto and Smith (1980) are strongly critical of the Orton-Gillingham-Stillman approach. They suggest that the approach has not been widely accepted by neurologists and educators and they write less than glowingly about the assumptions underlying the approach and the actual implementation of the program. They describe the approach as being too structured, too prescriptive, too drills oriented, and demanding "a teacher with special training and exemplary personal characteristics" (p. 226). In their judgment, the Gillingham method should be "reserved for students for whom less painstaking approaches have been unproductive

and who, for one reason or another, are willing to spend considerable time and energy to be able to read even a little" (p. 226). They mention that remedial sessions must be held daily in place of regular classroom instruction, for a minimum of two years to be effective and to avoid losing the gains made (Otto and Smith, 1980).

A Neuropsychological Technique

This neuropsychological technique is not as well-known as the other techniques and approaches nor has it been widely reported in research literature.

The technique came to the attention of this writer in a journal article by van den Honert, published in 1977. van den Honert cites a number of studies examining the specialized functions of the left and right hemispheres of the brain. She says:

> It is now well established that language and communication are primarily left-brain tasks. Reading is, after all, the analysis of language sounds into phonetic elements, the transcription of those auditory elements into corresponding visual elements, and the assembling of the visual elements into a sequence that matches the auditory sequence in a word. Then the words are assembled into a larger sequence to make a sentence which corresponds to some spoken linguistic arrangement that makes sense (p. 22).

She cites the animal studies of Gazzaniga in 1972 who theorized that a learning disability may be due to a malfunctioning of the brain - processing which normally requires the left brain, being done by the right hemisphere. She concludes, "if this were the case and the right hemisphere were being used for a job it is poorly equipped to handle, the resulting confusion might produce the sort of symptoms that LD children show" (p. 16).

van den Honert was so impressed by the study of two scientists at the Neuropsychiatric Institute in San Francisco who were experimenting with teaching normal adults to lateralize, using a biofeedback technique, that she decided to replicate their study. Not having access to equipment like that of the Institute, she used sunglasses, stereophonic tape recorders and headsets. She blackened the right lens and removed the left lens from the glasses and used the stereo-headphones to provide verbal input into the left hemisphere. With these, she "began to train to lateralize a new class" (p. 18), providing input into the left eye and left ear.

The van den Honert experiment lasted approximately four months at the end of which she reported extraordinary progress among her students. These students showed improvements in phonics, decoding and fluency. By the end of the school year, "the slowest one gained nearly three years and one ball of lightning picked up five years in sixty-five lessons" (p. 18) on standardized reading tests.

There are no published criticisms of the van den Honert technique that this writer is aware of, however, there are many obvious shortcomings in this technique. Teachers and clinicians would be well-warned to wait for further research before they attempt to replicate the van den Honert study with their disabled readers.

Basal Readers

There are perhaps more disabled readers in classrooms who receive reading remediation through a basal series than any other remedial program. This view was confirmed in surveys by Howlett and Weintraub

(1979), Duffy and McIntyre (1980), and Buike, Burke and Duffy (1980). Hence, it was felt that the basal series should be investigated as a possible remediation program.

The major basal series are readily available in schools and, because they all tend to reflect and eclectic view of reading, emphasizing phonics, sight-words, fluency and comprehension, it is relatively easy to understand why teachers, reading specialists and some clinicians are attracted to these for their poorer readers.

Otto and Smith (1980) are of the opinion that most of the major basal series are able to be adapted, or used as supplementary materials, for students who read more poorly than those for whom the series was intended. They comment:

> When a typical basal series designed for average and above-average readers is used with poor readers, the pace of presentation must be slowed; teachers must explain what the students are expected to do more slowly, more precisely, and perhaps more repetitively than they would with more able students; more practice and closer supervision with exercises must be provided for mastery of skills . . ."(p. 237).

These authors report that their own pupils showed good progress in reading once these adaptations were made.

Investigations with the Michigan State University Institute for Research on Teaching, Conceptions of Reading Project, were told by the teachers they interviewed that they had adapted and/or supplemented the basal-series for the weaker readers in their classrooms. What they did with the basals was similar to that mentioned by Otto and Smith.

Hawlett and Weintraub (1979), as mentioned, report very wide use of the basal series for compensatory reading classes. However, they

found that early elementary teachers tended nearly always to supplement the basals with language experience and additional phonics.

The Sherman Model of Reading and Learning

From what has been said in this chapter, there appears to be a very real need for a reading diagnosis model that will summarize as succinctly as possible, the causes of each reader's disability, his strengths and weaknesses in reading, and possible treatments to remediate these. Such a model was described in Chapter 1 and was attributed to Professor George Sherman at Michigan State University. Sherman's model outlined on a matrix of four vertical signs: sight vocabulary, decoding skills, fluent texting and comprehension (skills all good readers must have), and examined each of these against three horizontal effecting factors: task variables, learning variables, and unique child variables (Appendix A). According to Sherman (1980):

> The initial step in reading diagnosis is to assess the adequacy of a child's performance on each of the four vital signs. When a sign is judged to be defective a new question must be posed: Why?. . . .The search for the answer(s) leads the diagnostician into the relationship of causality and sign performance. . . . This arrangement creates a four by four matrix . . . four of which define reading as an observable performance (the signs) and twelve of which establish causal factors, their relationship to each other and to the signs (p. 5).

Sherman advocates that once the cells of the matrix have been completed "the clinician must choose a 'best fit' (treatment) from this array . . ." (p. 6). The relationship of vital signs to effecting factors and relationships within the effecting factors will make the identification of the "best fit" treatment easier.

Summary

Four main topics were discussed in this chapter.

The first, diagnosing the etiological factors of reading disability, looked at single-cause theory that is still accepted by some, and the multi-cause theory that is currently more widely accepted. Under this topic a number of possible causal factors were examined:

Physical Factors: Visual, Auditory, Speech, Neurological, Directional Confusion, Other Factors.

Educational Factors: School, Teacher, Methods and Materials.

Sociological Factors: Parents, Home, Community.

Psychological Factors: Mental Maturity, Emotional Maturity, Self-Concept, Short Term Memory, Modality Learning.

In the second section, Therapeutic Diagnoses, five principles were discussed. These principles - general guidelines for those who were to investigate the reading strengths and weaknesses of an individual - emphasized how important it was that diagnosis: be pragmatic; include only pertinent data; consider subjective and objective information from reliable sources; be efficiently carried out; and be ongoing. Standardized and informal tests were not discussed, however, references were given as to where these tests were described.

In the third section, several remedial approaches and techniques were outlined: Language-experience; VAKT; Hegge-Kirk-Kirk; Orton-Gillingham-Stillman; a neuropsychological technique; and basal texts. Each of these was reviewed in terms of underlying assumptions, and, advantages and limitations.

The fourth section described the Sherman Model of Reading and Learning. This model was used by this writer in the diagnosis and

treatment of Jay - the child in this case-study.

CHAPTER III

CASE-STUDY OF A SEVERELY DISABLED READER: DIAGNOSES

The writer first met Jay, an eleven year old, caucasian American boy on May 20, 1980, when he was asked to substitute for the boy's regular tutor at the Michigan State University Reading Center. The writer was so disturbed by the boy's poor performance on all reading tasks and by his behavior while reading that permission was sought from the Director of the Reading Center to conduct an intensive study of the boy. Approval was granted and plans were formulated to implement the case-study.

In this chapter, two main topics are considered:

a. Essential Features of a Case-Study.

b. The Case-Study Report of Jay.

The second topic is the report in which data about the individual is compiled. Here, etiological and therapeutic diagnoses are examined. Remediation, however, is not discussed in this chapter. Remediation will be the topic of Chapter Four.

Essential Features Of A Case-Study

There are several features that should be considered for a viable case-study. The investigator has identified four such features:

a. Rationale, Objectives and Anticipated Outcomes.

b. Data-gathering Techniques.

c. Parental Consent.

d. The Report.

These will be discussed briefly as they relate to case-studies in general and also, in terms of this particular case-study.

Rationale, Objectives And Anticipated Outcomes

Case-studies are not only costly but very time-consuming. Therefore, it is essential that the investigator in a case-study, have a clear conception of the rationale, objectives, and expected outcomes. This information is needed for research plans and to formulate efficient data-gathering methodologies. Most importantly, the investigator will use this information to convince the individual, and the individual's parents, of the need for the study. The objectives, the data-gathering techniques, and the anticipated outcomes will need to be explained to them.

In this case-study, the writer developed a rationale for choosing this particular individual; formulated a set of objectives; outlined data-gathering and recording techniques; and, stated the anticipated outcomes. These, as shown in Chapter One, were presented to the Director of the Reading Center for consideration and approval.

Data-gathering Techniques

A case-study investigator needs to be familiar with a variety of data-gathering and recording techniques if all pertinent information is to be gathered efficiently. The investigator must know: the kinds of information needed; the sources from which such information is available; the people who are to be interviewed; and, the names and locations

of professionals from other disciplines who may be consulted or asked for assistance during the investigation.

In this case-study, the child had been at the Reading Center for three years and there was a plethora of information about him. Jay's file at the Reading Center contained his initial diagnostic report; term reports; standardized and informal test results; anecdotal reports; observations of behavior; letters from his parents; and a report from Michigan State University Psychiatry Clinics where Jay had been referred for neuropsychological and psychological testing.

The investigator decided that further information would be needed and this could be obtained from: interviewing the boy's parents, classroom teacher and reading teacher; administering standardized and informal tests; observing his reading behaviors; assessing his attitudes towards reading and about himself; and noting non-reading beahvior. It was felt that the most reliable means of recording information for reference was through tape recording all interactions with Jay and with all interviewees, providing there were no objections. The main points from each tape recording, along with major observations made during the interactions, would be written into a daily diary (Appendix B).

Parental Consent

Otto and Smith (1980) emphasize that a case-study should not begin until permission has been obtained from the individual or his parents. They write:

> . . . parents have the right to be consulted if their child is singled out for special assessment . . . when there is reason to expect that the case study may result in a decision to alter the student's program or when it involves more than an hour's individual assessment, parents should be asked to give their permission (p. 79).

In this study, the investigator met Jay's parents and explained to them the need for a case-study; the objectives; the data-gathering strategies; and the anticipated outcomes. The investigator asked the parents to allow him access to all reports about their son at school and at the Reading Center. Permission to interview them, their son's teachers and the psychologists who tested him at the Psychiatry Clinics was also sought. It was explained to the parents that the information would be used to gain insights into their son's reading disability so that a more appropriate remedial program could be offered to him. They were also asked at this time whether they had any objections to the information being used by the investigator for publication. They were assured of anonymity.

The parents were given time to consider the proposal and the implications and they responded within a week. A Parental Consent form (Appendix C) was drawn up by the investigator and was signed by the father on behalf of the family.

The Report

The primary purpose of the case-study report is to improve the student's reading achievement:

> Case-study reports usually contain recommendations to change objectives, the instructional method, or curruiculum materials. . . . Once a

> decision has been made about the kinds of objectives that appear relevant, many problems related to the selection of teaching methods and curriculum materials can be solved (Otto and Smith, 1980, p. 81).

These writers suggest that the report should be written in a non-technical, unambiguous manner since it may be read by the school librarian, the counselor, the principal, other teachers and tutors, and the individual's parents.

Harris and Sipay (1980) recommend that a case-study report should follow a definite outline as "fairly good insurance against omitting important information, as well as an aid to a person reading the report" (p. 328) and they provide such an outline for the writer to follow. Otto and Smith (1980) also provide an outline which they recommend, however, this investigator found both outlines inadequate and therefore, drew from both outlines for the case-report that follows, so that the kinds of etiological and therapeutic information outlined in Chapter Two could be reported.

Case-Study Report: Jay JAY

Student's Name:	Jay JAY*	Today's Date:	October 20, 1980
Date of Birth:	July 27, 1969	Age:	10 years, 11 months
School Grade:	5	Report Writer:	Edmund V. Burke

Reading Center: Erickson Hall
Michigan State University

Period Covered in the Report: May 20, 1980, to October 20, 1980
(3 x 45 minute sessions per week)

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*Fictitious to retain anonymity

Etiological Diagnoses

Physical Data

Visual Factors

Jay's vision has been checked on three separate occasions by optometrists, according to his parents. On the first check-up, no visual defects were found. During the second examination, the eye specialist found that Jay had difficulty coordinating the movement of his eyes. He recommended that Jay undergo more extensive eye examinations but as this process appeared to be long, drawn-out and expensive, his parents did not follow through with the recommendation. A third optometrist diagnosed a similar condition: poor fusion. Jay was found to have difficulty maintaining focus after a short period of time and glasses were prescirbed for reading and other close work. Unfortunately, Jay's parents did not insist that he wear his glasses and, as a result, he did not wear them at school or at the Reading Center.

Jay often complained of eye strain during his sessions at the Reading Center. His complaints were recorded in the daily diary and his behavior was observed. Sometimes, his eyelids would be red and crusted when he arrived at the Center and he would try to shield his eyes from the flourescent lights. He would also rub his eyes and tug at his upper eyelids. His parents were aware of the crusting and redness but they were not overly concerned since he had had this condition each summer ever since he was a small child. The parents had been told that the condition was due to a viral infection.

Jay had another visual disability that interfered with his reading: he had difficulty making a return sweep from the end of one line to the beginning of the next. He was aware that he did this and, to help himself, he would point at words as he read. The investigator encouraged Jay to read without finger-pointing but found that he returned to the same line much more frequently than he did when he pointed. Harris and Sipay (1980) suggest that this kind of problem is due either to eye-muscle difficulty or slow fusion.

Auditory Factors

Jay had no obvious auditory defect. There was no mention of hearing problems in any reports from school or the Reading Center. However, the report from the Psychiatry Clinics did mention an auditory deficit but this was related to a brain dysfunction and therefore, it will be considered under Neurological Factors.

Speech Factors

Jay's speech was fluent and clear.

Jay's mother maintained a diary of his development and reported that his speech during infancy was normal. He had passed through the various baby-talk stages at approximately the same ages as his brothers and by nineteen months, he had a repertoire of words and sentences.

Neurological Factors

During April-May, 1980, Jay was referred to the Psychiatry Clinics at Michigan State University where he was given some seventeen

educational, psychological, neurological, and perceptual tests.

The following interpretations were made of his performance.

> a. (Jay's) central nervous system impairment results from the unique and idiosyncratic organization of his brain functioning. (His) brain is not specialized or clearly differentiated. Neither hemisphere is dominant . . . connections between visual and auditory projection areas of his brain are not automatically made as they are in a more typical organized brain. This unique organization is not associated with any physical or environmental trauma. . . . (Jay) has numerous perceptual and cognitive deficits.
>
> b. (Jay) has extreme difficulty associating a verbal label with a visual configuration . . . (this results) from (his) inability to integrate the functioning of different areas of his brain.
>
> c. (Jay's) difficulty reading to himself results from his inability to activate automatically the auditory areas of his brain when performing visual tasks.
>
> d. (Jay) has difficulty understanding abstract units of time . . . using words that symbolically represent numerical concepts. . . . He needs to use concrete, external supports . . . he cannot easily perform arithmetic operations without the use of concrete visual aids.
>
> e. (Jay's) strengths are on tasks that require visual-spatial ability. He capably manipulates objects in space.
>
> f. (His) capacity to comprehend orally presented information is excellent.

The report made several recommendations about the kinds of educational programs Jay should follow, based very largely on the prognosis: "it is doubtful that he will ever be able to read significantly above his present level" which, at the time, was about first grade.

Directional Confusion

Jay experienced difficulty distinguishing between left and right. His parents reported that he, like his mother and older brother, was left-handed and, like them, could not spontaneously identify his left or right hand. All left-handed members of the family identified their left (their writing hand) by tracing a letter or word with their left index finger. Jay mentioned that he was able to write with both hands because one of his teachers had insisted on right-hand writing, however, the investigator noticed a marked preference for the left hand in his activities.

Reversals And Partial Reversals

Jay reversed letters and small words and, equally as often, he would mix the order of letters within words.

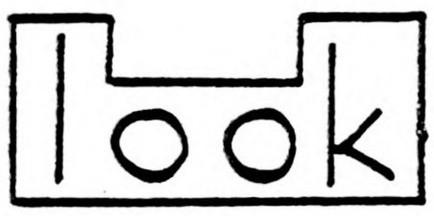
The report from the Psychiatry Clinics made no reference to the reversal problem: other reports, including the investigator's daily diary, show many instances of reversals and partial reversals. The letters "b" and "d" were constantly confused in his printing and writing as well as in his reading. For example, he wrote the word baby from memory as

and read it as baby. When asked to copy it from the chalkboard, he wrote

The following are a few examples of Jay's word reversals and letter transformations within words: on read as no, no as on; was as saw, saw as was; how as who; followed as flowed; lots as lost; also as lost; and earth as three.

Similar Word Configurations

The daily diary shows ample evidence of similar configuration errors. For example he confused the words



and

because of similar letter patterns. Other examples of this confusion are: beach : bush ; any : way ; arel : air ; down : know ; When : there.

The report from the Psychiatry Clinics suggests Jay confuses certain words because he reverses figure and ground: "he attends to the 'ground' of the word initially more than the 'figure.' A word like 'rabbit' may be misread as 'mother' because both words have similar configurations. . . ."

Other Physical Factors

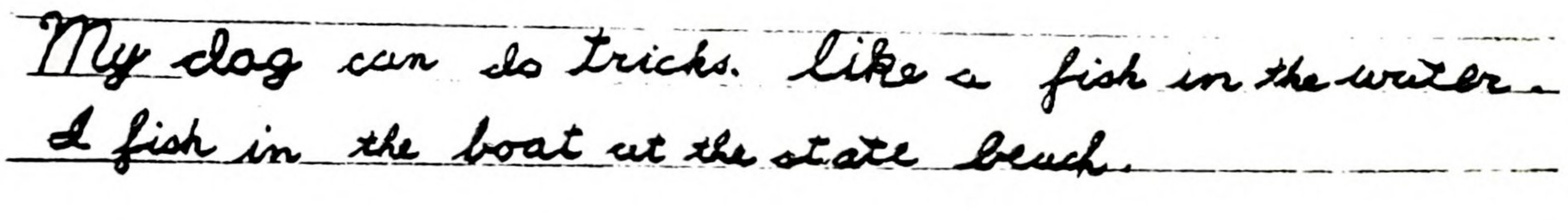
As mentioned earlier, Jay's mother maintained a detailed diary of each son's growth and development. In Jay's case, prenatal and postnatal development was normal: there was a full-length pregnancy;

there were no complications in labor or delivery; he passed through the various developmental stages at the same age as most children and he had never been seriously ill nor had he suffered any trauma.

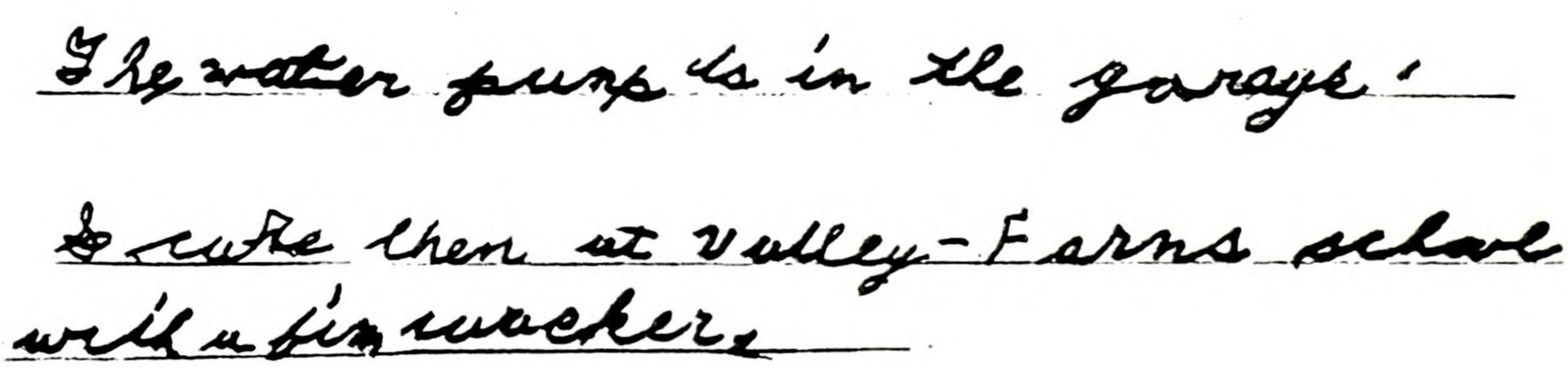
Jay's gross body movements were well coordinated. He was among the best at his school in sport and physical education. His finer movements, particularly those requiring eye-hand coordination, such as printing and writing, were not as well developed. School reports show erratic progress in handwriting. In grades one and two, for example, his teachers reported "good progress," but, in grades three and four his writing was assessed as "needs improvement" (Appendix D).

Particular attention was paid to Jay's handwriting in this study since the VAKT approach was used during remediation. Extracts from the daily diary show the quality of Jay's writing and give an example of how it varied from day to day:

August 4, 1980



August 8, 1980



Jay's drawings, on the other hand, were always careful, organized and very detailed (Appendix F). Drawing was obviously a source of pride and enjoyment to him and he often volunteered to do drawings in lieu of assigned reading homework.

Educational Data

School And Reading Center Information

Many of Jay's reports from school (Appendix D) and his term reports from the Reading Center (Appendix E) have tended to somewhat overstate his progress and achievement in reading.

In 1976, Jay repeated grade one mainly because he was unable to read. His school report for Fall, 1976, stated that he needed to work on: 1) letters and sounds; 2) sight-words. His 1977-78 grade two report showed satisfactory progress in: 1) sight-words; 2) comprehension; 3) word-attack skills, and 4) reading for pleasure, and good progress was reported on knowledge of: 5) the alphabet; 6) consonant sounds; and 7) short vowel sounds. His reports for 1978-79 and 1979-80 stated that three areas needed improvement: comprehension, word-attack and vocabulary development. He showed satisfactory progress in the other reading areas.

It would appear from Jay's reports and his seemingly automatic promotion from grades one through four that his school espoused the philosophy: "the chief goal of the school should be the happy, well-balanced and socially competent individual . . ." (Carter and McGinnis, 1970, p. 68). Bond and Tinker (1967) foresaw the kind of predicament students such as Jay would be in when they warned: ". . . as the

poorer readers are promoted from grade to grade, they drop farther and farther behind, and eventually become disabled readers" (p. 139).

Jay's term reports from the Reading Center have been more detailed, more analytic, and more critical than his school reports, but these, too, have tended to overstate his progress and achievement. Appendix E is an example of a report from the Reading Center. The investigator agrees with many of the tutor's observations and comments but doubts that Jay could have read the books and language experience stories mentioned since he had neither the sight-vocabulary nor the decoding skills to do so.

Jay's tuition at the Reading Center was a higher standard, however, his progress and achievements at the Reading Center could have been more closely monitored since the reports show little evidence of sequential development or progression.

The Teachers And Tutors

Jay's parents reported during an interview with the investigator that all, but one, of his teachers were complimentary to him as a pupil. The teachers found Jay to be a pleasant, well-adjusted child who strove to please. All of the teachers mentioned that Jay was experiencing problems in reading, however, they thought that he would overcome his difficulties since he was being helped by the school's reading specialist and the tutors at the Reading Center.

The one teacher who had not warmed to Jay felt that his reading disability was so severe that he would never learn to read. This teacher, according to the boy's mother, felt that she was unable to

assist Jay with his reading. There is no evidence in school reports of this teacher's viewpoint.

Jay's tutors at the Reading Center, like his teachers at school, found him to be a likeable child. The comments in Appendix E are typical of the types of compliments his tutors made. Tutors were impressed by his oral expression and aural comprehension, his imagination, his wide-ranging interests, and his friendly manner.

It is obvious to the investigator from school and Center reports, and from interviews with Jay's classroom teacher and reading specialist that he has had support, assistance and empathy from teachers and tutors.

Methods and Materials

Jay's reading instruction at school and at the Center has been orthodox, basically following an audio-visual approach.

At school, the classroom teachers followed a basal series, supplemented by a phonics program wherein Jay was allowed to read basals of a lower level than his peers. As far as the investigator could ascertain, the teachers did not offer him an individualized program per se: Jay simply occupied himself with his basal when the other children read theirs.

The school's reading specialist was aware that Jay needed a highly individualized program, however, this was logistically impossible with the available resources. She reported to the investigator that Jay attended her sessions with eight other poor readers from his class and, at best, she treated him as a member of this group. There

were, of course, times during the sessions with this group when Jay would read aloud to her, or to the aide, and had his errors recorded. His comprehension dittoes, and other worksheets, along with notes as to the types of errors he made, were kept in a folder in which a quick-reference profile was maintained.

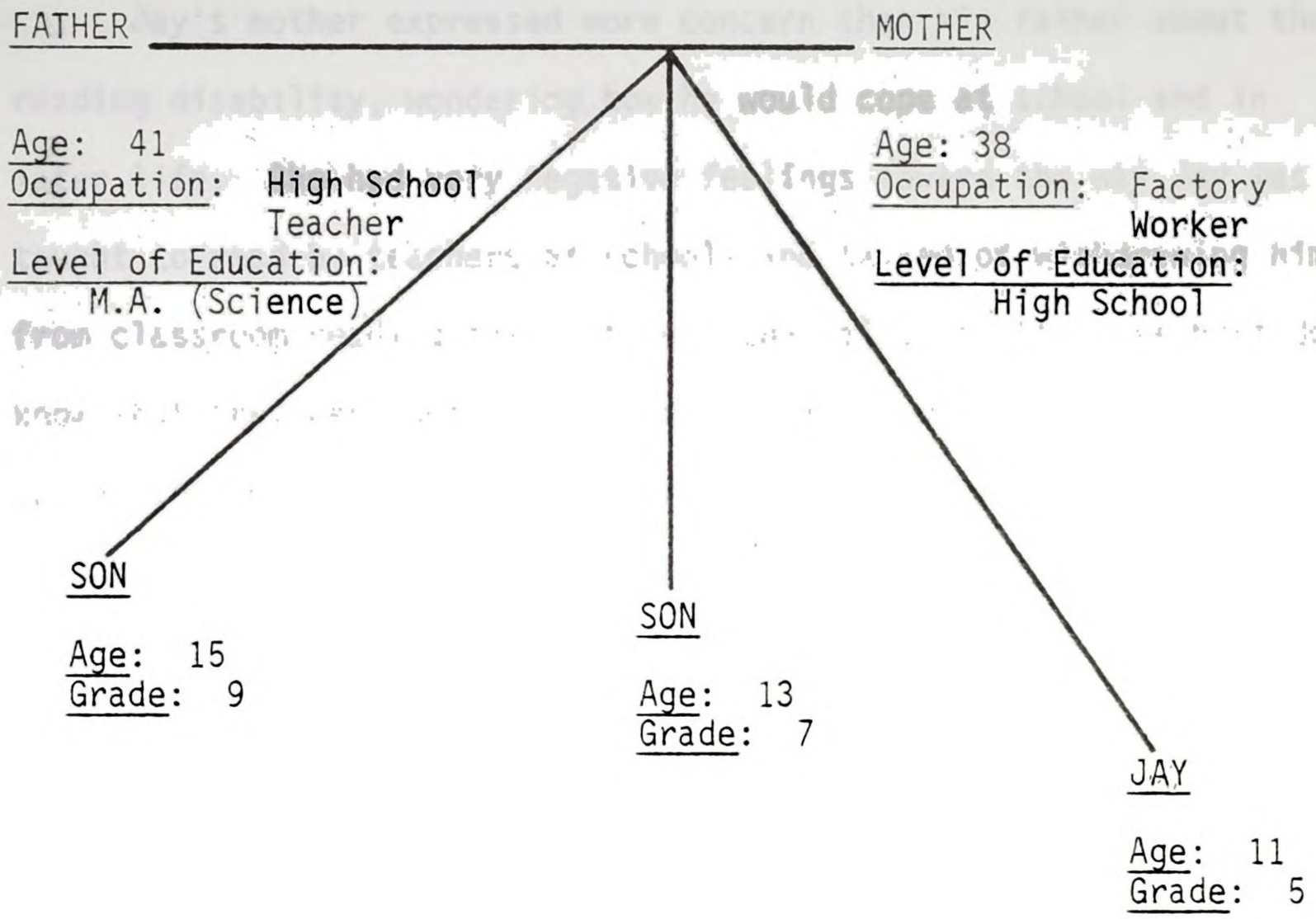
At the Reading Center, the tutors implemented a variety of imaginative and innovative techniques, based on audio-visual approaches. Some tutors followed a top-down model, using language experience to generate vocabulary and stores: others followed a bottom-up model in which they moved from phonics through to comprehension. All tutors reported that Jay had made some progress during the term but each one concluded her report by suggesting that Jay continue to attend the Reading Center since he still had many reading problems and was reading well below the level of the typical child in his grade at school.

Sociological Data

Parents

The investigator met with one of Jay's parents twice or three times a week during the period of the study. He also visited their home where he interviewed the members of their family to obtain information about Jay and their feelings and interactions with him.

The diagram below provides information about the family and Jay's position in it.



Jay's father was seen by the investigator as a quiet, retiring man. His mother, on the other hand, was seen by the investigator as talkative, forceful, and outward going: the dominant parent. Jay identified with his father and he would often express the same interests and values as his father speaking about them as if they were his own. He said he liked his mother less than his father because she enforced discipline in the home.

Jay's parents are concerned about his reading disability. They can offer no explanation as to why he should be a poor reader since he has grown up in a household where reading is modeled and encouraged: father is an avid reader of books; mother reads magazines and books, whenever she has time; the older brothers enjoy reading books, magazines and comics.

Jay's mother expressed more concern than his father about the reading disability, wondering how he would cope at school and in later life. She had very negative feelings toward the way Jay was taught to read by teachers at schools and talked of withdrawing him from classroom reading instruction. She believed, "the teachers don't know what they were doing," and "conventional methods haven't worked so far and won't work in the future" (Recorded interview with parents: 8/26/80). She strongly resented her son being given "baby stuff," lower level basals to read in the classroom because these materials did not challenge him. She expressed approval and satisfaction with the "special methods" that were used by the reading specialist and the tutors.

Jay's parents encourage open-discussion in the home. The investigator found this an admirable quality in that there was rapport among family members and a special kind of ease and spontaneity during family discussions. However, this kind of home environment did have one obvious drawback: Jay's disability was openly discussed. Jay was aware of his performance on tests, the prognosis from the Psychiatry Clinics, term reports, and conversations with teachers and tutors.

In general, Jay's parents have provided him and his brothers with a very comfortable home environment. They are encouraging, supportive, and concerned about his progress and achievements.

The Home

Jay lives in a neat, comfortable, middle-class home in the suburbs, a quarter mile from his school. The house is well-furnished and

equipped with facilities, indoors and out-of-doors, for family recreation and for private study.

As mentioned, there is an air of freedom in the home, nevertheless, each member has certain daily chores and responsibilities and these must be attended to. The children are held responsible for their own school assignments and homework, but they may seek help from their parents if they need assistance. During the Summer months, the investigator often assigned homework which required that Jay work with his parents, and this was always completed on time.

Psychological Data

Mental Maturity And I.Q.

Jay was given the Wechsler Intelligence Tests for Children-Revised (WISC-R) on two different occasions, some three years apart, and similar results were obtained each time.

The WISC-R was administered to Jay when he was seven years, seven months, at the time admission was sought into the Reading Center, and he fell within the average range for children his age. This test was given again in April-May, 1980, by the psychologists at the Psychiatry Clinics and the same results were found. The report from the Clinics places Jay within the average range but adds: ". . . his present intellectual functioning is impaired by a central nervous system deficit that significantly lowers his verbal skills. A more accurate estimate, corrected for his central nervous system impairment, places him in the Bright-Normal range."

Emotional Maturity

Jay's present teacher feels that he is as emotionally mature as any other child in her classroom. She told the investigator that he participates freely in all non-reading activities, often leading a group. He also volunteers for classroom and school duties and responsibilities but when an activity entails reading, he tends to withdraw.

The tutors at the Reading Center have not commented on Jay's emotional maturity, however, they have made remarks about his confidence, his friendliness and his willingness to engage in conversation.

The investigator, like the classroom teacher, is of the opinion that Jay is emotionally mature for his age. If the seven characteristics outlined by Carter and McGinnis - mentioned in Chapter Two - are a yardstick of emotional maturity of children, Jay should be judged to be emotionally mature.

Self-Concept

Jay has been assessed as having a poor self-concept.

On two occasions, several months apart, Jay was given a sentence completion test. The sentence beginnings were read to him and he was asked to respond as quickly as he could with the first thoughts that came to him. He did this, and his responses were tape recorded and later transcribed (Appendix G).

After the administration of the first test, the tape recording was played on two doctoral interns in Psychology. They listened to

the recording and offered the following interpretations of his responses:

a. Overall, he is a child who is very sad about himself and his lack of ability in reading.

b. He identifies with his father and he views his mother as a disciplinarian.

c. He would like to be able to read to please his parents whom he feels are eager and concerned that he learns to read.

d. He equates smartness and intelligence with being able to read.

e. He is aware that he is a poor reader and that he is not doing as well as his peers in classwork. He wants to be noticed . . . he wants to be outstanding at something so that his peers don't tease him about being a "dummy."

f. His world tells him reading is fun, and, since it isn't fun for him, there must be something wrong with him.

g. He would like to escape from the sometimes uncomfortable atmosphere of the classroom where reading and reading activities are compulsory (Personal communication with R. Sturgis and M. Lieberman).

Jay mentioned to the investigator, on a number of occasions, that he was teased by other children for reading "baby stuff" - a term his mother used - in the classroom. He resented being teased and referred to as a "dummy" and as "stupid" by his peers and was very upset by these remarks.

Short-term Memory

There is no first-hand evidence to support the assumption that Jay's reading disability is contributed to by a deficit in visual or auditory short-term memory. Nevertheless, the views put forward by

Jorm (1979) and by Carr (1980), mentioned in Chapter Two under "Short-term Memory," make good sense and appear to describe Jay's difficulty in recoding the letters of a word into their phonological presentations.

Modality Learning

There was no evidence in any of the reports of Jay's modality-preference. However, since the investigator had opted to use the multisensory VAKT approach for remediation, modality-preference was not an issue of real concern.

Therapeutic Diagnoses

Sign #1: Sight Vocabulary

Date	Tests
5/20/80	Slosson Oral Reading Test (SORT)
10/20/80	Slosson Oral Reading Test (SORT)
--	Teacher-made Tests and Observations

Interpretation

On the first administration of SORT Jay obtained a raw score of thirty-four and on the second administration of this same test, his raw score was forty-five. He was not able to recognize such words as come, baby, three, down, ball in List P; with, friends, was, what, bump, dark, first, basket, in List 1; game, breakfast, large, better, suddenly, happen, river, lunch in List 2 . . . words that have been taken from standardized school readers for the SORT. Many of these same words appear in the pre-primer and primer lists of the Dolch

Basic Word Lists.

Jay made several types of errors in his sight word test. Some of these errors occurred sufficiently often to warrant mention: Letter reversals and letter confusion; word reversals and letter transformations within words; similar configurations and guessing.

There are several examples of letter reversals and letter confusion. Jay very often reversed the letters "b" and "d," and he would invariably confuse "d" with "m," in isolation and in words. For example, he read baby as dady; bump as dump; grade as grame; bog as dog; day as may; drive as brive. There appears to be an explanation for the "b"/"d" reversal in that it is a common mistake amoung younger children (Moyer and Newcomer, 1972) and that Jay was a left-hander in a right-handed classroom. However, the investigator can offer no explanation at all for the "d"/"m" confusion. Jay knew the names of the letters of the alphabet including the letter "m," and, he never confused "m" with "d."

Word reversals and letter transformations within words were common. Jay read saw as was, was as saw; no as on, on as no; dark as drak; lost as lots, lots as lost; three as earth; who as how, how as who; own as won, won as own. Jorm (1979) and Carr (1980), both of which were discussed under "Short-term Memory" in Chapter Two, seem to offer a plausible explanation for these phenomena.

Jay would confuse words of similar configuration even where the letters of the words were not alike. For example, he read ball as bill; are as air; bag as dig; five as fine; made as rule;

should as still; radio as water.

Jay worked hard to win the approval of the investigator and he would often guess somewhat blindly at words. The investigator was sometimes troubled over Jay's responses, wondering whether they were a configuration error or guesses. There were instances where obvious configuration errors occurred and the investigator accepted the explanation put forward by the psychologist at the Psychiatry Clinics: figure/ground reversal. There were also many obvious instances of guessing to please the investigator. For example, Jay read remote control as switch blade, three and another; without as backward; found as control; there as round; get as going; picture as children.

Sign #2: Decoding Performance

Date	Tests
5/20/80	Slosson Oral Reading Test
10/20/80	Slosson Oral Reading Test
10/20/80	Gates-McKillop Reading Diagnostic Test (1962)-Form 1(V-1)
--	Teacher-made Tests and Observation

Interpretation

Jay knew the names of the letters of the alphabet save "b" and "d" which he confused with one another, and "d" which he sometimes called /m/. He knew the sounds of the consonants but he appeared to have little knowledge of long and short vowel sounds. In fact, he often confused the sounds of the vowels with the names of the letters. For example, the word given was read as /gaɪvn/ with "i" being made

into a diphthong so as to say its name.

The Gates-McKillop Reading Diagnostic Test (V-1), Recognizing and Blending Word Parts, was administered and an analysis of the results show that Jay's initial attempts at the whole words were almost always incorrect. He correctly pronounced two of the twenty-three words. Sometimes, his attempts were totally wrong, for example, he read spack as shash; stade as shash; dween as droop; chack as tash; prible as pair; whast as shit. His performance on the initial blends was good, scoring sixteen out of the twenty-three. In four of the seven errors, Jay substituted /sh/ for sw, ch, th, wh. His attempts at the word endings were also poor. Here, he showed little knowledge of the long and short vowels and, in many cases, the consonants and consonant blends that followed. To provide one example to illustrate this point, he read -able as ap. Jay's overall performance on this test was poor. Clearly, his understanding of vowels, both long and short, and consonants and consonant blends in the final position is below standard.

The investigator had warned Jay the words on this test were nonsense words and wondered whether some of his responses were guesses, effected by this warning.

Jay showed practically no knowledge of structural analysis: syllabication or roots and affixes. Likewise, despite having a sizable oral vocabulary, he appeared unable to generalize from phonic rules, homophones, heteronyms, compounding, contractions, possessive forms and abbreviations - knowledge and skills that competent readers possess

(Blair and Burke, 1980) and would have acquired at school in a reading/language arts program.

Sign #3: Fluent Texting

Dates	Tests
5/20/80	Durrell Analysis of Reading Difficulty, New Edition (Oral Reading)
9/16/80	Durrell Analysis of Reading Difficulty, New Edition (Oral Reading)
--	Teacher-made Tests and Observations

Interpretation

Jay's fluency was severely hampered by his inadequate sight vocabulary and by his inability to decode unfamiliar words. He had a sizable oral vocabulary and his knowledge of word meanings in isolation and in oral context was good, nevertheless, because of weaknesses in sight-words and in word-attack, he read word-by-word with hesitations, mispronounciations, repetitions, and errors. For example, he read the following passage, at approximately twenty-three words per minute, in the manner shown:

3. Camping

Six boys put up a tent by the side of the river. They took things to eat with them. When the sun went down, they went into the tent to sleep. In the night, a cow came and began to eat grass around the tent. The boys were afraid. They thought it was a bear.

The investigator found that when Jay read a text of known words, that is, words he knew or had learned through the VAKT approach, he read quite fluently though not much faster. The following passage is an example of his fluent reading:

Jay and Elsie went | for a walk down (R) | the road for about | three miles(X) | They came to an old farm. | Jay thought he | would | like to look around | the farm-house(X) | He thought he | was | a little scared because | the house was very, very old. | There (R) | was | a track from the house | to an old well | and (R) | an old | water-pump (well) (P). | Jay could see | another well | in the valley | about a mile away. |

It can be seen that Jay hesitated at the end of each line in both of the examples. He was observed by the investigator to point to words as he read and, even though he did this, he occasionally returned to the line he had just read.

Sign #4: Comprehension

Dates	Tests
5/20/80	Gates-MacGinitie Reading Tests, 1978 Edition, Level B (Comprehension)
5/20/80	Durrell Analysis of Reading Difficulty, New Edition (Listening Comprehension)
9/16/80	Durrell Analysis of Reading Difficulty, New Edition (Oral Reading)
9/20/80	Gates-MacGinitie Reading Tests, 1978 Edition, Level B (Comprehension)

-- Teacher-made Tests and Observations

Interpretation

Jay's reading comprehension was affected by inadequacies in his sight-vocabulary, decoding and fluency. Whenever he was confronted by unfamiliar words in a text he read haltingly and, because he concentrated so much on decoding words, the message would often escape him. If he was able to recognize most of the words in a passage, his comprehension was considerably better; he was astute; he saw intended humor and wit; and he was even able to draw attention to content errors in stories the investigator had composed for him.

Jay strongly objected to reading silently. If he was asked to read to himself, he would reluctantly do so, sub-vocalizing in the beginning, gradually reaching the stage where he read aloud. Obviously, he relied heavily on aural input for comprehending the message of a written text.

The investigator observed Jay to have an auditory modality preference. His aural comprehension was assessed at approximately grade five-six level on the Durrell Listening Comprehension Test.

Degree Of Disability In Reading

At times it is important to assess the severity of an individual's reading disability in a case-study report. This kind of information may be used by the school or district for placing a child under a Title Program since new federal regulations limit the category of severely disabled to no more than two or three percent

of the school population (Harris, 1981). Such information may also be used to indicate to parents the severity of their child's disability.

The Sherman Model, as mentioned in Chapters One and Two, provides a neat and succinct summation of the individual's strengths and weaknesses in reading, however, it offers little indication of the degree or level of the disability. How then can the severity of the child's reading disability be determined? Most definitions of a severely disabled reader, with one exception, are of little assistance as they lack sufficient specificity. Ekwall (1976), unlike most of his contemporaries, offers the most comprehensive description - a list of seventeen symptoms - of a disabled reader. This description attracted the investigator and, hence, it was used as a checklist to determine the severity of Jay's reading disability:

Checklist

Ekwall's Characteristics	True of Jay
a. Reversals of letters or words	True
b. Short or erratic memory for words	True
c. Oral rereading not improved after first oral or silent reading	True
d. Inability to hold information in memory until needed	True
e. Difficulty in concentration	True
f. Inability to see whole relationships or form a Gestalt	True
g. Emotional instability	Not True
h. Tendency towards impulsiveness	True
i. Poor eye-motor coordination	True
j. Difficulty in sequencing	True
k. Inability to work rapidly	True
l. Omission of words and phrases	True
m. Directional confusion	True
n. Poor auditory discrimination	True
o. Hyperactivity	True
p. Poor syntax, stuttering or speaking haltingly	Not True
q. Achievement in Arithmetic considerably higher than reading and spelling	True

Jay was found by the investigator to meet fifteen of the seventeen characteristics, using the data that was available about him. Ekwall does not provide a sliding-scale for determining the degree of disability, however, the investigator is of the opinion that since Jay meets eighty-nine percent of Ekwall's characteristics, he should be deemed a severely disabled reader.

Summary

Two main topics were addressed in this chapter - the essential features of a case-study and the case-study of a disabled reader.

The first topic examined the four features that were thought to be essential for a viable case-study: a) The Rationale, Objectives and Anticipated Outcomes; b) Data-gathering Techniques; c) Parental Consent; and d) The Report. Each feature was discussed in general terms and then, in terms of this particular case-study.

The second topic, a case-study report, was presented using the outlines provided by Harris and Sipay (1980) and Otto and Smith (1980) as "fairly good insurance against omitting important information . . ." (Harris and Sipay, 1980, p. 328). Some adaptations were made to these outlines so as to accommodate all of the pertinent data about Jay as an individual, as a learner, and as a disabled reader.

Three areas were discussed under the second topic: a) etiological diagnoses; b) therapeutic diagnoses; and c) the severity of the reading disability.

Under etiological diagnoses, the following areas were examined:

Physical Data: visual; auditory; speech; neurological (directional confusion, reversal and partial reversals;

similar word configurations); and other physical factors.

Educational Data: school and reading center information; teachers and tutors; and methods and materials.

Sociological Data: parents and home.

Psychological Data: mental maturity and I.Q.; emotional maturity; self-concept; and short-term memory.

Under therapeutic diagnoses, the investigator assessed Jay's reading strengths and weaknesses in reading, using the four signs of the Sherman Model:

Sign #1: Sight Vocabulary

Sign #2: Decoding Performance

Sign #3: Fluent Texting

Sign #4: Comprehension

Finally, the investigator used Ekwall's seventeen symptoms of a severely disabled reader as a checklist to determine the severity of Jay's reading disability. Jay was found to meet fifteen of the seventeen symptoms and was therefore categorized by the investigator to be a severely disabled reader.

CHAPTER IV

CASE STUDY OF A SEVERELY DISABLED READER: REMEDIATION

The remediation program for Jay began on July 1, 1980, and continued until October 20, 1980, a period of almost sixteen weeks. During this time the investigator met the boy three times a week for forty-five minute sessions either at the Reading Center or at his school.

Before July 1, the investigator collected much of the data mentioned in Chapter Three from reports, interviews, observations and test result analysis so that "the right 'match' between pupil type and instructional type" (Zigmond, 1978, p. 441) could be organized. About this time, the investigator also drew up a set of principles which would underlie the remedial instruction and facilitate learning.

In this chapter, two topics are considered:

a. The Principles of Remedial Instruction

b. The Remedial Program

Under the first topic, each principle is discussed generally, and then in terms of this particular remedial program. The second topic provides details of the methods, techniques and materials that were used during the sixteen weeks.

The Principles of Remedial Instruction

Several different sets of principles for remedial instruction in reading have been suggested (Bond et al., 1979; Roswell and

Natchez, 1971; Wilson, 1972; Otto and Smith, 1980; Harris, 1981) and these have been found to differ from each other mainly in terms of focus. Some were oriented toward building the individual's self-concept: others were pedagogical, concerned with the facilitation of learning. The investigator was attracted by principles from both orientations, and consequently arrived at a set which were incorporated into this remedial program.

Principle 1: Remedial Instruction Must Be Based On Diagnoses

Harris and Sipay (1980) emphasized that remediation must be based on etiological and therapeutic diagnoses. This information would enable the clinician to devise an appropriate program - "a plan of teaching to overcome the difficulties and gaps" (p. 334).

For Jay's program, the investigator took into account facts and other pertinent information of the kind discussed in Chapter Three. For example, it was believed that Jay:

a. had a central nervous system impairment and that connections were not automatically made between visual and auditory projection areas of his brain;
b. had difficulty understanding abstractions and he needed concrete, external supports for learning;
c. experienced directional confusion and reversals;
d. was reliable and responsible;
e. had a poor self-concept;
f. had difficulty recoding letters of a word into their phonological presentations;

g. had limited sight vocabulary and very few decoding skills; and

h. tended toward an aural modality preference.

With these and other factors in mind, the investigator decided that a multisensory approach, in this case the VAKT, would be used with Jay. It was also decided that priority would be given to the development of his sight vocabulary so that he could begin reading immediately.

Principle 2: Rapport Must Be Developed Between Teacher And Learner

The importance of rapport between the learner and the teacher has been stressed as an essential part of a remedial reading program (Roswell and Natchez, 1971; Otto and Smith, 1980; Harris, 1981). It is thought that once a working relationship has been developed, the learner will become an active participant and will learn more efficiently and effectively. According to Otto and Smith (1980), "The success of corrective and remedial teaching depends heavily on the extent to which the learner gets involved" (p. 475). Bond et al. (1979) look at the same issue from a slightly different perspective: "When a child recognizes that an interest is taken in him and his problem, it will give him the much-needed sense of personal worth and the confidence in himself that he has hitherto lacked" (p. 253). Roswell and Natchez (1971) agree with Bond et al., in fact, these writers consider teacher/pupil rapport a cardinal principle of remediation.

The investigator found it easy to develop rapport with Jay since he wanted a male teacher. He was in early adolescence and

had not had a male teacher since grade one nor had he ever had a male tutor at the Reading Center. Jay took delight in talking to the investigator about his sporting interests, his hobbies, and his masculine pursuits. The investigator capitalized on his willingness to talk about himself and about things which interested him by writing them down for him to read later, and by asking him to illustrate some of his ideas since he enjoyed drawing.

Once rapport was established, the investigator began to demand more work from Jay, knowing that he would do what was required of him. Sometimes, Jay would do more work than he was assigned for homework, often in the form of drawings which he would discuss in class.

Principle 3: Success Must Be Reinforced Throughout The Program

Harris and Sipay (1980) believe that nothing succeeds like success and for them, the clinician or teacher is responsible for designing a program wherein the pupil succeeds from the very beginning. They write,

> It is essential to begin . . . at a level and with specific tasks that are easy enough so that successful performance is virtually certain. . . . After the child has tasted the delightful flavor of an auspicious beginning, good judgement is needed in estimating how much to cover, how fast to go, and how soon to move to a higher level of difficulty" (p. 336).

Roswell and Natchez (1971) agree with the notion put forward by Harris and Sipay but they warn against giving the individual too easy-to-read materials simply to develop the feeling of success:

> Building up feelings of success in these defeated children is a very complex problem. . . . Reading very easy material perfectly is less rewarding than making

> errors in more stimulating stories. . . . One must assess the child's capacity for making mistakes without his becoming extremely upset over them (p. 73).

In this study the investigator used the Fernald approach in which the child was to experience success on the first day (Johnson, 1978). The program began with language experience stories - sentences that reflected Jay's interests, his speech patterns and his vocabulary. He learned his own words through the VAKT approach and then read these words in his dictated stories and in other stories that the investigator had composed for him. Success in reading was almost guaranteed since Jay would be reading known words in a familiar context.

The investigator made use of praise and, less occasionally, extrinsic rewards such as international postage stamps for signs of progress. Jay's parents were kept informed of his progress and he found their response toward him very encouraging.

Principle 4: Learning Must Be Cumulative With Frequent Review

Otto and Smith (1980) and Harris (1981) advocate that when dealing with disabled learners, the teacher should design a program of small steps, each one leading to the next. They also suggest that time be allocated for frequent review and practice to facilitate the recall of knowledge and to further develop any skills.

In this study, the investigator scheduled some time at the beginning of each lesson for the review of known words, for language experience stories and for practicing newly acquired skills. Regular review enabled Jay to be taken from what he knew to what he was about

to learn, that is, he was prepared in advance to learn new material and skills easily and efficiently.

Principle 5: Learning Materials And Tasks Must Be Meaningful

Otto and Smith (1980) address this principle by claiming that research studies have confirmed "that meaningful tasks and materials are mastered more readily than materials that have limited meaning or tasks that are not clearly understood" (p. 477). Bond and Tinker (1967), like Rosewell and Natchez (1971), agree that tasks and materials be meaningful and they add that the learner should be told about the purpose and structure of the program. They also feel the learner must be made aware of his strengths and weaknesses in reading and understand the purpose of certain activities, such as drills, tracing and the like, which in themselves may not be associated with the reading process. Bond and Tinker write, "the remedial teacher will find that making the processes of reading meaningful to the learner helps to solve his reading confusions" (p. 251).

The investigator explained to Jay that a different approach would be used to help him to read. He was told about the various techniques within this approach: dictating language experience stories; finger-tracing of words; writing words; and reading familiar stories. Most important, he was informed that this approach had helped many children, like him, to read. The explanation about the different tasks in the VAKT approach, the materials, and about his role within the approach appeared helpful and meaningful to Jay.

Principle 6: A Variety Of Remedial Techniques Must Be Used

Bond et al. (1979) believe that there is an unfortunate tendency among clinicians and reading teachers "to stick to one specific type of exercise to overcome a known deficiency. . . . (Whereas) an effective remedial plan will include a variety of teaching techniques and instructional procedures" (p. 195). (Writer's parentheses). Harris (1981) concurs with the second point of view but he feels that flexibility in choosing methods and techniques should depend upon the individual's feelings and aptitude.

In the initial stages of planning Jay's remedial program, the investigator was very attracted to the notion put forward by Bond et al. and planned to use an array of techniques and procedures. However, after a short time it became clear that Jay was unable to cope with different techniques. He became apprehensive when new techniques or exercises were tried mainly because he was not sure whether he would be able to respond appropriately. His confusion and insecurity hampered the amount he learned.

When Jay was even slightly apprehensive, the number and variety of his defending strategies increased. At this time he would resort to one or more of the following: he would drop his pencil as far as possible under the table; he would complain of eye strain, sore muscles, and severe headaches; he would insinuate that none of his teachers understood him; he would cry; he would say that he wanted to be a truck-driver because they didn't have to know how to read; or, he would suggest that his mother would withdraw him from the Reading Center.

Thus, the investigator chose to use a limited number of techniques and exercises until Jay demonstrated enough confidence to accept a wider variety.

Principle 7: Spaced Practice Must Be Included In The Program

Otto and Smith (1980) have found sufficient evidence from research with disabled learners to suggest that long-term retention was improved by spaced practice. For them, spaced practice was important because it provided relief from monotony, frequent rest periods and changes in activity.

In this study, the investigator made use of this sound educational principle by dividing each lesson into four main segments (Appendix B):

a. Correcting homework
b. Revising known words, reading familiar passages/ sentences, and practicing skills.
c. Learning new words, reading new passages/sentences, and acquiring new skills.
d. Assigning homework.

Jay learned best when he was aware of the organization and structure of each lesson; consequently, this lesson format was maintained throughout the sixteen weeks. This structure provided spaced practice two or three times a week. As well, there was time within each lesson to reteach or review anything that Jay found particularly difficult.

Principle 8: Achievable Goals Must Be Set

Wilson (1972) emphasized the need for goals and objectives in remedial reading programs. He recommended that clinicians and reading teachers draw up sets of long-term goals, which should in turn be broken down into lesson objectives formulated in behavioral terms. Thus, the behavior which was expected as a result of the instruction would be easily assessible. Wilson also put forward the idea that "children should be alerted to the daily instructional goals; indeed, we have found it beneficial to involve them in the development of goals" (p. 147).

The investigator in this study formulated goals and objectives which were thought to be achievable and, in addition, organized sets of rewards for when the goals were reached. Jay was informed of the goals and objectives and he worked toward the rewards. For example, Jay was told that the Director of the Reading Center would visit to congratulate him when he was able to recognize two hundred words, and as this was an important goal, he worked hard to learn this number of words.

Jay was not involved in the development of goals and objectives since the investigator was unsure how beneficial an eleven year old's contribution would be in the development of a remedial program.

Principle 9: Cooperation Must Be An Integral Part Of The Program

The importance of the classroom teacher and the individual's parents has been stressed by several writers (Harris, 1981; Wilson, 1972; Bond et al., 1979). Bond et al. (1979) suggest that the

disabled reader's teacher and parents be asked to assist in the remedial program because they are important people in the child's life and he may strive to please them. These authors also feel that by working with the individual on the program, the parents and teacher may grow to appreciate the nature of the disability and better understand the goals and objectives of his program.

The investigator visited Jay's school on a number of occasions and informed the principal, the classroom teacher and the reading specialists about his program at the Reading Center. They were given copies of his word lists and reading passages and they were asked to let him work on these at school. Likewise, Jay's parents were invited to observe how he was taught at the Reading Center and they were asked to assist him with his homework. While Jay received the support of his teacher and parents his progress was indeed good.

Principle 10: Skills Development Must Be The Major Objective Of The Program

Wilson (1972) has criticized many remedial reading programs for not developing the reading skills of the disabled reader. He feels that in many instances remedial programs are tutorial in nature where "the instruction is designed to enable the child to be successful with a given material in a given classroom situation" (p. 147). For him, each lesson must be designed to develop the specific skills in which the child has demonstrated a deficiency.

The diagnostic model used in this study was skills oriented, and as a result, the investigator was able to design a remedial program that addressed the four skills: sight-vocabulary, decoding, fluent texting and comprehension. Since the VAKT approach was used

almost exclusively during remediation, most attention was given to sight-word development, nevertheless the other skills were also attended to and developed during the period of remediation.

The Remedial Program

Sign #1: Sight Vocabulary

The investigator decided to give priority to the development of Jay's sight vocabulary during the period of remediation for the following reasons:

a. The number of written words he could recognize was severely limited.

b. He urgently needed to develop his sight vocabulary if he was to begin reading as soon as possible.

Source Of Sight Words

During the first four weeks of the program, Jay's sight words were obtained from his language experience stories and sentences. He dictated his sentences to the investigator who determined if Jay was able to recognize his written words in one of two ways:

a. Jay was asked to locate or identify randomly chosen words from his sentences;

b. Each word from his sentences was typed onto a small index card and then shown to him.

If he recognized a word in the second instance, the card was placed in an index file. If he was not able to recognize a word, it was written in large cursive letters on a flashcard (Appendix I) for

later use.

By the end of four weeks the investigator found that many of the words from Jay's sentences were low-frequency words and of little use for generating other meaningful sentences. For example, he used comb-switch blade; remote-control car; fire-cracker, and back-track in his sentences, and though these compound words could be broken down into single words, they were still not high-utility words.

Jay needed more high-frequency words and therefore the investigator decided to discontinue with language experience sentences as the source of sight words and to obtain future words from a basic word list. The Revised A and P Sight Word List - sets of fifty words organized according to frequency of occurrence - was readily available and was chosen for this purpose (Appendix J).

Organization Of Sight Words

Each new word was written on a 13 by 3 inch flashcard in large cursive letters (Appendix I). The same word was typed on a primary typewriter onto an index card for the investigator's file box (Appendix K) and onto a strip of card for Jay's use (Appendix K). Jay cut the words from the card and kept them in alphabetical order in a plastic envelope inside his folder.

Learning New Sight Words

The Fernald technique was slightly modified to teach Jay his new sight words. The following procedure explains how words were learned:

a. Each new word was written in large cursive letters onto a flashcard (Appendix I).

b. Jay looked at the word as the investigator said the word.

c. He was told the meaning(s) of the word.

d. He traced over the letters of the word on the card, with the index finger of his left hand, and said the word when he finished tracing it. He repeated this process between ten and fifteen times depending on the length, complexity or difficulty of the word. He continued to trace and say the word until he was able to write it with his index finger from memory.

e. He wrote the word in pencil five or six times, again saying it after it was written.

f. After each day's words had been treated in this way, each card was flashed to see whether Jay could recognize the word. If he recognized it, the card was placed on a ring binder for later use: if he was not able to recognize a word, the tracing/saying, writing/saying procedure was repeated.

Nine or ten new high frequency words were presented each session.

Reviewing Known Sight Words

Known sight words were kept in three places: the ring binder, the index file, and Jay's plastic envelope. All known words were

reviewed each week either by flashing the words on the ring binder or by drawing cards from the index box. In addition, Jay would be assigned homework which required him to use his word cards. Home assignments usually took one of three forms:

a. Jay composed sentences by using his small word cards in the following way:

He then copied these sentences onto a piece of paper

b. He completed cloze passages of known words in which all but the first letter(s) of certain words were deleted:

We followed a tr___ into the woods and we ate b_____.

We w_____for miles and miles th_____the quiet bush th____ we came to our camp-s____ on the b____.

To complete this assignment, he looked through his small word cards in the plastic envelope and when he found the appropriate word he wrote it onto the line.

c. His parents played a game with him in which his small word cards were flashed and Jay said the word on the card.

Difficult Sight Words

There were certain words that Jay seemed unable to learn regardless of how hard he tried and how many times he was retaught them. He experienced this kind of difficulty with such words as bought; only; because; place; are.

Whenever Jay appeared unable to learn a word, the investigator found it expedient to allow him to associate the difficult word with a concrete object. One example of this kind of stimulus-response may illustrate the point:

> Jay has experienced difficulty with bought even though this word has been retaught several times. Today when he again failed to recognize bought, the flashcard was placed against the telephone near the desk. He looked at the word and heard me say "bought" five times. Jay then pointed at the flashcard and said "bought" five times. Jay somehow associated the word bought with the telephone and referred to bought as his "telephone" word (Extracted from the Investigator's Daily Diary).

He continued to use this kind of stimulus-response until he became very familiar with the word on the card. The telephone/bought association lasted almost three weeks before Jay was able to recognize bought without saying, "That's the telephone word: bought."

Final Assessment Of Sight Words

By the sixteenth week Jay had learned three hundred sight words (Appendix L) from his language experience stories and the Revised A and P Sight Word List. During the review periods of lessons he demonstrated that he recognized between ninety and ninety-five percent of these words when he was tested. Jay showed no evidence of being

able to generalize from these words to new words. Each new word was an entity in itself.

On October 20, 1980, Jay was given the SORT and obtained a raw score of forty-five - a grade equivalence of 2.2. He had progressed from a grade level of 1.7 to 2.2 during the sixteen week period.

Sign #2: Decoding Performance

Jay's attempts at unfamiliar words on the SORT and the Gates MacGinitie Reading Test (1978 Ed.) on May 20, 1980, showed that he had relatively few decoding skills. Despite this poor performance on these tests, the investigator decided not to emphasize decoding skills for the following reasons:

a. Jay needed to develop his basic sight vocabulary so that he could begin reading as soon as possible.
b. The Fernald technique was to be used during remediation and this was a whole-word approach.
c. He was diagnosed as having a central nervous system impairment wherein connections between visual and auditory projection areas of the brain were not automatically made.
d. He had had many years of phonics instruction and he had not learned to use this knowledge.

Source Of Words For Decoding

Jay's sight words were used to show him how certain words could be decoded using letter-sound correspondences. He was also shown how certain words on his sight word list could not be decoded using the

same letter-sound relationships.

Organization Of Words For Decoding

In the early stages of the program, the letters of the alphabet were printed on small cards and were used to review letter names and sounds. Later, when Jay was decoding simple words, his sight word flashcards were used. Likewise, when he practiced using the VC plus "e" Rule, as in gate, write and code, his flashcards were used.

Learning To Decode

Jay knew the names of the letters of the alphabet except for "b" and "d" which he always confused. To overcome this confusion he was taught the sign language signals for these two letters and this appeared to help him. His problem with the other consonant letters was that he confused the letter names with the sounds as he decoded words.

He had considerable problems with vowels. He not only confused letter names with sounds but he invariably used a short vowel where a long vowel existed in the word.

Some work was done with word families and Jay enjoyed the search for words with similar elements. He had a good oral vocabulary and could easily find words for the word-family lists.

Only one phonic rule was taught during the sixteen weeks. Jay learned the VC plus "e" Rule and practiced it on his known sight words and any new words to which it was applicable. However, he very seldom used the rule of his own volition on an unfamiliar word. In

almost each instance, he had to be reminded to use the rule.

Final Assessment Of Decoding Performance

Jay often appeared to have little control of the final pronunciation of a word he decoded. One example from the daily diary may illustrate the point:

> He looked at the flashcard lost and sounded the letters correctly. He hesitated for a moment and said, "Look." I asked him to re-examine the word. He looked at it again, decoded it without sounding out the letters and said, "Long. No. It's lots, long. Heck, I don't know." I then spelled the word to him: LOST. Jay immediately responded, "Lost."

Quite often when Jay could not decode a word, the investigator spelled the word to him or asked him to spell the word aloud. More often than not, he could identify the word if it was among his known words.

It soon became apparent to the investigator that Jay did not like phonics nor was he motivated to develop his word-attack skills. He became frustrated when he was unable to decode a word and he would hit the table or his leg with his hand. On two separate occasions, he became annoyed because he could not remember the sounds of certain letters and began to tap the microphone of the tape recorder with a pencil. After several repetitions of these behaviors, the investigator decided to discontinue the development of word-attack skills, except for the VC plus "e" Rule and word families.

Sign #3: Fluent Texting

At the beginning of the remedial program Jay had extreme difficulty trying to read meaningful units of language. In fact, he

appeared to have all of the characteristics of a non-fluent reader. For example, he would:

a. read word by word - approximately thirty words per minute;
b. repeat words;
c. omit any difficult words;
d. ignore punctuation; and
e. return to the line he had just read.

The passage below illustrates some of these errors:

2. The Dog

The R
A little | black dog | ran away from | home X He | played | with | two | big dogs. | That They | ran away | from | him. | It began to rain X He | went | under | a tree. | He | went wanted | to go home, | but he | did not know the | way. | He | saw was a boy R | he | knew X The | boy | took | him home. |

Source Of Passages For Fluent Texting

The investigator felt that the best way to develop Jay's fluent texting skills was to allow him to read passages in which he knew all of the words. Hence, for sixteen weeks he read passages of known words - sentences he dictated, or stories that the investigator composed, using his known words.

Organization Of The Passages

Jay was presented with new reading material almost every week, sometimes twice a week. Since the investigator composed and typed all of the reading materials, it was easy to maintain the same format and layout. For example, all materials were typed on a primary typewriter and one and a half or two spaces were left between lines. The primary typewriter was used because Jay complained he found it difficult to read smaller type, and large spaces were left between lines to prevent Jay from returning to the line he had just read.

Learning Fuent Texting

The investigator only allowed Jay to read materials composed from known words. After Jay dictated a language experience story, he learned all new words as sight words before he read the story. This was done so that he recognized every word in the passage and would therefore read his sentences fluently and meaningfully, just the way he had said them to the investigator.

When Jay was given a new story that the investigator had composed, a procedure similar to the neurological impress technique was adopted. In this case:

a. All difficult words in the story were drawn from the index file and quickly reviewed.

b. The investigator read the passage aloud, fluently and expressively, while Jay listened and followed the story by pointing at the words with his finger.

c. Jay's attention was drawn to any difficulties in

punctuation and phrasing.

d. The investigator and Jay read the passage aloud.

e. Jay read the passage aloud, fluently and with full expression.

Sometimes Jay was given oral reading for homework. He was asked to practice reading the stories or sentences by himself and with his parents so that he could read them like a radio announcer. When he read his stories in class, they were tape recorded and played back to him. He enjoyed this role playing activity.

Difficulties With Fluent Texting

Jay's fluency in reading was hampered because he repeated words and also because he ignored punctuation. When he repeated a known word, for no obvious reason, the investigator would ask Jay to re-read the whole sentence, slowly, without repeating any words. Whenever he was penalized in this way he reread the sentence fluently, without repetitions.

Before a new passage was treated, the investigator found it timesaving to review punctuation. The various punctuation marks were written in a column on the chalkboard and Jay was asked the names of the marks. Some words and sentences were then written on the board, using the different punctuation marks, and Jay read them aloud. His knowledge of punctuation was good during these practice sessions, however, he tended to ignore most punctuation in his oral reading.

Final Assessment Of Fluent Texting

During the last weeks of the remedial program Jay was asked to read the following passage:

Jay lost his new comb switch-blade. He looked and looked for it but he could not find it. He walked through the woods near the farm to the beach. He looked near the berry bush. He could not find it. When he got to his house, he said to his mom, "I have lost my new comb. The one I bought for my birthday. Have you seen it around the house? I have looked around the house, near the school, in the garage, on the track and on the beach. I just can't find it! Where could it be?" Mom had not seen it? She said, "Jay, have you looked in your school bag?" Jay looked there. There it was!

It is obvious to the investigator that when Jay does not have to contend with unfamiliar words in a passage, he is able to read meaningful units of language with expression.

Sign #4: Comprehension

When Jay was tested on May 20, 1980, he performed so poorly on Signs #1 through #3 that it was thought that Sign #4: Comprehension was also deficient. His results on the Gates-MacGinitie comprehension test were very poor and confirmed this belief. It was not until he was administered the Durrell Listening Comprehension Test that the investigator decided to further test Jay's comprehension skills. The decision was made for the following reasons:

a. Jay's school and Reading Center reports commented on his imagination, his oral vocabulary, and his ability to express himself orally.
b. He could converse with adults with seemingly perfect comprehension.
c. He showed an aural modality preference in class and at school, and his results on the Durrell Listening Comprehension Test demonstrated that he was able to listen for minute factual detail.

Source Of Passages For Comprehension

Working with Principle #3 in mind, the investigator decided to allow Jay to read only those passages where all of the vocabulary were known to him. For the entire period of remediation, he read his language experience sentences and stories as well as the sentences and stories written by the investigator.

Organization Of The Passages

The passages that Jay read were always clearly typed on a primary typewriter, with one and a half or two spaces between lines. The content of the sentences and passages was limited by the fact that only known words could be used in the exercises.

Learning To Read And Comprehend

Whenever Jay was given a new passage to read the following procedure was used:

a. New words that were essential to the story were learned from flashcards, using the VAKT technique.

b. Known words which occured in the passage were taken from the index file and were very quickly reviewed.

c. Jay was reminded about the importance of punctuation.

d. He was asked to read the passage, remembering as much as he could about it.

e. He was asked factual questions about the passage.

Each time Jay was asked to read silently he objected, saying he hated to read to himself. Nevertheless, he began by reading to himself, subvocalizing and pointing at each word. His volume gradually increased until he was reading aloud. The investigator did not prevent him from reading aloud since Jay relied on aural input to comprehend what he said. Likewise, he was not prevented from finger pointing because this helped him locate his place on the page and more important, it helped him on his return sweep to the next line. On those occasions when Jay was asked not to point at words, he lost his place and frequently re-turned to the line he had just read.

Difficulties With Reading Comprehension

Reading comprehension is best developed through practicing reading and by deliberately trying to remember what was read. Jay disliked reading and he would not read unless he was compelled to either by the investigator or his parents.

Final Assessment Of Reading Comprehension

Jay's performance on the Gates-MacGinitie Reading Comprehension Test on October 20, 1980, showed that he had improved in this skill. He had moved from a grade level of 1.5 to 2.4 during the sixteen week period of remediation.

Jay did not have a reading comprehension deficit. His performance on Sign #4 was hampered by limited sight vocabulary and poor decoding skills for when he read new materials composed from known words his comprehension was good. In fact he was able to recall minute details from the passages several days after he had read them.

Development Of The Affective Domain

The investigator felt strongly that Jay should experience how pleasurable books could be. Stories were selected about children of Jay's age and three or four pages were read to him each week. The investigator always made a point of finishing the week's reading at a high point in the story so that Jay would want more next week. It was even hoped that Jay would ask if he could borrow the book to finish the story for himself but this did not happen.

Jay enjoyed listening to stories and he would ask for the story during the first session of a new week. However, he would never admit that reading, or being read to, was pleasurable. Whenever he was asked why he sat so still and listened so attentively to the story he would make a joke of his behavior - "I was asleep. That's why!" Nevertheless, the investigator read to Jay each week knowing that he really did find pleasure in listening to good stories from books.

Summary

There were two main topics in this chapter - the principles of reading remediation, and the remedial program that was offered to Jay.

To obtain the ten principles, several different sets of principles were examined. Some of these focused on developing the disabled reader's self-concept: others centered on pedagogical issues. Hence, the ten principles below reflect both orientations:

Principle 1: Remedial Instruction Must Be Based On Diagnosis.

Principle 2: Rapport Must Be Developed Between The Teacher And Learner.

Principle 3: Success Must Be Reinforced Throughout The Program.

Principle 4: Learning Must Be Cumulative With Frequent Review.

Principle 5: Learning Materials And Tasks Must Be Meaningful.

Principle 6: A Variety Of Remedial Techniques Must Be Used.

Principle 7: Spaced Practice Must Be Included In The Program.

Principle 8: Achievable Goals Must Be Set.

Principle 9: Cooperation Must Be An Integral Part Of The Program.

Principle 10: Skills Development Must Be The Major Goal Of The Program.

Each principle was discussed in general terms and then, in terms of Jay's remedial reading program.

The second topic gave details of Jay's remedial program and his progress in five areas: sight vocabulary; decoding; fluency; comprehension; and, the affective domain. Each sign was examined separately with the headings: Source; Organization; Learning; Revision; Difficulties; and Final Assessment. Considerable attention was given to Sign #1: Sight Words since the development in this skill was essential for developments in other signs, particularly Sign #3: Fluency and Sign #4: Comprehension.

CHAPTER V

SUMMARY AND CONCLUSIONS

There are three topics in this chapter:

a. Summary of the Study;

b. Response to Research Questions; and

c. Implications of the Study.

For topic one, the investigator reviewed Chapters One through Four and drew together the most salient points. Under topic two, there was an examination of the research questions and in topic three, implications of this study were discussed.

Summary Of The Study

In Chapter One the investigator put forward the rationale, purpose, theory and objectives of this study - a case-study of an eleven year old severely disabled reader. It was suggested that although tomes exist about the reading process and about reading disabilities, our knowledge of both of these areas may still be described as piecemeal and fragmentary. It was also argued that since the causes of reading disability "are complex, often obscure and always interrelated" (Roswell and Natchez, 1971, p. 11), the best and most efficient means of gaining insights into a reader's disability was through an indepth study of the individual - a case-study.

It was proposed in this chapter that a case-study allowed the investigator to collect pertinent information about possible causal factors; to diagnose specific strengths and weaknesses in reading; to offer appropriate remediation; and, to monitor progress. It was also suggested that though there were case-study reports about disabled readers in books and journals, most of them lacked the detail and specificity that made them useful to personnel in colleges and schools. Harris (1970), a strong advocate of the case-study approach for disabled readers, was cited in the chapter for his remark: ". . . published case reports . . . have not been numerous . . . most of them have been presented non-technically or in a brief compressed way, due to the limitations imposed by the professional journals" (p. xxi) and his remark was used to justify this indepth and detailed study.

The investigator presented a comprehensive survey of literature and research in Chapter Two, beginning with an examination of possible causal factors of reading disability. The factors were examined under four headings: physical; educational; sociological; and psychological. Many factors were considered under each heading, however, each factor was chosen because of its relevance to this case-study.

Within Chapter Two there was also a discussion of five principles of therapeutic diagnosis. As well, there was a description of six remedial approaches and techniques: language-experience; VAKT; Hegge-Kirk-Kirk; Orton-Gillingham-Stillman; a neuro-psychological technique; and basal texts. Each approach and technique was reviewed in terms of its underlying assumptions, advantages, and limitations.

The investigator concluded Chapter Two with the remark that there was real need in reading diagnosis for a model or framework that would succinctly and neatly summarize pertinent information from the etiological and therapeutic diagnoses. Such a summary would enable the best treatment to be chosen for the individual in terms of his specific strengths and deficits in reading. It was found that the Sherman Model provided such a framework and assessed the individual's performance on each of the vital signs or essential reading skills: sight vocabulary, decoding, fluency and comprehension.

In Chapter Three two main topics were addressed: the essential features of a case-study; and, the case-report of Jay's etiological and therapeutic diagnoses. Under the first topic, the investigator identified four features that were thought to be essential for a viable case-study: a) The Rationale, Objectives and Anticipated Outcomes; b) Data-gathering Techniques; c) Parental Consent; and d) The Report. Each feature was discussed generally in the first instance, and then, in terms of this particular study.

It was within the second topic, the case-study report, that pertinent etiological and therapeutic information was collected and analyzed.

Etiological data about Jay was obtained very largely through interviewing his parents, his classroom teacher, and the reading specialist at school; from reading his school reports and his file at the Reading Center; from meeting with the psychologist at the Michigan State University Psychiatry Clinics; and from Jay himself.

Jay's strengths and weaknesses in reading, on the other hand, were diagnosed through standardized tests and from teacher-made tests and observations. The information obtained was classifed under the four signs in the Sherman Model.

Information of the kind shown below was obtained from etiological and therapeutic diagnoses and was very important and very useful when considering "the right 'match' between pupil type and instruction type" (Zigmond, 1978, p. 441).

Etiological Data

Physical Factors

a. Jay had a history of eye trouble. He was found to suffer from poor eye fusion and corrective glasses were prescribed. However, he refused to wear them.

b. He was diagnosed as having a central nervous system impairment that resulted from the unique and idiosyncratic organization of his brain functioning. His brain had not specialized: neither hemisphere was dominant.

c. His prognosis from the psychological examinations stated that it was doubtful that he would ever read significantly above his present level.

d. He had difficulty reading to himself and decoding words because connections were not automatically made between the visual and auditory projection areas of his brain.

e. He attended to the ground of the word more than he did the figure. Hence, he confused words of similar letter

configurations.

f. He experienced directional confusion. He reversed certain letters and rotated the order of letters in words.

g. His speech, listening, and gross-motor skills were well developed, however, his finer movements, those involving hand-eye coordination, were not so well developed.

Educational Factors

a. Jay has had a history of reading problems and it is unfortunate that his reports have overstated his progress and achievements in reading.

b. He was seen by his teachers and tutors as a pleasant, well-adjusted, responsible boy who strove to please.

c. He was exposed to a variety of reading materials and techniques at school and at the Reading Center but all of these were basically audio-visual.

d. He deeply resented being given "baby stuff" - lower level, easy-to-read basals - at school.

Sociological Factors

a. Jay came from a comfortable, middle-class home where reading was modelled and encouraged.

b. His parents were concerned about his reading disability and his mother, in particular, wondered how this would effect him in school and later life.

c. His parents encouraged open and free discussion in the home and therefore, Jay knew about his parents' concern;

the psychological report and the subsequent prognosis; his school and Reading Center reports; and his parents' perception of the poor quality of reading instruction in schools.

Psychological Factors

a. Jay was administered the WISC-R on two occasions, and he was assessed as falling within the average intelligence range.

b. He was thought to be emotionally mature.

c. He was found to have a poor self-concept.

d. He appeared to have a visual short-term memory deficit.

e. He appeared to have an auditory modality preference.

Therapeutic Data

Sign #1: Sight Vocabulary

a. Jay's sight vocabulary was severely limited.

b. He did not know many words in the pre-primer and primer lists of the Dolch Basic Word List.

c. He would confuse words with similar letter configurations.

d. He was unable to maintain a visual image of a word.

e. He guessed at words.

Sign #2: Decoding Performance

a. Jay had practically no decoding skills.

b. He knew the names of the letters of the alphabet but he confused the letters "b" and "d." He also confused "d"

with "m."

c. He often confused the letter names of consonants with their sounds.

d. He had little knowledge of vowels. He confused the letter names with their sounds.

e. His performance on tests showed some knowledge of consonants and consonant blends in the initial position, however, he was unable to decode word endings.

f. He showed no knowledge of structural analysis or phonic rules.

Sign #3: Fluent Texting

a. Jay's fluency was hampered by limited sight vocabulary and by an inability to decode unfamiliar words.

b. He was a slow, word-by-word reader when he read passages of unfamiliar words. However, he was more fluent when he read passages of known words.

Sign #4: Comprehension

a. Jay's comprehension was affected by inadequacies in sight vocabulary and decoding skills.

b. He read unfamiliar passages poorly because he was preoccupied with unknown words.

c. He read passages of known vocabulary fluently and his comprehension was good.

d. He disliked reading silently and he appeared to need aural input to comprehend the text.

In the last part of Chapter Three the investigator sought to assess the severity of Jay's reading disability. Ekwall (1976) offered a list of seventeen symptoms of a severely disabled reader and this was used as a checklist. Jay was assessed as having fifteen of the seventeen symptoms and was thereby deemed to be a severely disabled reader.

In Chapter Four, there were two main topics: the principles of remedial instruction; and, details of the remedial program that was offered to Jay.

Several very different sets of principles were examined to arrive at the ten principles which were incorporated in this remedial reading program. Some were included within the set of ten because they developed the disabled reader's self-concept; others were chosen because they were pedagogical and enhanced learning. Each of the ten principles was discussed in general terms and then, in terms of how it was incorporated into this remedial program.

The second topic gave details of Jay's remedial program. Here, all pertinent etiological and therapeutic data were used to arrive at an appropriate match between pupil type and methods and materials. In keeping with what was done in Chapter Three, remediation and progress were reported under the four signs of the Sherman Model.

Remedial Instruction

Sign #1: Sight Vocabulary

The investigator gave priority to the development of Jay's sight vocabulary during the whole period of remediation. This was done for

three reasons: a) he was severely limited in this skill; b) a sight vocabulary would allow him to begin reading as soon as possible; and c) the word-oriented Fernald approach was to be used in remediation.

During the first month, Jay's nine or ten daily sight words were obtained from his dictated language-experience sentences. However, this was soon changed as the main source of words because many of his words were of such low-frequency that they could not be used to generate other meaningful sentences for reading. At this point, the investigator used the A and P Revised Sight Word List for high-utility words.

With all of the information that was available about Jay the investigator decided that all new words would be learned through a multi-sensory approach, using a slightly modified Fernald technique. The following steps were used to learn new words: a) words were obtained from language-experience sentences or from the sight-word list; b) the investigator wrote each word on a flashcard in large cursive letters to facilitate the flow of movement during tracing and writing; c) Jay traced over each word until he could write it from memory, saying the word each time he traced it; d) he wrote the word in pencil five or six times, saying it after he wrote it; and e) the day's words were flashed to determine whether he could recognize them.

Jay was given a variety of different word games and activities through which he could revise his known words each week. As well, he was assigned homework which involved working with his words.

There were certain words that Jay had difficulty remembering no matter how hard he tried or how often he learned them. It was

found that he could remember these words if he associated them with concrete objects. He used the concrete objects as the stimuli until he became very familiar with the words and no longer needed to make the associations.

By the end of the sixteen-week remedial period, Jay had learned three hundred sight words and demonstrated that he could recognize between ninety and ninety-five percent of them each time he was tested. On the last day he was given the SORT and obtained a raw score of forty-five. He had progressed from a grade level of 1.7 to 2.2 during the sixteen weeks.

Sign #2: Decoding Performance

Jay's attempts at unfamiliar words showed that he had few word-attack skills and, during the first few weeks of the program, attempts were made to develop these skills. Initially, the letters of the alphabet were revised, however, Jay continued to have great difficulty distinguishing between the letter names of consonants and their sounds. Likewise, he experienced this problem with vowel letter names and their long and short sounds. Hence, he was unsuccessful whenever he decoded a word because he sounded some letters and named others.

Jay was not able to tell the difference between the letters "b" and "d" and he confused "d" with "m." The "b/d" confusion was overcome by teaching him the hand sign language signals for these letters, however, the "d" and "m" confusion was not resolved.

Relatively little was done about the actual decoding of words, apart from giving Jay the VC plus "e" Rule and exercises in word

families. The development of this skill was not emphasized for the following reasons: a) the development of a sight vocabulary was a priority; b) the Fernald technique was to be used during remediation; c) his central nervous system impairment made phonics and decoding difficult for him; and d) he had had very many phonic programs at school and at the Reading Center and he seemed unable to retain this knowledge.

It became apparent during the first weeks of the remedial program that Jay really disliked decoding words. He was not motivated to acquire or develop his word-attack skills and his behavior showed that he became annoyed and frustrated that he had not mastered sound-symbol relationships and could not decode words.

Sign #3: Fluent Texting

At the beginning of the remedial period Jay showed all the characteristics of a non-fluent reader. When he read an unfamiliar passage he: a) read word-by-word - at approximately thirty words per minute; b) repeated words; c) omitted difficult words; d) ignored punctuation; and e) often returned to the line he had just read.

The investigator decided that Jay's fluency would develop if he was restricted to reading passages of known words. If he did not have to negotiate each word as he read, he would soon realize that writing was "speech written down" and therefore read in meaningful units. In the first instance he was given his dictated language-experience stories to read and he read these well once he had learned to recognize all of the words.

During the sixteen weeks of remediation the investigator composed several stories and sets of sentences from known words. These stories and sentences were typed on a primary typewriter and a large space was left between each line. The large type was used because Jay complained that he had difficulty reading smaller type, and space was left between lines to enable him to make the return sweep from the end of one line to the beginning of the next line.

Whenever Jay was given new material to read, the following procedures were adhered to: a) difficult words were learned or revised; b) the investigator read the passage aloud and Jay followed the story by pointing at the words; c) Jay was shown difficult phrasing and punctuation; d) the investigator and Jay read the story aloud; and e) Jay read the story aloud with full expression.

Jay did not have a fluency problem per se for when he did not have to contend with unfamiliar words in the text, his fluency was good and he read with expression.

Sign #4: Comprehension

Jay's comprehension, like his fluency, was thought to be very poor.

When he read an unfamiliar passage he concentrated so much on the words in the text that he failed to comprehend the message. Consequently, when he was given a new comprehension passage, the following steps were used: a) new words that were essential for understanding the story were learned, using the modified Fernald technique; b) words which were known to him but only with a different set of cues were

reviewed; c) punctuation that occurred in the passage was reviewed; and d) Jay was asked to read the passage, remembering as much as he could about it. When Jay read passages after they had been treated in this manner, or when he read passages which were composed of known words, his comprehension was good. In fact, he could recall minute factual details about the passage and sometimes, he appeared to draw inferential meaning from what he had read.

Jay was given the Gates-MacGinitie Reading Comprehension Test on May 20, 1980, and again on the last day of the program and he showed that he had improved in this skill. His grade level had risen from 1.5 to 2.4.

Chapter Four concluded with a short note about affective development. Jay did not like to read by himself, however, he thoroughly enjoyed listening to stories which were read to him. To this end, the investigator found stories about boys of Jay's age and read several pages to him each week, always finishing the day's reading at a high point in the story. It was hoped that Jay would want to borrow the book to finish the story by himself but this did not happen. Nevertheless, the investigator continued to read to Jay and also encouraged his parents to read to him.

Response To The Research Question

Three questions were formulated at the beginning of this study and answers were obtained to each as the program developed.

a. The VAKT technique enforces careful, systematic observation of words; makes necessary a consistent left-to-right direction in reading; provides for learning through

repetition; gives the learner a sense of progress and accomplishment; and reinforces visual impressions through the sensory impressions of tracing, writing, and saying the words (Harris and Sipay, 1980). If the individual's present audio-visual approach to reading was discontinued and a remedial approach such as the VAKT used instead, would the individual show higher gains in reading skills?

The traditional audio-visual approaches used with Jay at school and at the Reading Center, with heavy emphasis on decoding, were not used during the period of remedial instruction. Instead, priority was given to the development of a sizable sight vocabulary of high-frequency words so that Jay could begin reading as soon as possible.

All new sight words were learned through a multi-sensory method, somewhat similar to the whole-word Fernald technique. Each new word was written on a flashcard (Appendix I), in large cursive letters which Jay traced with his index finger, and said aloud, until he could reproduce the word from memory. He then wrote and said the word many times until he could write it from memory. When he showed he could recognize the word, the card was held on a ring binder with other known words for later review.

During the sixteen week period of remediation, Jay acquired a sight vocabulary of three hundred words and he showed that he could recognize between ninety and ninety-five percent of them. When he was tested, his results on the SORT showed that he had improved. His grade equivalency had increased from 1.7 to 2.2, a raw score improvement of eleven from thirty-four words on the first administration of

SORT.

Jay showed that he was not able to generalize from his knowledge of whole words when he was confronted by an unfamiliar word. If he was prompted by the investigator he could identify some of his known words within new words: other in brother; doll in dollars. Sometimes, he would look for similarities in known and new words: bought and thought; right and night, however, he seldom did this of his own volition. In almost every case, Jay saw each new word as an entity in itself.

Jay always confused the letters "b" and "d." Tracing over these letters from left to right with the index finger on his left hand seemed to help, however, it was not until he learned the sign language signals for "b" and "d" and practiced them that he correctly recognized these letters.

It would be fair to say that Jay showed some improvement in decoding skills as a result of remediation. These gains may have been due more to the small amount of instruction he was given in phonics rather than to his ability to generalize from known sight words.

Jay's fluency and reading comprehension showed improvement by the sixteenth week of the program, but, the improvement was obvious only when he read passages of known sight words. Jay read these passages fluently and with expression, mainly because he did not have to negotiate a host of new or unfamiliar words.

Jay's comprehension was good when he read passages which were composed from known words. He showed that he could recall minute

factual detail from the passage and demonstrated that he could draw inferential meaning and identify humor in a passage. Whenever he was given a passage of unfamiliar words, he immediately became word bound and invariably forgot the message in the text.

By the end of the remedial period Jay was reading passages of known words fluently and with expression. His grade equivalency on the Gates-MacGinitie Reading Comprehension Test improved from 1.5 to 2.4.

b. The investigator has access to the child's school and reading center files and is able to interview the child's parents, teachers and others who know him. How efficiently is the investigator able to diagnose the reading disability and determine appropriate remediation?

In the past, and to a large extent even now, teachers in schools and clinicians in reading centers have relied almost solely upon information from the individual's performance on standardized and informal procedures to decide on the kind of remediation. Chall (1978) quotes Black who expressed this very view in a journal article:

> . . . The placement of children with learning disabilities in programs for remediation should be based upon the presence and nature of the achievement problem, not upon the presence or absence of concomitant factors. . . . Once placed in remedial programs, the emphasis for these children should be upon good teaching of reading and related academic skills. . . . The most efficient way to remediate reading problems would seem to be the teaching of reading (p. 35).

It appeared to the investigator that little importance has been placed on collecting etiological data. Beyond having the disabled reader's parents fill out the Parent Form, seldom was anything done about obtaining etiological information.

After the investigator obtained parental approval to use the sources mentioned in the research question, a plethora of very pertinent data, of the kind mentioned in Chapter Three, was gathered about Jay. These data allowed for better understanding of him both as an individual and as a learner. However, these kinds of data did not directly identify specific reading deficiencies nor did they determine the content of the remedial program. It was not until data from etiological and therapeutic diagnoses were combined that it became possible to see Jay as "a unique creation" (Stauffer, 1980, p. 128) - an individual with very specific needs and problems. Hence, it was only possible to match learner characteristics with methods, materials, and sequence of remedial reading instruction once both types of data were analyzed.

c. Reading disability occurs among children in all parts of the world and that in many classrooms teachers are solely responsible for the diagnosis and remediation of disabled readers. <u>How feasible would it be for teachers to replicate the remedial procedures of this study or to incorporate the principles and methodology of this study into their classroom and remedial practices</u>?

In the investigator's opinion, it would be possible for the principles and remedial procedures of this study to be followed by teachers except for the fact that this program was individualized and very time-consuming.

The ten principles of remediation which were described in Chapter Four are educationally and psychologically sound, and many of them would already be incorporated into daily teaching practices. The procedures that were used to develop Jay's sight-vocabulary were simple and could be easily followed. They were basically the same as Fernald's first three stages: a) tracing/saying; b) writing/saying and, c) recognizing each new word. Likewise, it would not be difficult for teachers to type the language-experience sentences and stories composed of known words.

The materials for the program were inexpensive and most were tutor-made. For example the following items were used: a) cardboard for large flashcards (Appendix I) and for the learner's word-cards (Appendix K); b) a small index card (Appendix K) for each flashcard; c) a file box; d) ring binders for the flashcards, and e) paper or light cardboard for the language-experience sentences and stories (Appendix M). The teacher would also find it beneficial to have access to a primary typewriter and a photocopier.

Teachers and reading specialists in schools may not be able to replicate this study simply because it was very time-consuming. Each program is tailor-made with the disabled reader receiving individualized attention while working with his own sets of materials. Within such a program it is also essential that the individual's

day-to-day reading instruction, his progress and behaviors be monitored and recorded, in detail, in a daily log.

Jay's classroom teacher felt that it would be impossible to replicate the remedial procedures of this study in her classroom since she had twenty other children vying for her attention. The reading specialist at the school felt that she could work with the principles, methods and materials of the study but she could not possibly individualize her programs. Demands on her time were such that she could only work with groups. A disabled reader, such as Jay, would be placed with eight to ten poor readers and, at best, be treated as a member of the group. Under present circumstances, it was logistically impossible to offer any disabled reader individualized attention.

The investigator strongly believed that a severely disabled reader, such as Jay, had to receive individualized attention in a specially tailored program if he was to gain in the four reading skills.

Conclusion

Two main points arose from the summary of Chapters One through Four and from the responses to the research questions.

First, when dealing with a severely disabled reader it is essential, in fact vital, that all pertinent data be obtained from etiological and therapeutic diagnoses. Etiological diagnoses provide information about the disabled reader as an individual and as a learner: therapeutic diagnoses, on the other hand, tell of the

reader's strengths, weaknesses and behaviors in reading. Both types of data complement one another and must be examined together so that the prognosis may result in the best possible match between the learner's characteristics, his strengths and weaknesses in reading, and the methods, materials and sequencing of remedial instruction.

Second, it would be extremely difficult to adopt the methods, materials and strategies of the study for use in classrooms and reading centers in schools. Teachers and reading specialists were attracted by the simplicity of the instructional procedures and by the design of the materials. However, each one of them felt that it was logistically impossible under present circumstances to offer even severely disabled readers such intensive, highly individualized instruction.

Implications Of The Study

Appropriate Methods And Materials

> There is no "one best method" to teach reading (Zigmond, 1978, p. 438). This study has shown how very important it is to arrive at remedial instruction from an analysis of pertinent etiological and therapeutic data.

Before the investigator determined what method and materials to use in this study, a thorough examination was made of all relevant data. Once this information was analyzed, the investigator decided to use a modification of the Fernald technique, complemented by a language-experience approach. In addition, it was decided that no commercial materials would be used and, in lieu, all reading materials

for the development of fluency and comprehension would be teacher-made. All sentences and stories for reading were especially composed from known words.

It cannot be too strongly recommended that teachers and diagnosticians base their prognoses and remediation on a thorough analysis for all diagnostic data.

A Model For Case Studies

> Case study reports, as mentioned in Chapter One, have not been numerous and most have been presented in a brief and compressed form due to the limitations placed on them by publishers. Teachers, reading specialists, clinicians and college professors of reading need more explicit models of diagnosis and remediation with specific illustrations.

The investigator maintained a daily diary of all diagnostic information; all remedial instruction; all materials, and all major observations of the child's progress and behavior. Extracts from the diary and illustrations of the child's work have been included in the text and in the appendixes. The maintenance of the diary allowed the investigator to recall important details of diagnoses, remediation, observations, and other information. These provided accuracy, as well as specific examples, for this case report.

Cooperative Efforts

> This study has shown that there should be greater cooperation between the Reading Center and the disabled reader's school and home.

The question immediately arises as to how much more effective remediation could be if the tutors, teachers and parents worked

cooperatively on one reading program for the disabled reader.

Cooperation could be easily achieved. The tutor should feel responsible for regularly informing the child's parents, teacher, and reading specialist of the methods and materials that were being used. The tutor might even give them copies of the materials and advise them as to how they use or supplement these at school or at home. In most instances, as in this study, the parents and teachers welcomed the opportunity to work cooperatively to the advantage of the disabled reader.

APPENDIX A
SHERMAN MODEL OF
LEARNING AND READING

VITAL SIGNS	EFFECTING FACTORS		
	TASK VARIABLES	LEARNING VARIABLES	UNIQUE CHILD VARIABLES
1. SIGHT VOCABULARY	A. Graphemic control, i.e. visual discrimination B. Association & memory strategies	A. Quantity of independent contextual reading B. A is controlled by reinforcing and correcting feedback mechanism available during reading C. Meaningfulness of words being learned	A. Visual acuity B. Language proficiency C. Environmental conditions
2. DECODING PERFORMANCE			
3. FLUENT TEXTING			
4. MESSAGE COMPREHENSION			

(Extracted from: G.B.Sherman, 1979, Introduction to reading diagnosis: A diagnostic model.)

APPENDIX B

ONE DAY'S DAILY DAIRY ENTRY

Place: Michigan State University
Reading Center

Date: Tuesday, August 26, 1980

Today's Tasks:
a. Check homework.
b. Teach signs "b" and "d".
c. Revise known words.
Record errors.
d. Teach new words.
e. Read sentences.
f. Assign homework.
g. Make observations.

Cassette: #10

Time: Session 1 10:00 a.m. - 10:45 a.m.
Session 2 11:00 a.m. - 11:45 a.m.

Homework: Jay passed in his homework. It was read through quickly and he was asked to read it aloud. He read fluently until he began to make mistakes and then, he switched to word-reading in a monotonous voice.

I can't see a switch-blade but I ~~can~~ see my two brothers near my school.

I like to ~~collect~~ coins, fish, cars ~~and~~ fire-crackers.

My brother can ~~fish~~ from the beach. My other brother ~~likes~~ to ~~bike~~ in the woods. I ~~like~~ to fish and hike.

Next year I will buy ~~another~~ remote-control car for ~~my~~ birthday.

When I am in fifth ~~grade~~ I will not ~~drive~~ a car to school.

Some people like my ~~brother~~ because he can do ~~tricks~~ with coins.

I can hook these ~~fish~~ when I pump ~~up~~ my boat.

We walked ~~in~~ the valley, through ~~the~~ farms, and I got lost.

We followed a trail ~~in~~ the woods and ~~we~~ ~~found~~ berries.

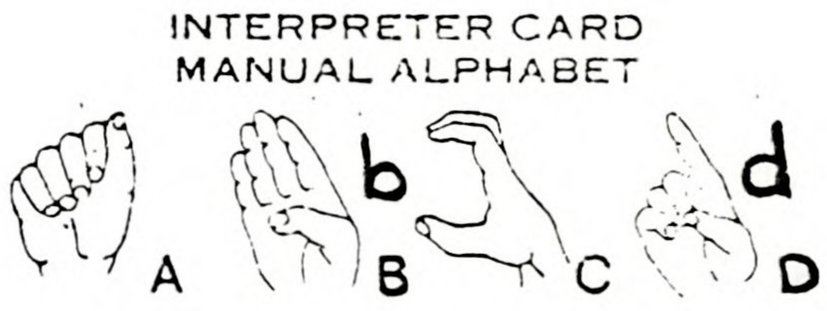
We walked for ~~mile~~ and miles through the quiet ~~when~~ we came ~~to~~ our camp-site ~~on~~ the beach.

Confusion: "b"/"d" and "d"/"m"

Jay has always confused the lower-case letters "b" and "d" in print. He also confused the lower-case letter "d" with "m", however, he did not confuse "m" with "d" or "b" with "m". For example, when asked what letter the word dog began with, he may say either " b" or "m". He would not say that the word mother began with "d".

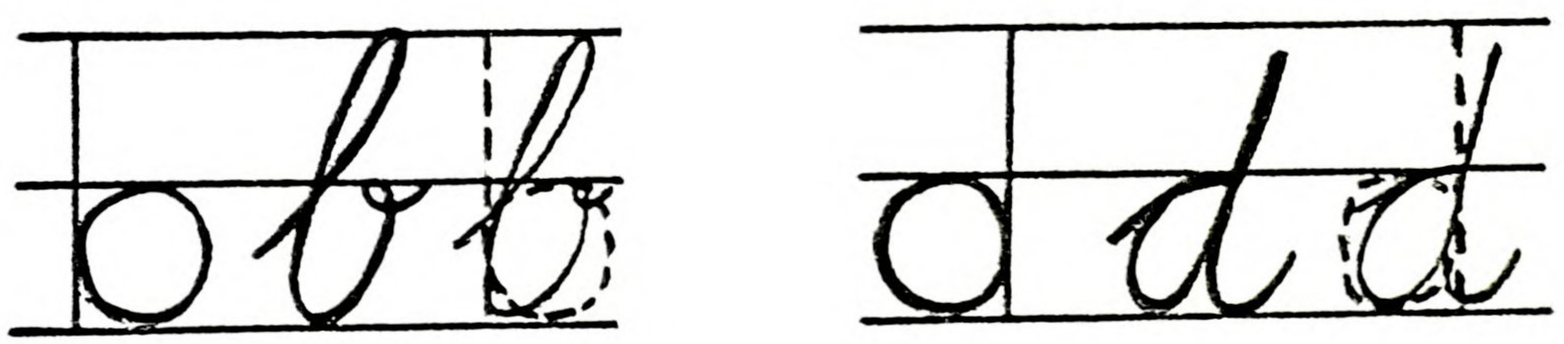
*Seek advice on the "d" and "m" confusion.

The words bog and dog were printed in large, lower-case letters on the chalkboard and Jay was asked to read them aloud. He read them both as dog. He was asked to read them again, this time more carefully, looking for differences. He said there were no differences. He was shown the hand signs for the letters "b" and "d" on the chart below.



He then practiced making the signs for "b" saying the sound and the name of the letter. He then did the same thing with the letter "d". This technique seems to have helped, however, he needs more practice with these letters.

Jay was also shown how the printed small letters "b" and "d" resembled their handwritten counterparts:



Colored chalk was used to highlight the differences and the similarities.

By the end of the session, Jay could correctly sign the beginning letters for the words big/dig, bone/done, bust/dust, etc.

Revision of Known Words: Jay was reluctant to revise his known words, saying that he had already revised them with his father before he came to the Center. He appeared not to be trying too hard during this activity.

Words

my	his	to	* likes (asks)	* like (his)
* collect (like, can't)	because	brother	money	* has
I	tricks	collects	coins	row
dog	water	can't	hook	rip
boat	up	camp	pump	other
fish	is	drive	in	at
garage	came	all	* were (P)	* switch (P)
collars	round	two	people	and
state	comb	from	lots	said
next	year	still	be	going
Valley-Farms	school	near	house	Lansing
* as (them)	scare	fifth	fire	* them (them)
* grade (gave)	crackers	with	* blade	bought
left	called	* site	quiet	our
* hiking (hike)	trail	hiked	through	got
* onto (no, do not, no way)	beach	walked	mile	followed
another	into	woods	* lost (lots)	found
berries	bush	ate	all	said
should	back	track	given	ten
birthday	buy	remote	control	car
backward	forward	* have (have)	you	* put (P)
* he (P)	that	are	* they	at
* as (P)	she	* what (went)	one	* this (his)
had	can	but	* there (another)	not
when	* how (hoe, who)	your	do	* each (have, his)
* many (money)	* we (were)	her	* or (P)	out
some	* write	their	about	by
see	so	* if (P)	these	* make (like)
him	word	* could (P)	* little (all)	did
* which (water)	* would (were)	* time (P)	more	down
* no (on)	go			

Code: P = Pronounced for Jay.
Handwritten word = Jay's attempt(s) at the word.
Circle around word = Applied the Silent "e" rule.

Today's Words: Jay was taught the following words:

get now long find look made

just big very first way

Each word was treated in isolation on a section of the chalkboard where there was no other writing. Each word was written in large, lower-case, cursive writing.

Jay saw the word written and heard it said after it was written. He then traced the word, with his index finger, in the air, five or six times, saying the word each time he traced it. He then traced the word on his desk without looking at the board to see whether he had developed a visual image of it. If he was able to do this successfully, he wrote the word in pencil on his pad, again, saying it after he had written it. He wrote the word four or five times on the pad. If he was unable to trace the word, or write it correctly, he returned to tracing the word in the air and began the process again.

As he was able to correctly recognize each word, it was put into a list on the far corner of the board. Here, they could be easily revised. Jay was able to recognize each new word by the end of the session.

Oral Reading: Jay was asked to read the following sentences which were typed for him on a primary typewriter:

He put his brother's money near | their car. |

two people | from near | Valley-Farms School | bought my boat. |

Next year | I will walk down | the | trail | without | my brothers |||

will | not | get | lost | in | the | bush |

Jay's errors were recorded in handwriting.

Home-work: Jay was to:

1. Revise all known words.
2. Write four sentences using his known words.
3. Read and rehearse the following sentences with his parents.

1. He put his brother's money near their car.
2. Two people from near Valley-Farms School bought my boat.
3. Next year I will walk down the trail without my brothers. I will not get lost in the bush.
4. Steven said, " I got ten dollars for my birthday. I will buy lots of things. I want a remote-control car, two fish, a comb and some coins. What do you want for your birthday, Jason?"
5. What is that little word? This word is 'no'.
6. He has given each of his dogs some water and some food.
7. The people went hiking in the woods near our camp.
8. I ate the berries we found near the beach.

Observations:

1. Jay was particularly restless and somewhat argumentative today. He used many of his delay-tactics to avoid learning words or reading. He traced and wrote at a snail's pace; he dropped his pencil under the desk so that he would have to crawl under to pick it up; he complained of a headache, that he was sleepy, his eyes hurt, and, he was bored; he said he did not want to learn to read. He yawned throughout the two sessions, saying he wanted to go home and go to bed.

   Thursday, August 28: Jay's father reported that Jay did go home and sleep following the two-hour session on August 26. Maybe he was sick/ tired!

2. Jay felt the two forty-five minute sessions were too long. He also resented the fact that his father had agreed that he should come to the Center during his Summer vacation.

3. He suggested that the writer was like all his other teachers in that he, too, had confused him about the letters "b" and "d". External locus of control?

4. Jay volunteered to draw a picture for next session. He is very proud of his art work.

APPENDIX C

PARENTAL CONSENT FORM

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF ELEMENTARY AND SPECIAL EDUCATION

EAST LANSING • MICHIGAN • 48824

PARENTAL CONSENT

I, _____ give my permission to Edmund V. Burke, doctoral student at Michigan State University, to gather information about my child. Information may be obtained from:

1. my family members,
2. my child's teachers and school records,
3. my child's records at the M.S.U. Reading Center,
4. other sources, where my child has been tested and the results have been recorded,
5. tests that may be administered,
6. reports and observations of my child's behavior and,
7. diary entries made of my child's treatment and progress during the remediation program.

The information gathered can be used:

a. to gain insights into my child's reading difficulties,
b. to offer an appropriate remediation program,
c. as data for Edmund Burke's doctoral dissertation and any resulting publications.

I understand that anonymity will be maintained. There will be no photographs nor any information in the dissertation, or resulting publications, that may identify my child.

I realize that even though I have given my permission, my child has the right to refuse to participate.

Parent's signiture:

Witness:

Date:

APPENDIX D

SCHOOL REPORTS

Pupil Evaluation . . . LANSING SCHOOL DISTRICT . Lansing, Michigan

Name Jay JRV | Placement Grade 2. | Month 11 Day 11 Year 76

School _____ | Teacher _____ | Principal _____

PERSONAL GROWTH: *Attendance:* Days Absent _____ Times Tardy _____

Work Habits:

Good. Usually does on time with good quality of work. Only problem is when he gets bored with work he rushes and then leaves it incomplete.

Social Adjustments:

Has had to learn to speak gently and play gently. Is doing well with the exception of hitting and aggression.

EDUCATIONAL GROWTH:

Language Arts:(Handwriting, Language, Literature, Reading, Spelling) Reading Level apt

1) Very good - correct letter formation, spacing height

2) Grammatical usage is appropriate for age level

3) Has to work on:
   1) letters and sounds
   2) sight words - memory
   3) attention span
   4) confidence.

Mathematics

Understands the basic concepts presented so far. Has trouble with reading addends, (3+5) and the writing.

Science:

2nd Semester

Art—Music—Physical Education

Social Studies

Contributes to discussions. Has some of the facts but needs to listen to the lesson.

T100 HC7

Parent's Copy

STUDENT PROGRESS REPORT — LANSING, MICHIGAN

P407

1977-78

Name Joey JMY

Year 2 Grade 1 (2)

H R Teacher

Head Teacher

School

Principal

Attendance	1	2	3	4
Days Absent	4	7	4	9
Times Tardy	0	0	0	0

	1 Good Progress	1 Satisfactory	1 Needs To Improve	2 Good Progress	2 Satisfactory	2 Needs To Improve	3 Good Progress	3 Satisfactory	3 Needs To Improve	4 Good Progress	4 Satisfactory	4 Needs To Improve
READING — *Present Grade Level*		2			First			1			1	
Recognizes alphabet letters	✓			✓			✓			✓		
Knows consonant sounds	✓			✓			✓			✓		
Knows short vowel sounds		✓		✓			✓			✓		
Knows long vowel sounds												
Masters sight words		✓			✓			✓			✓	
Reads with understanding		✓			✓			✓			✓	
Applies word attack skills		✓			✓			✓			✓	
Reads for pleasure		✓			✓			✓			✓	
LANGUAGE ARTS												
Writes legibly (cursive)	✓			✓			✓			✓		
Uses oral language correctly	✓			✓			✓			✓		
Can write sentences		✓			✓			✓			✓	
Can write a story											✓	
Uses punctuation		✓			✓			✓			✓	
SPELLING												
Does well on test		✓					✓			✓		
Applies spelling to daily work		✓					✓			✓		
SCIENCE AND SOCIAL STUDIES												
Understands basic ideas	✓			✓			✓			✓		
Observes carefully	✓			✓			✓			✓		
Participates in discussion	✓			✓			✓			✓		
SOCIAL AND WORK HABITS												
Observes school and classroom rules	✓			✓			✓			✓		
Respects rights and property of others	✓			✓			✓			✓		
Completes work on time		✓			✓		✓			✓		
Listening habits	✓			✓			✓			✓		

	1 Good Progress	1 Satisfactory	1 Needs To Improve	2 Good Progress	2 Satisfactory	2 Needs To Improve	3 Good Progress	3 Satisfactory	3 Needs To Improve	4 Good Progress	4 Satisfactory	4 Needs To Improve
MATHEMATICS		2			2			2			2	
Recognizes numerals 0 - [illegible]	✓			✓			✓			✓		
Counts to [illegible]	✓			✓			✓			✓		
Reads larger numbers		✓		✓			✓			✓		
Understands place value					✓		✓			✓		
Knows problems of:												
Addition (Confusing)	✓			✓			✓			✓		
Subtraction (Confusing)	✓			✓				✓			✓	
Multiplication												
Measurement							✓			✓		
Time				✓			✓			✓		
Money				✓			✓			✓		
Fractional Parts				✓			✓			✓		
Uses reasoning in story problems	✓			✓			✓			✓		
PHYSICAL EDUCATION												
Participates in activities	✓			✓			✓			✓		
Developing motor skills	✓			✓			✓			✓		
Sportsmanship	✓			✓			✓			✓		
ART												
Participate in activities	✓			✓			✓			✓		
MUSIC												
Participates in activities	✓			✓			✓			✓		

COMMENTS — *1st Period*

COMMENTS — *2nd Period*

Wastes his time during independent work time.

COMMENTS — *3rd Period*

Is now completing his board work and duties but still "forgets" to complete skills book assignments.

COMMENTS — *4th Period*

Basic work habits have improved quite a bit.

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STUDENT PROGRESS REPORT — LANSING, MICHIGAN SCHOOL DISTRICT

P403

Name Jay JAY 1978-79

Year _____ Lower Elementary

H. R. Teacher _____

Read. Teacher _____

School _____

Principal _____

* Asterisk in Good Progress Column denotes high achievement

	1				2				3				4			
	*Good Progress	Satisfactory	Is Improving	Needs Improvement	*Good Progress	Satisfactory	Is Improving	Needs Improvement	*Good Progress	Satisfactory	Is Improving	Needs Improvement	*Good Progress	Satisfactory	Is Improving	Needs Improvement
READING Present Grade Level Alpha First																
Reads with understanding			✓				✓									
Applies word attack skills			✓				✓									
Study skills			✓				✓									
Vocabulary development			✓				✓									
Completes written work on time			✓				✓									
LANGUAGE ARTS																
Writes legibly				✓				✓								
Writes sentences correctly				✓				✓								
Uses punctuation				✓				✓								
Uses language correctly			✓				✓									
Creative writing				✓				✓								
Does well on spelling tests				✓				✓								
Applies spelling to daily work				✓				✓								
SOCIAL STUDIES																
Understands concepts			✓				✓									
Participates in class activities			✓				✓									
SCIENCE																
Understands basic ideas			✓				✓									
Participates in class activities			✓				✓									

Attendance	1	2	3	4
Days Absent	9	1½		
Times Tardy	9	2		
Conference Held (Date)				

	1				2				3				4			
	*Good Progress	Satisfactory	Is Improving	Needs Improvement	*Good Progress	Satisfactory	Is Improving	Needs Improvement	*Good Progress	Satisfactory	Is Improving	Needs Improvement	*Good Progress	Satisfactory	Is Improving	Needs Improvement
MATHEMATICS																
Understands place value				✓				✓								
Knows addition facts			✓				✓									
Can regroup addition			✓				✓									
Knows subtraction facts			✓				✓									
Can regroup subtraction			✓				✓									
Knows multiplication facts																
Can Multiply																
Knows division facts																
Can divide																
Measurement — Metric																
Can do story problems				✓				✓								
Work habits				✓				✓								
PHYSICAL EDUCATION																
Participates in activities	✓				✓											
Sportsmanship	✓				✓											
ART Participation	✓				✓											
MUSIC Participation	✓				✓											
SOCIAL AND WORK HABITS																
Observes school and classroom rules				✓				✓								
Respects property of others	✓				✓											
Relates well with others	✓				✓											
Accepts suggestions for improvement	✓				✓											
Uses time wisely				✓				✓								
Listening habits			✓				✓									
Follows written directions				✓				✓								
Follows oral directions				✓				✓								

COMMENTS:

Blank spaces are areas of learning not covered yet.

Jay is a definite asset in our room with is enthusiasm & participation in most subjects

COMMENTS:

STUDENT PROGRESS REPORT — LANSING, MICHIGAN SCHOOL DISTRICT

P404

Name Jay JAY

Year 4th Upper Elementary

H.R. Teacher

Read Teacher

Math Teacher

School

Principal

1979-80

* Asterisk in Good Progress Column denotes high achievement

Attendance	1	2	3	4
Days Absent	0	1		
Times Tardy				
Conference Held	11/79 (Date)			

READING: Present Grade Level	1	2	3	4
	2	2		
Reads with understanding				
Applies word attack skills				
Uses reference skills				
Reads for pleasure				
Uses time wisely				
Completes assignments on time				
Tries to do best work possible				
LANGUAGE ARTS				
Listens attentively				
Expresses ideas clearly				
Writes sentences correctly				
Writes paragraphs correctly				
Does well on spelling tests				
Spells correctly in other work				
Uses time wisely				
Completes work on time				
Tries to do best work possible				
Writes legibly				
PHYSICAL EDUCATION Participation				
ART Participation				
MUSIC Participation				
CITIZENSHIP				

MATHEMATICS	1	2	3	4
Understands place value				
Knows basic facts				
Addition				
Subtraction				
Multiplication				
Division				
Measurement — Metric				
Decimals				
Fractions				
Can do story problems				
Uses time wisely				
Completes assignments on time				
Tries to do best work possible				
SCIENCE				
Understands basic ideas				
Participates in discussions				
Uses time wisely				
Completes assignments on time				
Tries to do best work possible				
SOCIAL STUDIES				
Understands concepts				
Uses resource materials				
Participates in class activities				
Uses time wisely				
Completes assignments on time				
Tries to do best work possible				

COMMENTS

Feb 1980: Jay continues to have difficulty decoding new words and remembering sight words previously learned. His attitude is good but he does have problems learning.

COMMENTS

Fall 1979

APPENDIX E

READING CENTER REPORTS

APPENDIX E

READING CENTER REPORTS

NAME: Jay JAY
ADDRESS:
AGE: 10
GRADE: 4th
SCHOOL:
TERM: Fall 1979
TUTOR:

Jay is a handsome boy who expresses himself freely. He is a creative conversationalist and willingly shares his ideas and experiences. His interests cover a wide variety of topics. His vocabulary and use of language is very good. His friendly personality makes it easy to get to know him.

He created two language experience stories during the term (see attached). The language experience approach proved to be quite successful for him because the content is high interest and it allows him to be creative and utilize his exceptional verbal abilities. He enjoyed reading his own stories versus stories from books we used. Having him retell the story prior to reading it, especially if there is a time lapse between the composition and the actual reading, greatly assists him during the reading process.

Comprehension and recall is not difficult for him if he reads the selection orally. He can discuss the details and often adds his own insights. However, he can not do this when he reads silently. His inability to mediate words greatly hinders the amount of information he obtains while reading independently. On one occasion, he read two pages silently from a selection in Cloverleaf (Houghton Mifflin Reading Series, Level F) with the knowledge that he would be asked to answer some basic recall questions when he finished. He was able to respond correctly to three of the seven questions. This poses a problem, since reading orally is a laborious process for him and sometimes he becomes very frustrated. But he is limited in deriving information when he reads silently. To alleviate some of this problem in our sessions, Jay would go over with me all the words he did not know. Then he would read silently and then orally. Usually we would work on one paragraph at a time. Once he read through the material, he could easily discuss it.

Jay is fortunate in that he knows that reading is getting meaning. This is demonstrated by his approach to reading. He relies on contextual clues to decode words. This is often his only strategy - to guess words he doesn't know. He was encouraged during our sessions to skip words he did not know and finish the sentence thereby utilizing the contextual information. In doing this, he would randomly guess at the words. This indicates that he does not attend to the visual clues in the words. We worked together breaking the words into chunks, syllables, etc. When given assistance, he usually can decode the words, but seems to be lost when attempting this on his own. He is cognizant of the vowel-consonant-vowel rule and the silent e principle, but can not apply them. He is also aware that word analysis involves attending to the initial, medial, and final letters in a word. He stated this to me when I asked him how he figures out words he doesn't know.

Part of his problem is that he confuses the letters b and d. He cannot readily distinguish these letters. From speaking with his mother, it seems this has been a long-standing problem for him. We worked together on this problem by highlighting the distinguishing features. He needs additional assistance with this.

Jay has difficulty in reproducing words from memory. We did an exercise where I wrote a word on the board. He had five seconds to examine the word. After this time, I erased the word and he was to write the word on paper. The results of this exercise are listed below. The words on the right are Jay's:

was	was
saw	sow (the s was backward)
no	on
seen	seem
gone	goeh
went	wemt

From the results of this exercise it appears he is also having difficulty in discriminating n and m. Since this is a very limited test, it is not prudent to draw a lot of conclusions. But it is my feeling that he is weak in the visual prerequisites for reading. I think it is basically a visual problem because he is able to hear the distinctive sound units in words. We went over a list of approximately fifteen words and he could identify the initial, medial, and ending sounds in each word. On other occasions, I have asked him what sounds he heard in words and he could easily identify them.

Throughout our tutoring sessions, I have noticed that Jay frequently rubs his eyes, adjusts his glasses and often gets very close to the material he is reading. When asked about this, he said that he could see the letters clearly. I recommend that next term Jay work on visual discrimination, sequencing and visual memory. I strongly feel that these are skills which need considerable attention.

Books used this term:

Indian Two Feet and His Horse, Margaret Fickey

Somebody Stole Second, Louise Munro Foley

The True Book of Airports and Airplanes, John Lewellen

The Giving Tree, Shel Silverstein

Where the Sidewalk Ends, Shel Silverstein

Cloverleaf, Houghton Mifflin Reading Series

Sunburst, Houghton Mifflin Reading Series

It is my recommendation that Jay return next term to the reading clinic at Michigan State University.

"The Lost Pilot"

A Language Experience Story

by

Jay JAY

There was a whole fleet of airplanes and they were being attacked by Japanese bombers. So they took off. There were too many Japanese so they were going to come in. A big, huge, deep cloud came over. They couldn't see the airport. They were searching around for a hole in the sky.

There were four fliers. Two came in. They were Buck Rogers and Matt. There were two more and they didn't get down. Number four was Mike Rice. Number five was Jim. Mike Rice was the best fighter plane fighter. He was also a teacher. He taught other fliers how to fly. Jim didn't know how to fly. This was his second week.

They came in. Only two of them got in. They got out of the cockpits and walked away. It was one of those airplanes which only had two legs, one at the top and one at the bottom.

They were talking to Jim, and they said, "When are you gunna come in?"

"Well I'm looking for a hole in the clouds and I can't find one."

"Well about a couple miles west you can get past the clouds."

He kept on going and they started talking to Mike Rice. He says, "I'll be in in a few seconds."

Because he knew everything about flying, he kep on talking to Jim and he kept on flying.

The Captain says, "I think I know where he can land."

And he says, "Where?"

"Oh, 20 degrees left and 20 degrees south."

So they say, "There he is! There he is!" And everybody started saying, "Yea! Yea! He almost landed that airplane like a pro."

They say, "Hey, that is a pro. That's Mike Rice. See the number 4 on the plane."

He says, "Oh no, I landed in the wrong place."

And they got on the radio and said, "Calling number 4, calling number 4. Do you read me?"

"Alright."

And they were doing all sorts of things trying to get him back and finally they heard him say, "Hey, you're landing me in the wrong field."

"What happened? Did you crash or anything?"

"No, I just landed in this airport field."

"Just stay right there. We'll get some police crew over there."

The End

Chapter 1.

by Jay JAY

We used to have seven pets. Our cat died. Do you know what he died of? He died of this heart stuff. I think ring worm. Elsie use to have ring worm, that's our dog. We took her to the vets.

I have fish and my brother has two. Three jumped out of the bowl and they all dried up. One jumped into my brother's dresser and when he opened it up he saw two eyeballs looking up at him.

When Elsie was a little girl she had a dog that had a string and the eyes would go up and down. I found another one and bought it for her. And she chewed it all up. I'm going to burn it and melt it so she can chew it and it won't break into small pieces.

Elsie is four years old.

She can roll over. She can beg and she walks on her hind legs. She can shake hands. She can catch food out of the air.

She's a small Doberman pinscher, a very small one. She is part golden retriever, traveling salesman and I think one more. She's a little bit bigger than a Chihuahua.

There's a little white spot that looks like a heart on her chest. Her head's real small but her stomach is real big. She sleeps in the house on my bed and Brian's bed. Stevie's, she can't get up to, cause it's a bunkbed.

We make up names for her. We call her "bubba" and "little nasola". We think of all kinds of names, like "gorilla hopper".

I was playing at school, outside. A whole gob of girls were picking on me. So I called them girl hoppers. Than I said, "no you're gorilla hoppers".

I just make up all sorts of names!

Elsie hates showers, because once in awhile I bump on the real hot. She just hates it, because she gets soap in her eyes.

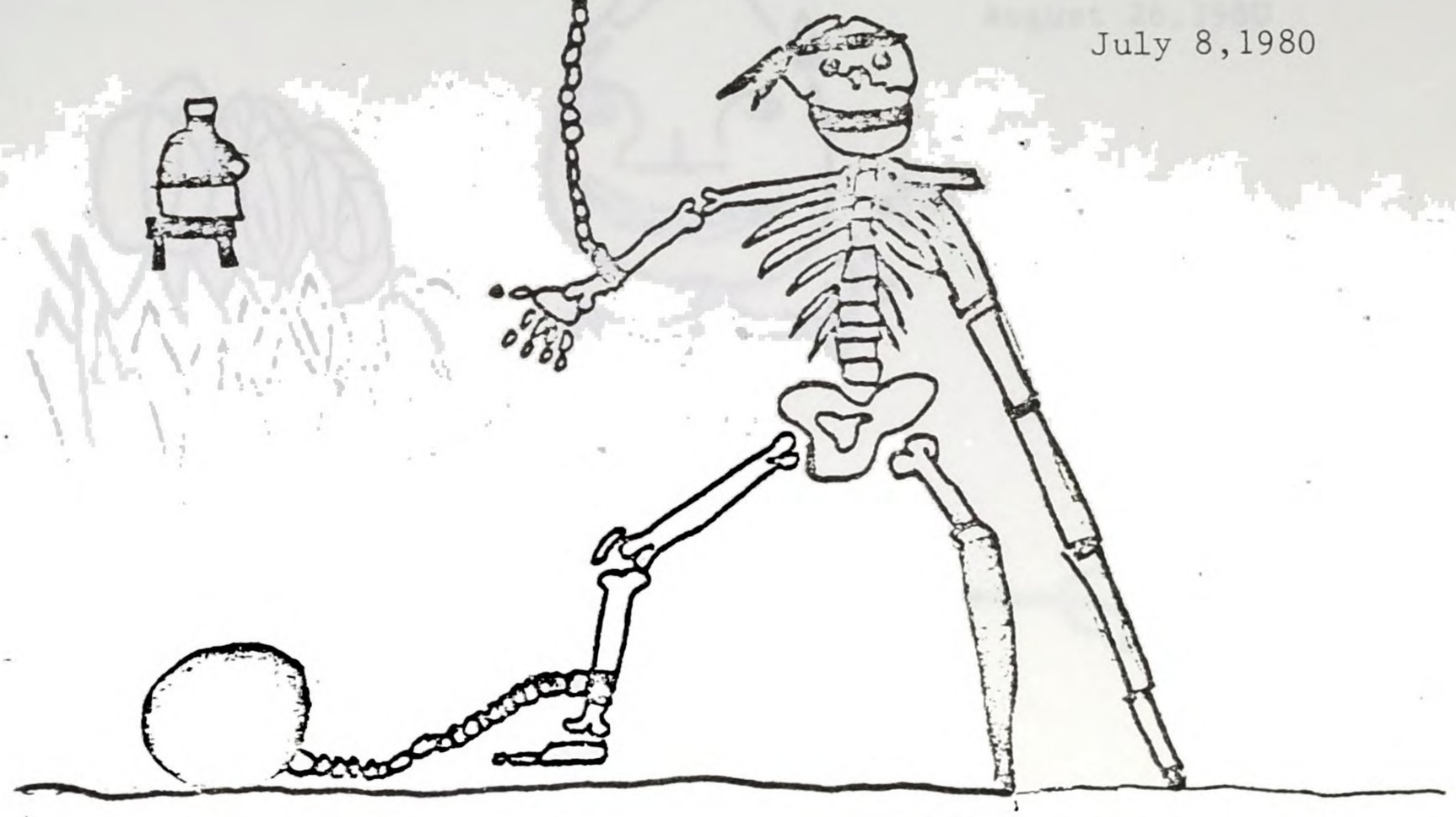
When we got her, she was so small. We put her in a real small basket. I have a big animal truck. It has cages and it has a glass top. Elsie was so small, I would fit her right in it. And she didn't mind it at all. She would look up and could see Stevie's ugly face.

And sometimes when I'm sleeping she gets up and puts her paw on the door and pulls it. That's how she gets out.

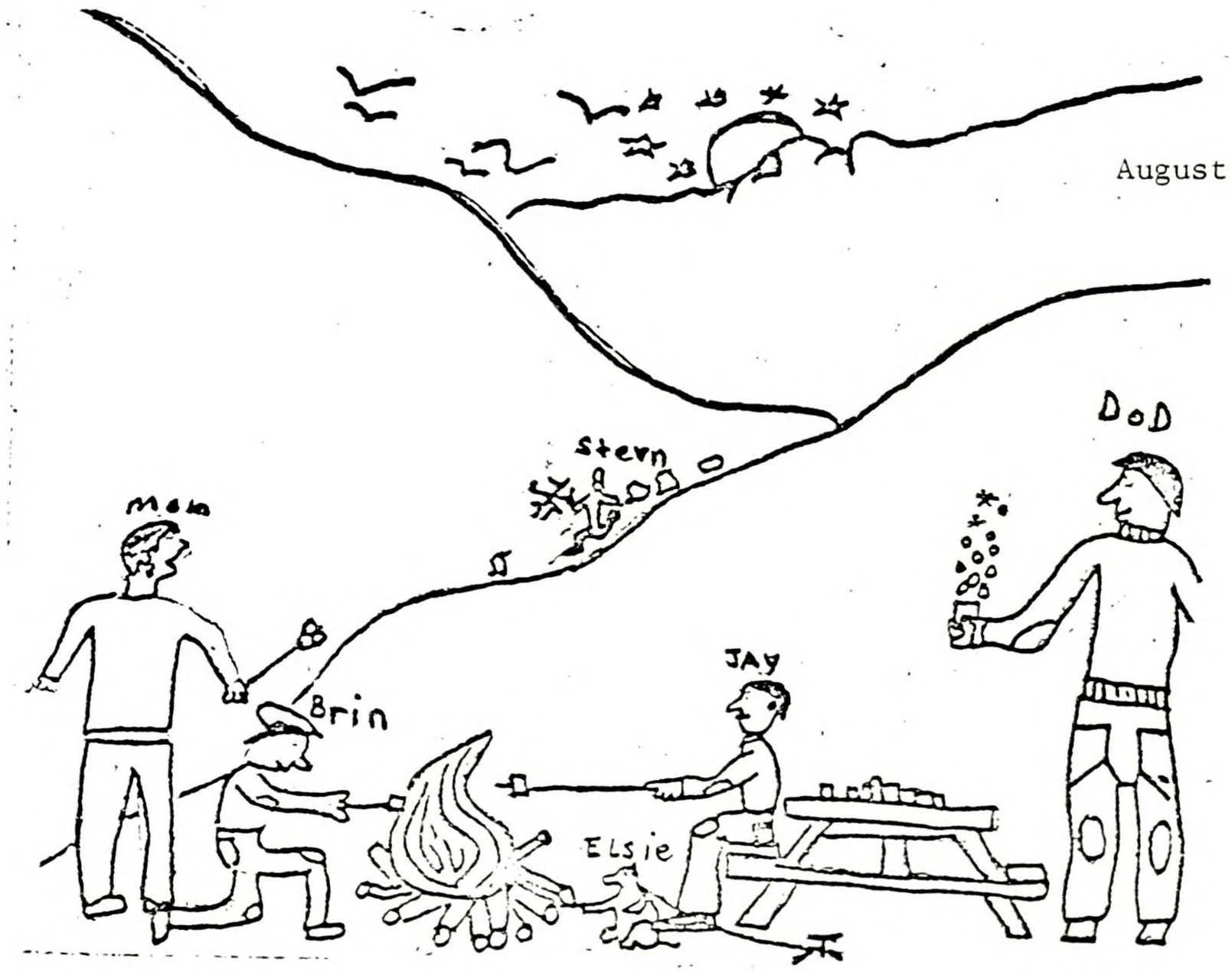
APPENDIX F

DRAWINGS

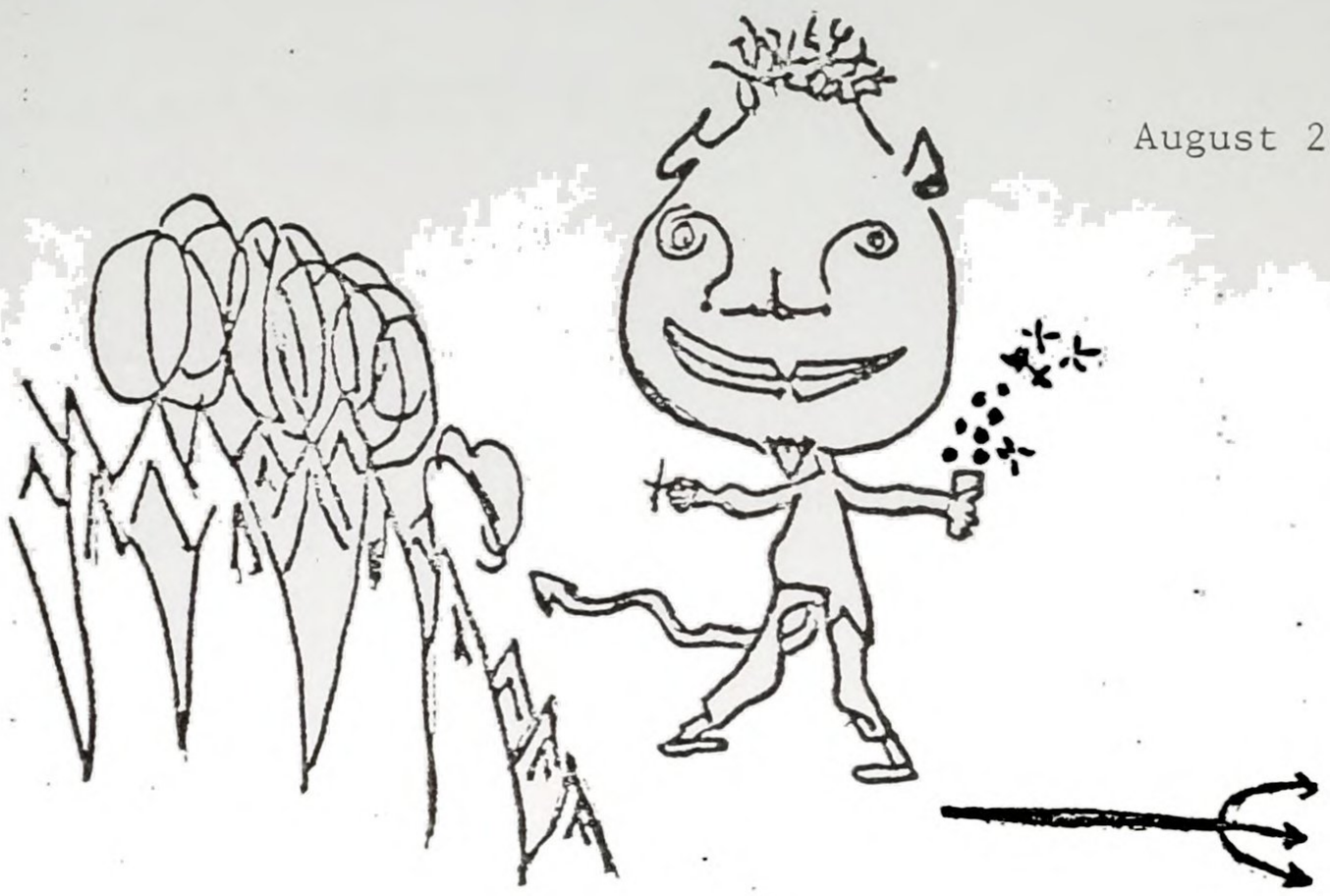
July 8,1980



August 19,1980

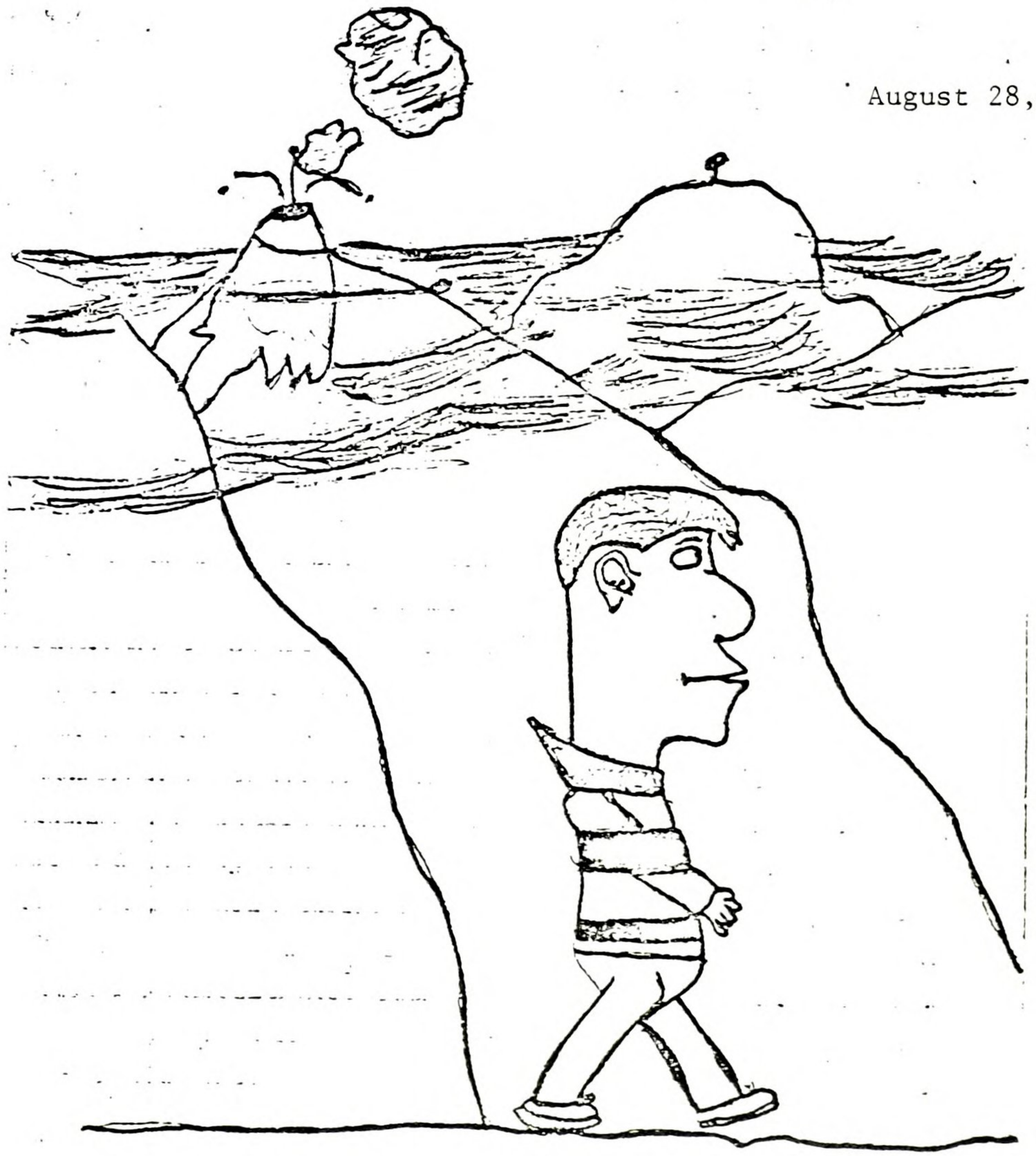


August 26,1980



I The devil is drunk and on fire

August 28,1980



APPENDIX G

SENTENCE COMPLETION TESTS

1st Test

Administered on 7.29.80

Examiner E.V. Burke

SENTENCE COMPLETION

Reading

A1 Reading books at school is fun.

A2 Easy books are easy.

A3 I have to read when I'm told to.

A4 I'd never read a book if it is easy.

A5 Reading is fun

A6 The worst thing about reading is all the big words I can't figure out.

A7 Reading is hard when I have hard books.

Reading (projective)

B1 Harry hates to read books.

B2 John got a good grade in reading when he reads.

B3 Jane likes to read; she is smart.

B4 The best thing in Mary's reading class is reading books

B5 Bob wished that reading books was easier.

School

C1 When I have to study, I study.

C2 If I think schoolwork is too hard, I tell the teacher.

C3 School is fun.

C4 He didn't study because he didn't get the work.

C5 The trouble with school is they don't have longer recesses

C6 In school, my teachers are nice.

Parents

D1 My father always helps me

D2 Most fathers don't.

D3 I wish my father knew everything.

D4 I wish my mother knew everything.

D5 Most mothers help their kids.

D6 I wish that my father would help me more often.

D7 When he was with his mother, he felt happy.

D8 When he was punished by his father, he felt sad. For me these sentences should be the other way round.

D9 I like my mother, but she punishes me all the time.

Siblings

E1 I wish my brother/~~sister~~ would stop teasing me.

E2 Sometimes my ~~sister~~/brother teases me all the time.

E3 I get mad when my ~~sister~~/brother teases me.

Guilt feelings

F1 He felt he had been bad when he broke the lamp.

F2 When I think about it, I feel bad that I broke it

F3 I feel guilty about breaking it

F4 I would like to forget all about it

F5 The worst thing I ever did was to break the lamp.

Abilities

G1 It looked impossible, so he stopped doing it.

G2 He felt proud that he stopped.

G3 When I am criticized, I don't listen.

G4 When they looked at me I look back.

(5) When I have to make a decision, I make the decision.

(6) People seem to think I am stupid. That's what people think I am, you know. I say I'll probably be smarter than you are when I get bigger.

Future

H1 He often wished he could run superfast.

H2 I'd like most to be very, very, very smart.

H3 Someday I will be very, very, very smart.

H4 When I am older I will be smart.

Wishes

I1 If I had my way, I would be smart.

I2 I always wanted to be small. This small (showing his small finger), then I could walk around in the ventilators.

I3 My secret wish is to fly. I would be small and smart enough to fly.

2nd Test

Administered on 10.20.80

Administered by E. V. Burke

SENTENCE COMPLETION

Reading

A1 Reading books at school is fun

A2 Easy books are easy

A3 I have to read when my teacher tells me.

A4 I'd never read a book if I don't have to.

A5 Reading is fun.

A6 The worst thing about reading is don't know the words.

A7 Reading is hard when I don't know the words.

Reading (projective)

B1 Harry hates to read books

B2 John got a good grade in reading when he read his book.

B3 Jane likes to read; she is smart.

B4 The best thing in Mary's reading class is they get to play with words.

B5 Bob wished that reading books were easier.

School

C1 When I have to study, I hate it.

C2 If I think schoolwork is too hard, I ask the teacher.

C3 School is fun.

C4 He didn't study because he didn't know what to do.

C5 The trouble with school is there ain't enough playtime

C6 In school, my teachers are nice.

Parents

D1 My father always helps me with work.

D2 Most fathers help their kids with work.

D3 I wish my father knew that I wanted to build a racing car.

D4 I wish my mother knew that I wanted to build a racing car.

D5 Most mothers help their kids with school work.

D6 I wish that my father would help me build that racing car.

D7 When he was with his mother, he felt happy.

D8 When he was punished by his father, mad.

D9 I like my mother, but she gets hyper. That means hysterical.

Siblings

E1 I wish my brother/~~sister~~ would stop beating me up.

E2 Sometimes my ~~sister~~/brother hits me so hard I fly over the couch.

E3 I get mad when my ~~sister~~/brother hits me. (laughs)

Guilt feelings

F1 He felt he had been bad when he pushed his brother down the steps.

F2 When I think about it, I feel bad that I didn't help the kid back up the steps.

F3 I feel guilty about pushing that girl in the pool.

F4 I would like to forget that I pushed that girl in the pool.(laughs)

F5 The worst thing I ever did was break my leg.

Abilities

G1 It looked impossible, so he gave up.

G2 He felt proud that he found out he could do it and so, didn't give up.

G3 When I am criticized, I tell my mom.

G4 When they looked at me I look back.

187

G5 When I have to make a decision, I make it.

G6 People seem to think I am dumb.

Future

H1 He often wished he could fly.

H2 I'd like most to be superman. No, I'd like most to be as small as my pinkie. I'd like to walk in an air vent.

H3 Someday I 'd like to do that.

H4 When I am older I'd like to be a teacher. Maybe, not for sure.

Wishes

I1 If I had my way, I would allow kids to drink beer. (laughs). I would like to drive a car.

I2 I always wanted to be on T.V.

I3 My secret wish is to fly. To be as big as my pinkie. To pick up six billion apartment houses with my pinkie (laughs). My real secret wish would be to be as big as my pinkie (laughs). That would be fun. That would be fun. I could hop in my new remote control car.

APPENDIX H

TEST RESULTS: SAMPLES

Sight Words

Decoding

Fluency

Comprehension

"Keep a record from year to year" **SLOSSON ORAL READING TEST (SORT)**

READING LEVEL 1.7

SCHOOL GRADE 4

NAME JAY (LAST) Jay (FIRST) (MIDDLE) AGE 10 DATE 5·20·80

SCHOOL Michigan tate University

EXAMINER E. Burke

List P (20)	List 1 (40)	List 2 (60)
1. see	1. with ~~which~~ ✓	1. game ✓
2. look	2. friends ✓	2. hide ✓
3. mother	3. came	3. grass
4. little	4. horse ~~home~~ ✓	4. across ✓
5. here	5. ride	5. around ✓
6. can	6. under	6. breakfast ✓
7. want ~~wait~~ ✓	7. was ~~saw~~ ✓	7. field ✓
8. come	8. what	8. large ✓
9. one	9. bump	9. better ~~after~~ ✓
10. baby ~~day~~ ✓	10. live	10. suddenly ✓
11. three ~~have~~ ✓	11. very	11. happen ~~happened~~ ✓
12. run	12. puppy	12. farmer ✓
13. jump	13. dark	13. river
14. down ~~now~~ ✓	14. first	14. lunch
15. is ~~yes~~ ✓	15. wish	15. sheep
16. up	16. basket ✓	16. hope ~~hop~~ ✓
17. make	17. food	17. forest ✓
18. ball	18. road	18. stars
19. help	19. hill	19. heavy ✓
20. play	20. along ✓	20. station ✓
15	14	5

List 3 (80)	List 4 (100)	List 5 (120)
1 safe	1 harness	1 cushion
2 against	2 price	2 generally
3 smash	3 flakes	3 extended
4 reward	4 silence	4 custom
5 evening	5 develop	5 tailor
6 stream	6 promptly	6 haze
7 empty	7 serious	7 gracious
8 stone	8 courage	8 dignity
9 grove	9 forehead	9 terrace
10 desire	10 distant	10 applause
11 ocean	11 anger	11 jungle
12 bench	12 vacant	12 fragrant
13 damp	13 appearance	13 interfere
14 timid	14 speechless	14 marriage
15 perform	15 region	15 profitable
16 destroy	16 slumber	16 define
17 delicious	17 future	17 obedient
18 hunger	18 claimed	18 ambition
19 excuse	19 common	19 presence
20 understood	20 dainty	20 merchant

✓ = errors

List 6 (140)	List 7 (160)	List 8 (180)	High School (200)
1 installed	1 administer	1 prairies	1 traverse
2 importance	2 tremor	2 evident	2 affable
3 medicine	3 environment	3 nucleus	3 compressible
4 rebellion	4 counterfeit	4 antique	4 excruciating
5 infected	5 crisis	5 twilight	5 pandemonium
6 responsible	6 industrious	6 memorandum	6 scrupulous
7 liquid	7 approximate	7 whimsical	7 primordial
8 tremendous	8 society	8 proportional	8 chastisement
9 customary	9 architecture	9 intangible	9 sojourn
10 malicious	10 malignant	10 formulated	10 panorama
11 spectacular	11 pensive	11 articulate	11 facsimile
12 inventory	12 standardize	12 deprecate	12 auspicious
13 yearning	13 exhausted	13 remarkably	13 contraband
14 imaginary	14 reminiscence	14 contrasting	14 envisage
15 consequently	15 intricate	15 irrelevance	15 futility
16 excellence	16 contemporary	16 supplement	16 enamoured
17 dungeon	17 attentively	17 inducement	17 gustatory
18 detained	18 compassionate	18 nonchalant	18 decipher
19 abundant	19 complexion	19 exuberant	19 inadequacy
20 compliments	20 continuously	20 grotesque	20 simultaneous

SCORE

List P _____
List 1 _____
List 2 _____
List 3 _____
List 4 _____
List 5 _____
List 6 _____
List 7 _____
List 8 _____
List H. S. _____

Raw Score _____

(Total number of correct words including the words below starting level.)

(Any specific coaching on these particular words will naturally reduce the validity of this test.)

Score 45

"Keep a record from year to year" **SLOSSON ORAL READING TEST (SORT)**

READING LEVEL	2.2
SCHOOL GRADE	5th

Cassette 34 #640

NAME JAY (LAST) JAY (FIRST) (MIDDLE) AGE 11 DATE 10.20.80

SCHOOL M.S.U. Reading Center

EXAMINER E. Burke

List P (20)	List 1 (40)	List 2 (60)
1. see	1. with	1. game ✓
2. look	2. friends ✓	2. hide
3. mother	3. came	3. grass
4. little	4. horse	4. across
5. here	5. ride	5. around
6. can	6. under	6. breakfast ✓
7. want	7. was	7. field ✓
8. come	8. what ✓	8. large ✓
9. one	9. bump ✓	9. better ✓
10. baby ✓	10. live	10. suddenly ✓
11. three	11. very	11. happen ✓
12. run	12. puppy	12. farmer ✓
13. jump	13. dark ✓	13. river
14. down	14. first	14. lunch
15. is	15. wish	15. sheep
16. up	16. basket ✓	16. hope
17. make	17. food	17. forest
18. ball ✓	18. road	18. stars
19. help	19. hill	19. heavy ✓
20. play	20. along	20. station ✓
18	15	10

List 3 (80)	List 4 (100)	List 5 (120)
1 safe ✓	1 harness ✓	1 cushion
2 against ✓	2 price	2 generally
3 smash ✓	3 flakes ✓	3 extended
4 reward ✓	4 silence ✓	4 custom
5 evening ✓	5 develop ✓	5 tailor
6 stream ✓	6 promptly ✓	6 haze
7 empty	7 serious ✓	7 gracious
8 stone ✓	8 courage ✓	8 dignity
9 grove ✓	9 forehead ✓	9 terrace
10 desire ✓	10 distant ✓	10 applause
11 ocean ✓	11 anger ✓	11 jungle
12 bench ✓	12 vacant ✓	12 fragrant
13 damp ✓	13 appearance ✓	13 interfere
14 timid ✓	14 speechless ✓	14 marriage
15 perform ✓	15 region ✓	15 profitable
16 destroy ✓	16 slumber ✓	16 define
17 delicious ✓	17 future ✓	17 obedient
18 hunger ✓	18 claimed ✓	18 ambition
19 excuse ✓	19 common ✓	19 presence
20 understood ✓	20 dainty ✓	20 merchant
1	1	✓ = 4 words

List 6 (140)	List 7 (160)	List 8 (180)	High School (200)
1 installed	1 administer	1 prairies	1 traverse
2 importance	2 tremor	2 evident	2 affable
3 medicine	3 environment	3 nucleus	3 compressible
4 rebellion	4 counterfeit	4 antique	4 excruciating
5 infected	5 crisis	5 twilight	5 pandemonium
6 responsible	6 industrious	6 memorandum	6 scrupulous
7 liquid	7 approximate	7 whimsical	7 primordial
8 tremendous	8 society	8 proportional	8 chastisement
9 customary	9 architecture	9 intangible	9 sojourn
10 malicious	10 malignant	10 formulated	10 panorama
11 spectacular	11 pensive	11 articulate	11 facsimile
12 inventory	12 standardize	12 deprecate	12 auspicious
13 yearning	13 exhausted	13 remarkably	13 contraband
14 imaginary	14 reminiscence	14 contrasting	14 envisage
15 consequently	15 intricate	15 irrelevance	15 futility
16 excellence	16 contemporary	16 supplement	16 enamoured
17 dungeon	17 attentively	17 inducement	17 gustatory
18 detained	18 compassionate	18 nonchalant	18 decipher
19 abundant	19 complexion	19 exuberant	19 inadequacy
20 compliments	20 continuously	20 grotesque	20 simultaneous

SCORE

List P	18
List 1	15
List 2	10
List 3	1
List 4	1
List 5	
List 6	
List 7	
List 8	
List H. S.	

Raw Score 45

(Total number of correct words including the words below starting level.)

(Any specific coaching on these particular words will naturally reduce the validity of this test.)

Jay THY

10.20.80

Administered: E Burk

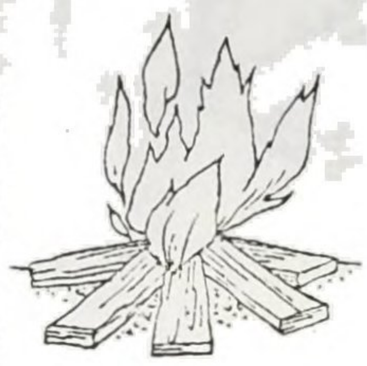
1

pot
dot
lot
got

2

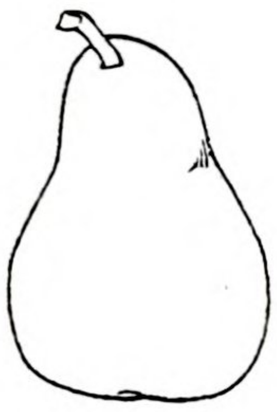
tin
lie
line
tie

3



fir
fair
fire
for

4

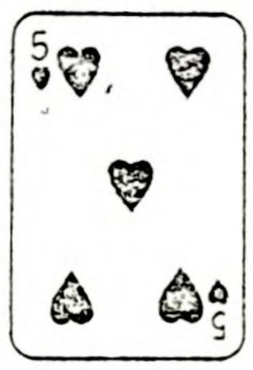


pour
purr
poor
pear

5

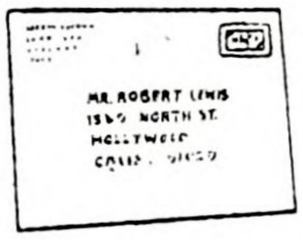
prone
thrown
phone
known

6



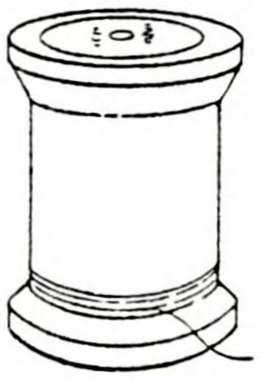
card
curd
cared
cord

7



later
letter
lather
litter

8



spool
spill
spell
spoil

9

raw
rot
row
roam

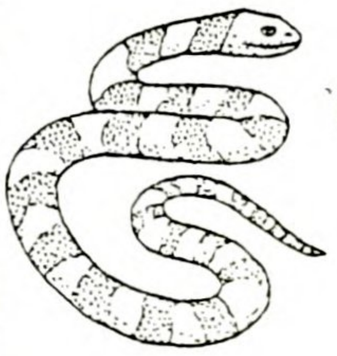
10

hear
hair
hire
hour

11

knit
kit
gnat
quit

12



snack
snake
shake
sake

13

- hash
- husk
- hunch ●
- hush

14

- bailed
- bald
- bold
- build

15

- stream
- seam
- steam ●
- team

16

- squirt ●
- skirt
- shirt
- squint

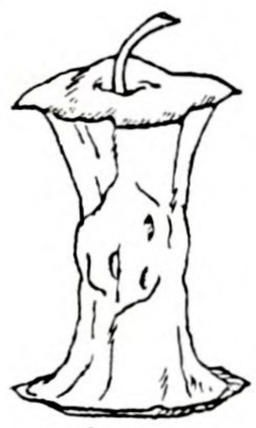
17

- cone
- corn
- coin ●
- cane

18

- launder
- leader ●
- larder
- lavender

19



- cure
- sore
- course
- core ●

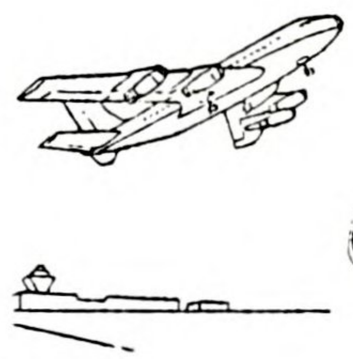
20

- quest ●
- guest
- yeast
- gust

21

- twines
- wins
- twins ●
- tins

22



- flit
- fling ●
- flight
- flirt

23

- stretch ●
- screech
- sketch
- streak

24

- content ●
- consist
- concept
- contest

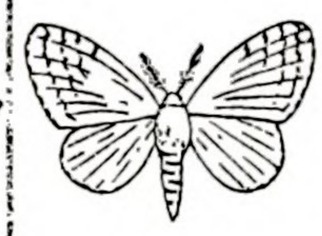
25

- digestion
- dedication
- direction
- dejection

26

- lass
- lace
- lack
- lake

27



- mouth
- moth
- math
- muff

28

- lime
- limb
- link
- limp

29

- layers
- liars
- lawyers
- lowers

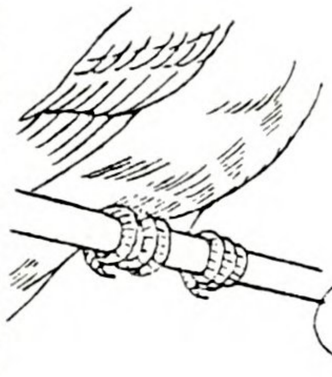
30

- impair
- despair
- repair
- compare

31

- pond
- pouch
- pound
- poured

32



- peach
- porch
- poach
- perch

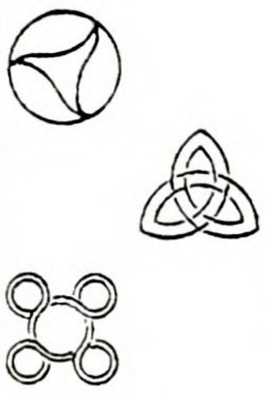
33

- haul
- hull
- howl
- hurl

34

- secondary
- secretary
- secretly
- security

35

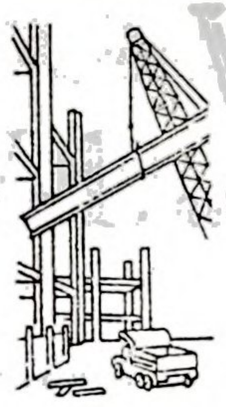


- decides
- deceives
- desires
- designs

36

- costume
- custom
- customer
- cushion

37

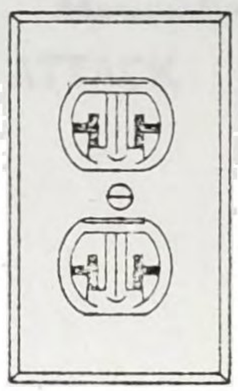


- constitution
- construction
- contraction
- constriction

38

- inflame
- inflict
- inflate
- infant

39



- outlet
- outwit
- outset
- outfit

40

- trial
- trivial
- trail
- trill

41

- deserve
- preserve
- conserve
- observe

42

- sculptor
- scalpel
- scholar
- sculpture

43

- amass
- amiss
- amuse
- assume

44

- patent
- patient
- patriot
- pattern

45

- purse
- piers
- pierce
- peace

Gates-McKillop Reading Diagnostic Test
(1962) Form 1 (V-1)

Test administered 10.20.80
Administered by E. Burke

V. KNOWLEDGE OF WORD PARTS: WORD ATTACK

V-1. Recognizing and blending common word parts

(Page 7 of Test Materials)

To examiner: Give only one trial. Stop after five consecutive errors in column 1.

Cassette #T3

	Ex.	spack	shash	sp	✓	ack	✓	spack ✓
	1.	drite	drit	dr	✓	ite	it	drite drit
	2.	floy	✓	fl	✓	oy	✓	floy ✓
	3.	cled	clid	cl	✓	ed	id	cled clid
95	4.	swick	swack	sw	sh	ick	ack	swick swack
	5.	tright	trag	tr	✓	ight	-	tright trigikt
100	6.	stade	shash	st	✓	ade	ad	stade stad
	7.	clow	clue	cl	✓	ow	ue	clow clue
	8.	plark	plak	pl	✓	ark	ack	plark plak
	9.	glacle	glass	gl	✓	acle	asl	glacle glasal.
	10.	shemp	shared	sh	✓	emp	ad	shemp shap
	11.	dween	droop	dw	dr	een	-	dween droody
	12.	chack	trash	ch	sh	ack	ash	chack shack
	13.	bler	✓	bl	✓	er	✓	bler ✓
	14.	gring	growing	gr	✓	ing	owing	gring growing
	15.	slidge	sled	sl	✓	idge	id	slidge sled
	16.	frable	frap	fr	f	able	ap	frable frap
	17.	twoak	twook	tw	✓	oak	ook	twoak two-cor
	18.	prible	pair	pr	✓	ible	ior	prible prior
	19.	thasp	shaap	th	sh	asp	✓	thasp shaap
	20.	snew	sneen	sn	✓	ew	we	snew sneen
	21.	whast	shit	wh	sh	ast	at	whast shat s
	22.	wrell	rill	wr	✓	ell	ill	wrell wrill
	23.	brome	bru	br	✓	ome	im	brome bru

Fraction: Number correct / Number attempted

New Edition.

1. Muff

Muff is a little yellow kitten. | She | drinks | milk. | She | sleeps | on | a | chair. | She | does | not | like | to | get | wet. |

Time: 52 seconds.

1. What color was the kitten?
2. What does she drink?
3. Where does she sleep?
4. Why doesn't Muff like to go out on rainy days?

2. The Dog

A little | black dog | ran away from | home. | He | played | with | two | big dogs. | They ran away | from | him. | It began to | rain. | He | went | under | a tree. | He | wanted to go home, but | he | did not know the | way. | He | saw a boy | he knew. | The | boy | took | him home. |

Time: 1 minute and 40 seconds

1. Who ran away from home?
2. How many other dogs did he play with?
3. Why did the dog go under the tree?
4. What did the dog want then?
5. Whom did he see?
6. How did he get home?

3. Camping

Six boys | put up | a tent | by | the | side | of the river. |
They took things | to eat with them. | When the sun |
went down, | they | went into | the tent | to sleep. | In |
the night, | a cow | came | and | began | to eat grass |
around | the tent. | The boys | were | afraid. | They |
thought | it was a bear. |

Time: 2 minutes and 23 seconds

1. How many boys went camping?
2. Where did they put up their tent?
3. What did they take with them besides their tent?
4. What did the boys do when the sun went down? (Don't know.)
5. What came around their tent in the night?
6. What was the cow doing?
7. What did the boys think the cow was?

Observations:

a. Jay pointed at each word as he read.

b. He held the paper very close to his eyes and squinted as he read.

c. He attempted to decode some words that he did not recognize.

Jay JAY

Administered. E Burke

Durrell-Sullivan Reading Capacity Test, Vocal Edition

Listening Comprehension

INSTRUCTIONS. Make a record of the comprehension questions answered correctly according to the directions in the Manual.

Grade 1 Reading Level

The Cat and the Dog

7/7

- ✓ 1. What did the boy have?
- ✓ 2. What was he going to give her?
- ✓ 3. What happened when he called to her?
- ✓ 4. Where was the cat?
- ✓ 5. What was she doing?
- ✓ 6. What did the boy do then?
- ✓ 7. What happened next?

Grade 2 Reading Level

Dick's Birthday Present

6/7

- ✗ 1. What did Dick do when he woke up? (Got dressed.)
- ✓ 2. What day was it?
- ✓ 3. What did he find on his chair?
- ✓ 4. What did Dick hear? (A noise)
- ✓ 5. What did Dick do then?
- ✓ 6. What was in the basket?
- ✓ 7. What did the dog do?

Grade 3 Reading Level

The Accident

8/9

- ✓ 1. What was this story about?
- ✓ 2. What had the boy been doing?
- ✓ 3. What was he riding?
- ✓ 4. What came down the road?
- ✓ 5. Why didn't he see the car coming?
- ✓ 6. How fast was the car going?
- ✓ 7. What happened to the boy?
- ✓ 8. What happened to the bicycle?

Grade 4 Reading Level

Peter Cooper's Engine

4/7

- ✓ 1. What did Peter Cooper build?
- ✓ 2. What was it used for? (To take cars from ....)
- ✗ 3. How far away was the town?
- ✓ 4. What was the engine hooked to? (some other cars)
- ✗ 5. How fast did it go? 58 miles/hour
- ✗ 6. How long did the trip take? 58 minutes
- ✓ 7. What surprised the people?

Norms for Word Recognition and Word Analysis

GRADE *	FLASH L	FLASH M	FLASH H	ANALYSIS L	ANALYSIS M	ANALYSIS H
1	5	12	20	7	17	29
2	2	5	8	4	8	13
3	11	14	17	17	21	25
4	21	25	28	29	34	38
5	32	34	36	41	43	45
6	38	41	44	46	47	50

* Grade 1 — Lists A & B; Grades 2–6 — Lists 1 & 2.

Grade 5 Reading Level

Uses of Kites

8/9

- ✓ 1. What was this story about?
- ✓ 2. What have kites been used for in war?
- ✓ 3. What did one general use kites for?
- ✓ 4. What was he going to build?
- ✓ 5. What do some people in China make? (whistling kites)
- ✓ 6. What are these kites supposed to do?
- ✓ 7. What has the weather bureau used kites for?
- ✗ 8. How high has a string of kites gone? (Very high? Don't know.)
- ✓ 9. How much can some kites lift?

Grade 6 Reading Level

History of Baseball

- ✓ 1. What is called the national sport?
- ✗ 2. What were some of its early names? (I forgot)
- ✓ 3. When was it first played in colleges?
- ✗ 4. What is said about its equipment? (Don't know.)
- ✓ 5. What was responsible for its growth? (civil wars + everything)
- ✓ 6. What happened to baseball after the Civil War?
- ✗ 7. What happened in the countries where the soldiers were stationed?
- ✗ 8. Who is said to welcome the baseball season? (The army)

Above Grade 6 Reading Level

General St. Clair's Defeat

- ___ 1. What accounted for defeat in the first war waged by the United States?
- ___ 2. How many men did General St. Clair have?
- ___ 3. What were they going to do?
- ___ 4. What did they neglect to do?
- ___ 5. Where did the Indians attack?
- ___ 6. What did General St. Clair do then?
- ___ 7. How many men escaped uninjured?
- ✓ 8. How did President Washington feel about it?

LISTENING COMPREHENSION LEVEL EQUAL TO SILENT READING LEVEL OF GRADE _____.

CHECK LIST OF DIFFICULTIES IN WORD RECOGNITION AND WORD ANALYSIS

WORD RECOGNITION SKILLS (FLASHED WORDS)

- ___ Low sight vocabulary
- ___ Will not try difficult words
- ___ Can spell but not pronounce
- ___ Ignores word endings
- ___ Guesses at word from general form

WORD ANALYSIS

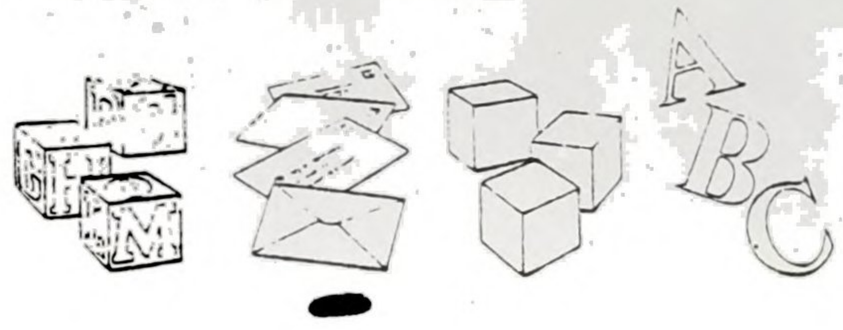
- ___ Word-analysis ability poor
- ___ Will not try difficult words
- ___ Has no method of word analysis
- ___ Sounds aloud by: single letters — blends — syllables
- ___ Unable to continue sounds into words
- ___ Looks away from word after sounding
- ___ Sounding slow or inaccurate
- ___ Spells words: successful — inadequate
- ___ Silent word study: successful — inadequate
- ___ Enunciates badly when prompted
- ___ Systematic errors (See tabulation)
- ___ Names of letters not known
- ___ Sounds of letters not known
- ___ Blends not known

CATES MACGINITIE READING TESTS (1976 Ed) - LEVEL B.

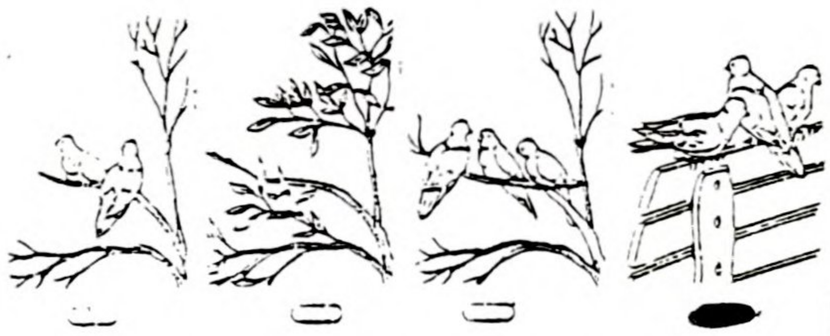
FIRST ADMINISTRATION 5.20.80

Administered by: E. Burke

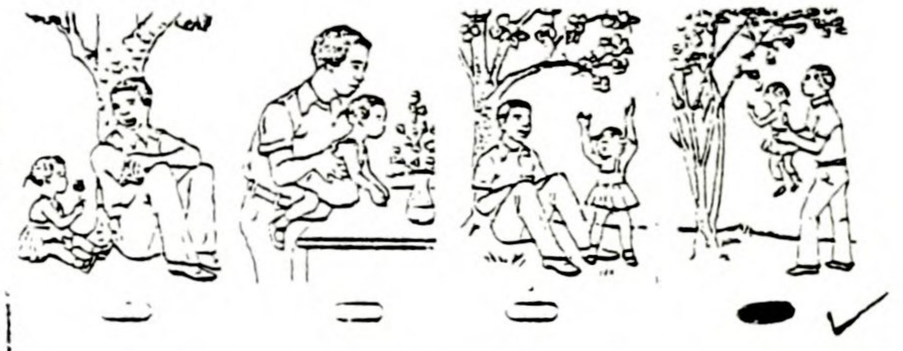
1. This man is selling balloons. ✓



2. These blocks have letters on them.

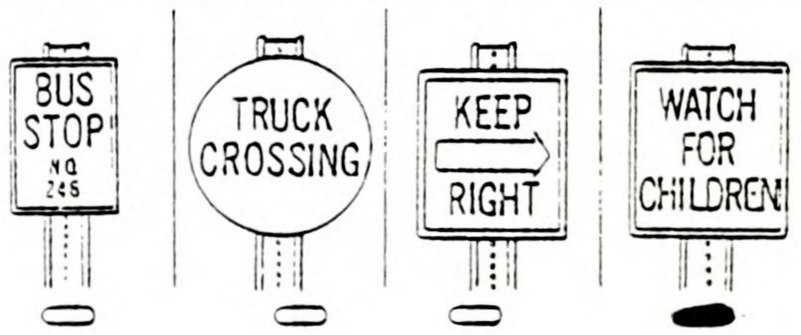


3. There are three birds on the branch.

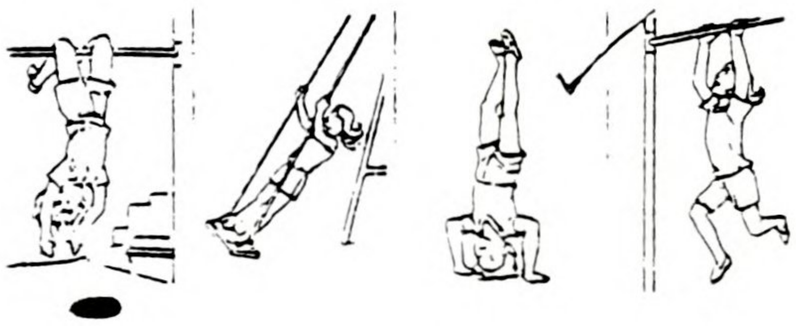


4. Leslie's father is lifting her up so she can smell the blossoms on the tree. ✓

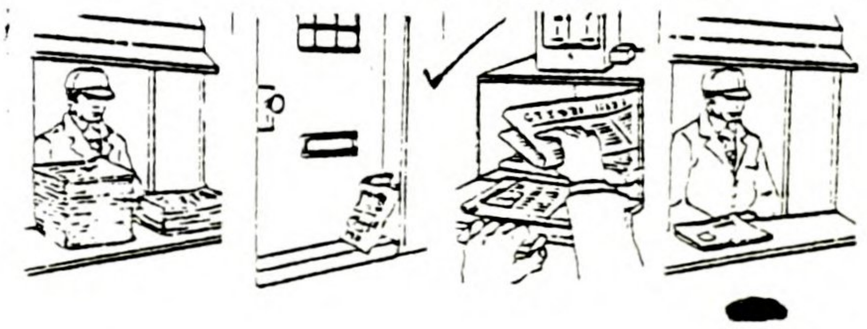
5. Mary is carrying both her purse and her books.



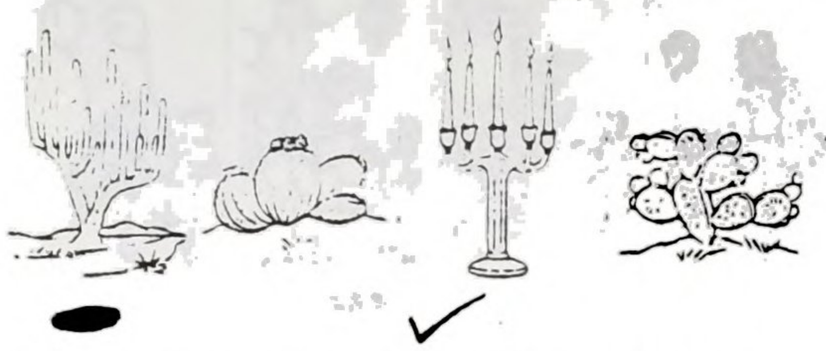
6. Which sign tells the driver to look out for boys and girls? ✓



7. I like to swing above the ground and let my arms hang. Everything looks so funny upside down.

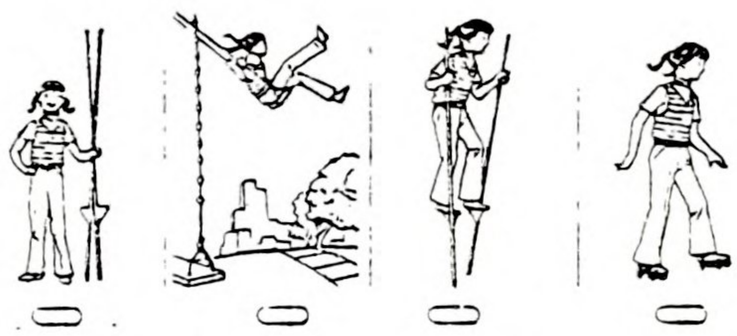


8. Mr. Billings had only one newspaper left when it was time to close his stand for the night.

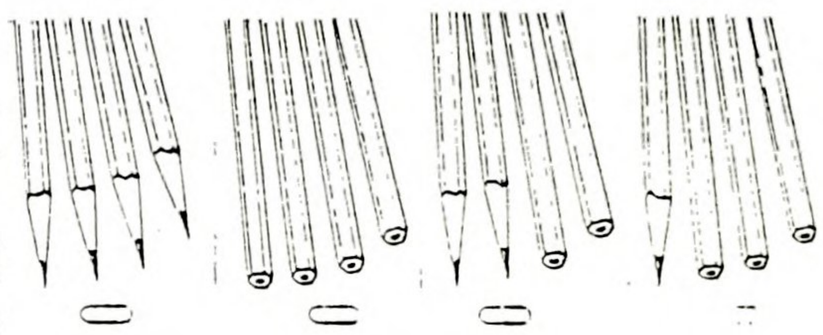


9. The many branches of the candelabra cactus all point upward as they grow.

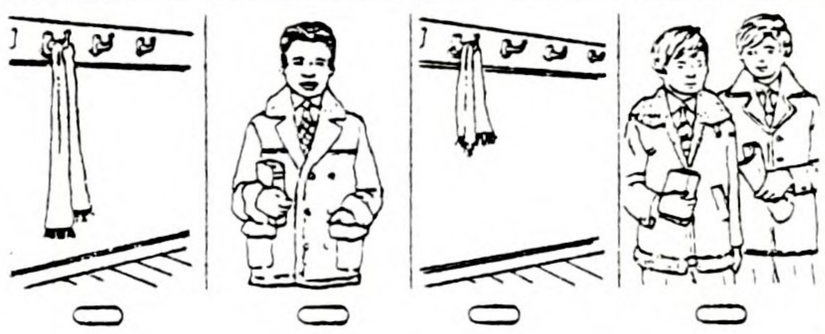
10. Betty is putting on her skates.



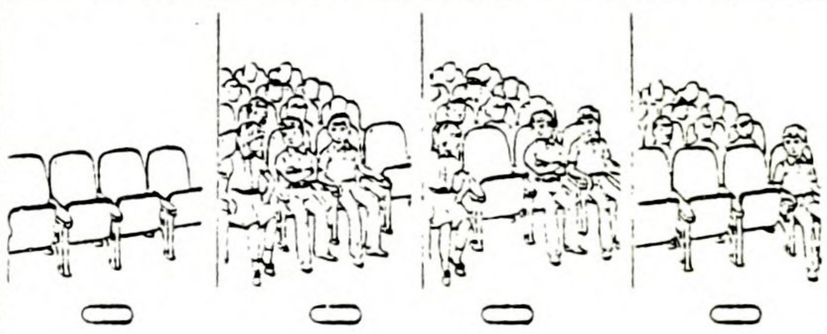
11. When Fran is on her stilts, she is two feet taller.



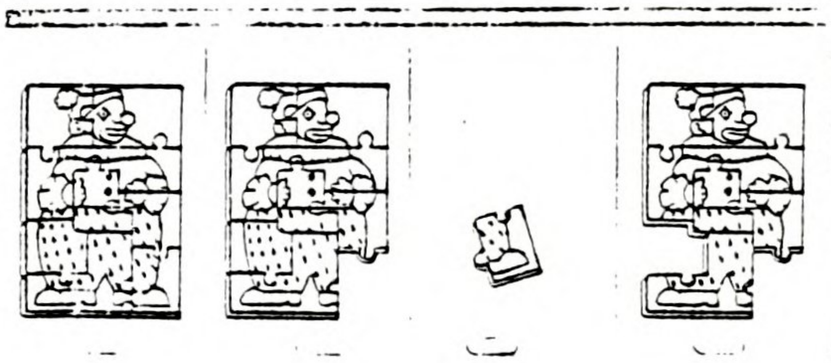
12. None of the pencils is sharp.



13. The girl has a long scarf. The boy has a short one. Which is the boy's?



14. The seat at the end was the only empty one in the front row.

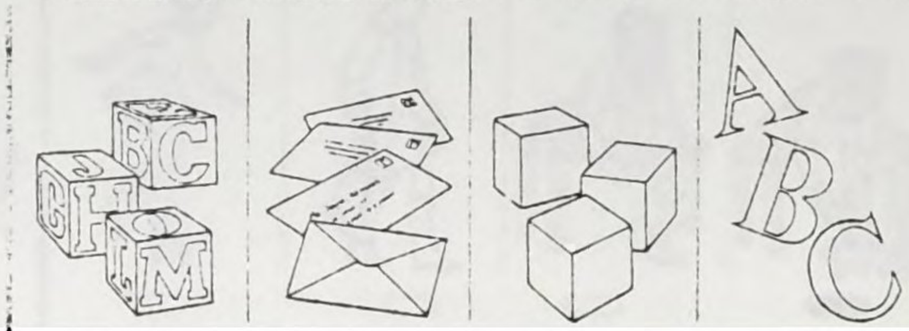


15. Hal put the puzzle together except for one piece that was lost. What did his finished puzzle look like?

16. After Grace glued the handle back on the cup, it looked like new. How did it look before she fixed it?

Administered by: E Bula
Administered on: 10.20.80

1. This man is selling balloons.



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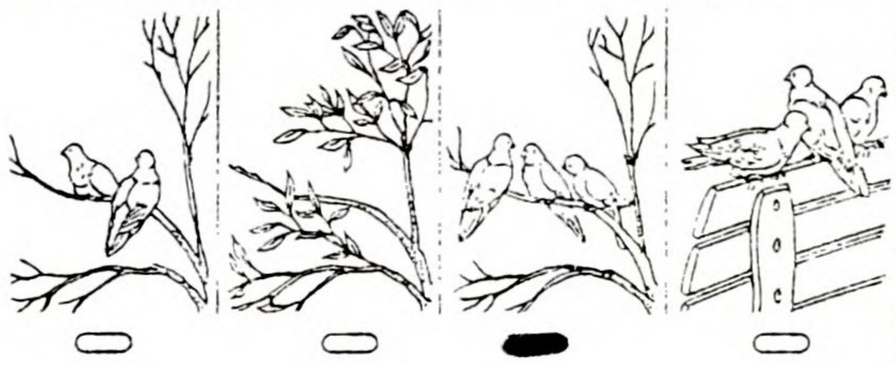

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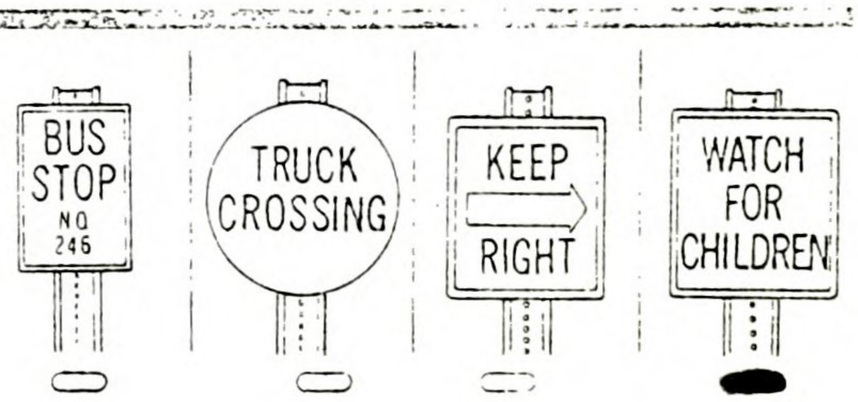
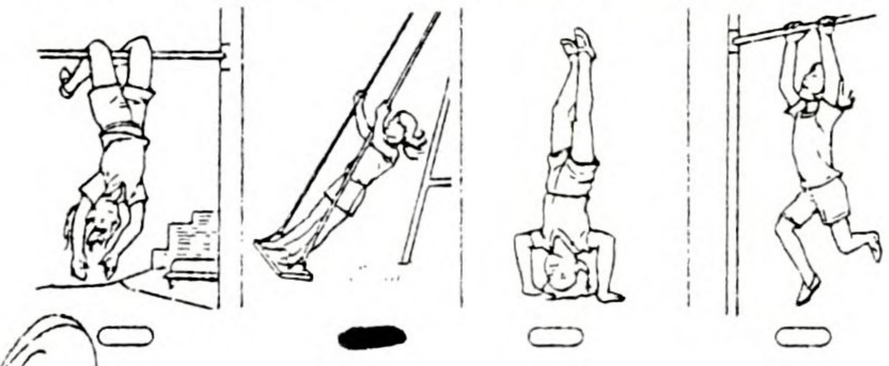
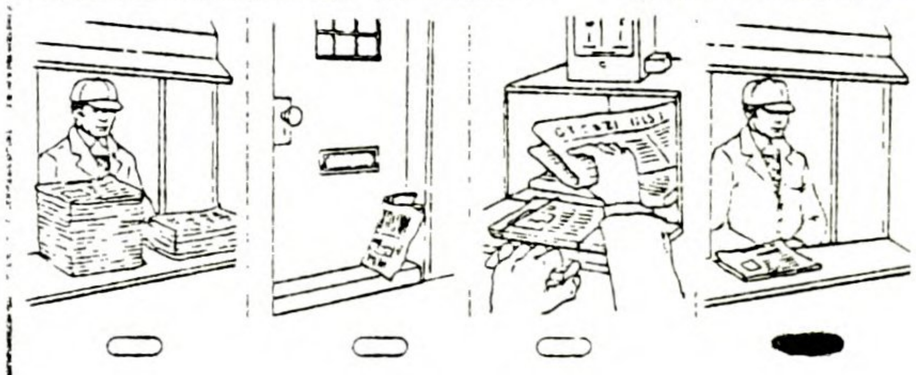


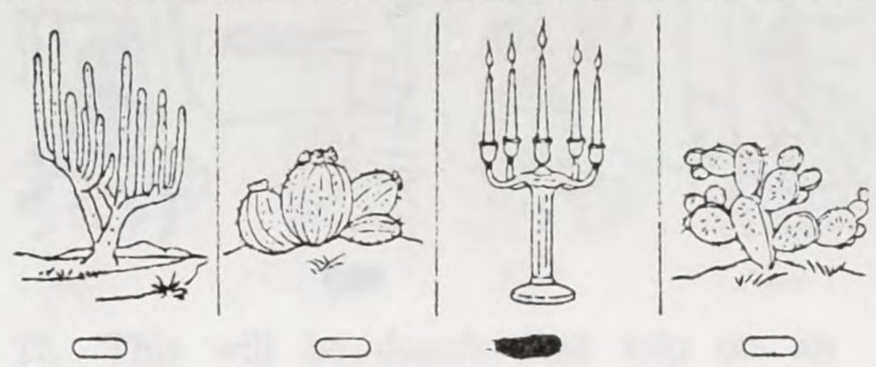
6. Which sign tells the driver to look out for boys and girls?



7. I like to swing above the ground and let my arms hang. Everything looks so funny upside down.

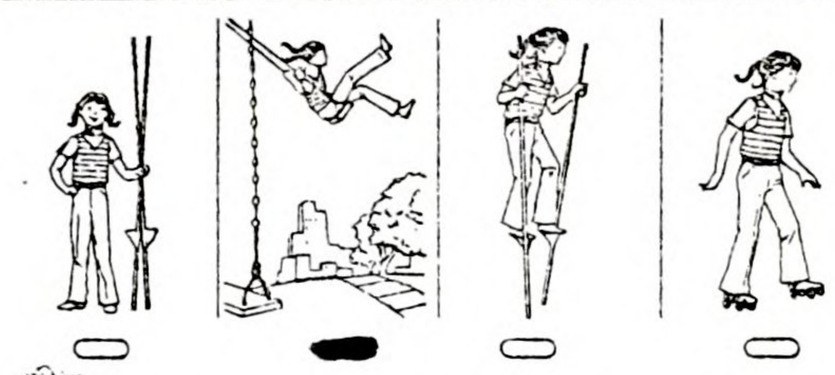


8. Mr. Billings had only one newspaper left when it was time to close his stand for the night.

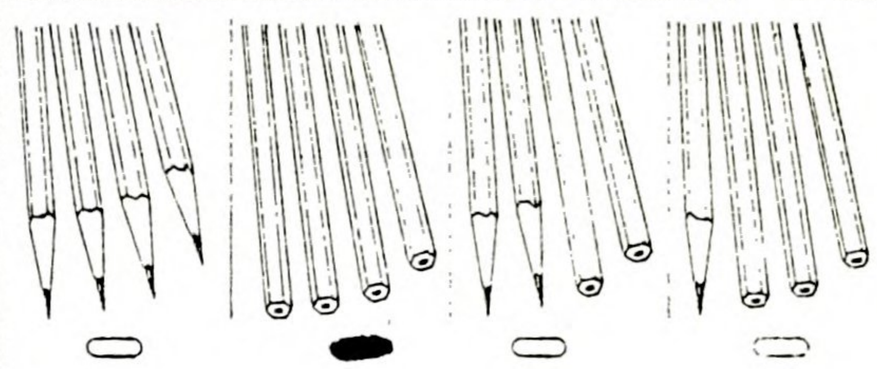


9. The many branches of the candelabra cactus all point upward as they grow.

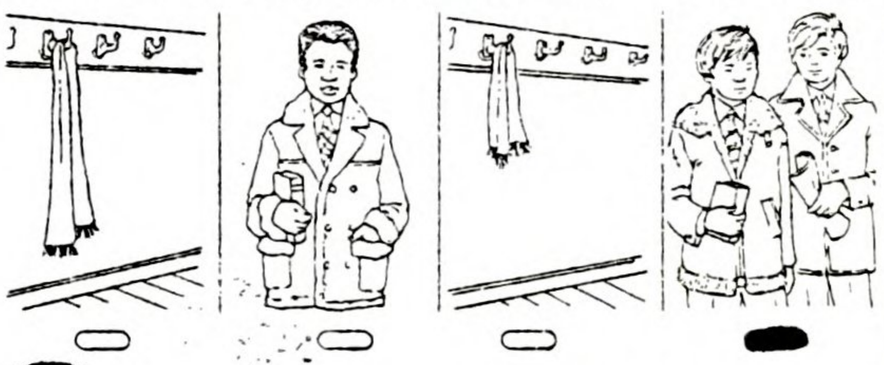
10. Betty is putting on her skates.



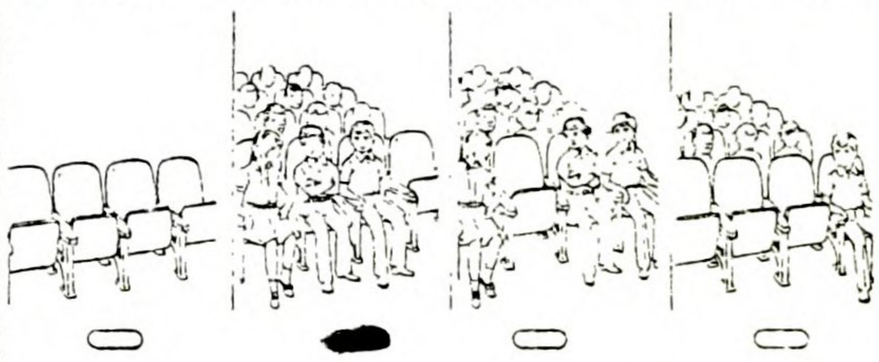
11. When Fran is on her stilts, she is two feet taller.



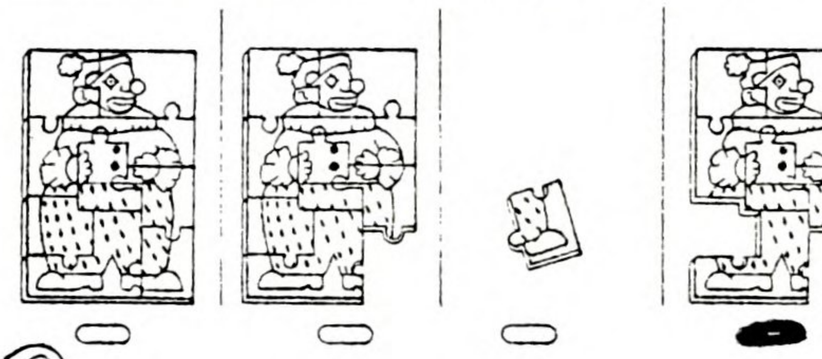
12. None of the pencils is sharp.



13. The girl has a long scarf. The boy has a short one. Which is the boy's?



14. The seat at the end was the only empty one in the front row.

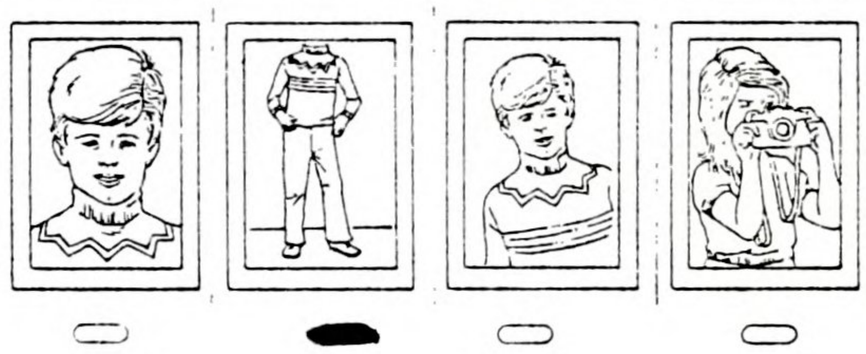


15. Hal put the puzzle together except for one piece that was lost. What did his finished puzzle look like?

16. After Grace glued the handle back on the cup, it looked like new. How did it look before she fixed it?

17. This will be Joan's first trip on an airplane. She has waved good-bye and has found a place to sit. When the plane takes off, she must have her seatbelt on. Which picture shows Joan ready for the plane to take off?

18. Jerry's dog followed him everywhere. Once when Jerry went fishing, he slipped and fell into the water. The dog followed him there, too. What did they look like then?

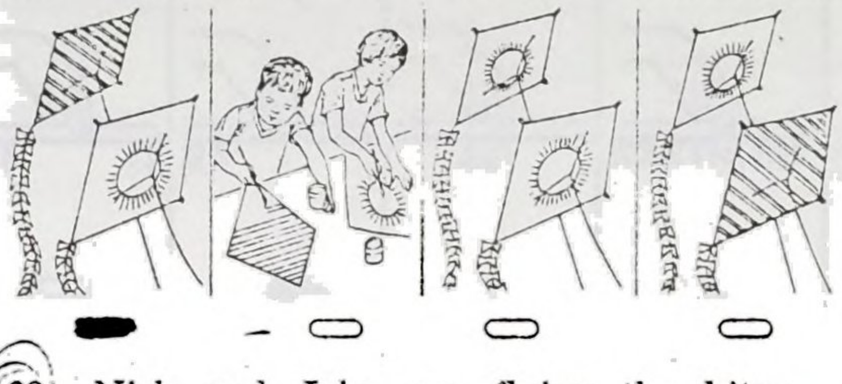


19. The first time Jill used her new camera, she took a picture of her brother. She pointed the camera too low, and her brother's face was not in the picture. Which picture did she take?

20. Debra was all ready to go shopping. Then she stepped out the front door and saw that it had started to rain. What did she go back inside to get?

21. Mr. Lester is a teacher. On the days when he doesn't teach, he works around his house. There is always some painting or gardening to do. Which picture shows the kind of work that Mr. Lester does on his days off?

22. Harold was sitting on the front steps, wondering what to do. Then his brother came out and asked him if he wanted to go to the movies. Where did Harold's brother find him?

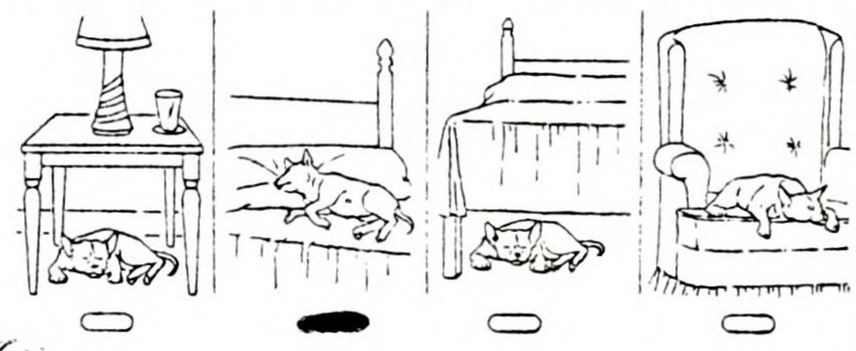


23. Nick and John are flying the kites they made. Nick's has a sun painted on it. John's is striped. Right now, Nick's kite is higher.

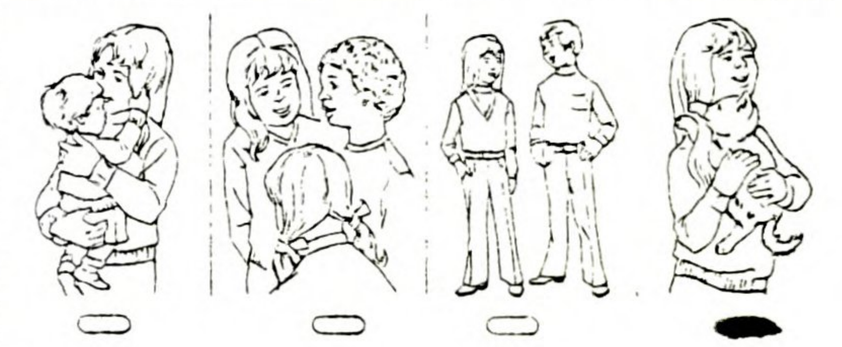
24. While we were playing catch in the park, my dog took the ball and ran. He wouldn't give it up until I made a trade for it. Which picture shows how I got the ball back?

25. Dorothy needed to wear her glasses for reading, but not when she pitched for the baseball team. Which picture shows when Dorothy did not need to wear her glasses?

26. Botanists study plants. They work outdoors as well as in laboratories. To learn more about some kinds of plants, they may even dive underwater, as this botanist is doing.



27. Usually Nina's dog, Jinx, greets her when she comes home from school. When he doesn't, Nina knows he is probably asleep under her bed. When Nina came home yesterday, Jinx didn't greet her. Where did she think she would find him?



28. Cora was telling her friends about her brother Freddy. "He pulls my hair," she said, "but he doesn't mean to hurt me. He's only nine months old." Which picture shows Cora and Freddy together?

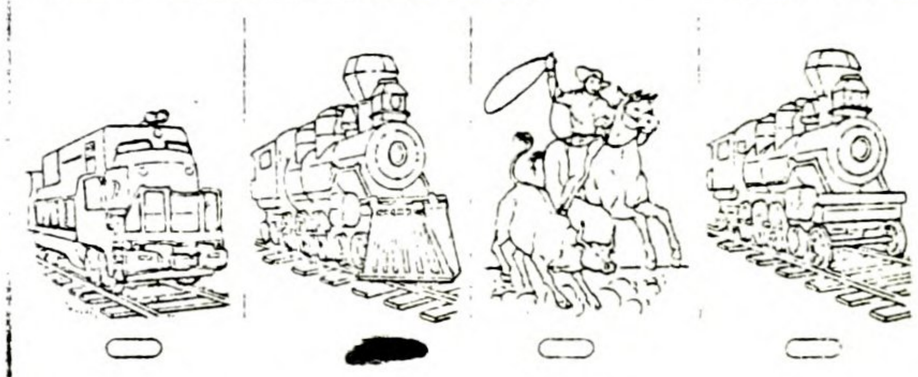
29. If you put a bar magnet on a pile of nails and then lift it up, the nails will cling to the magnet near both ends, but not in the middle.

30. Vic wanted a dog. His father said, "If we get a dog, you will have to take care of it. Mother and I will help feed it, but we will not take it for its walk." Which picture shows what Vic himself must always do for the dog?

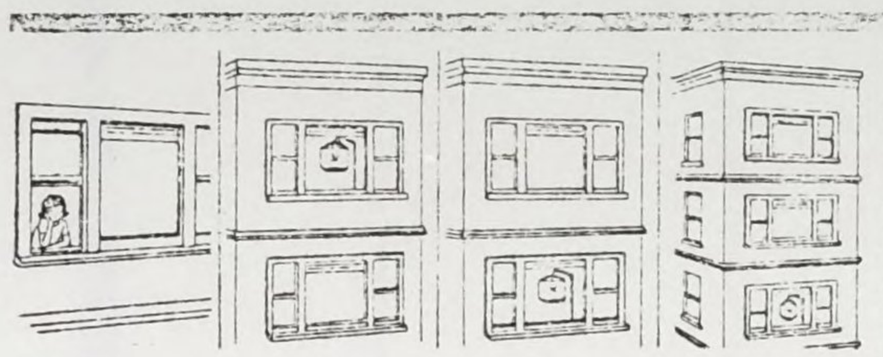
31. Jane was eating an apple and asked her mother what the seeds were for. Her mother explained that apple trees grow from apple seeds. What will these seeds become if they are planted?

32. Erica went shopping for school supplies. The store was out of ball-point pens, but she did get everything else she needed. She bought a notebook, a ruler, and some pencils. Which picture shows what she did not buy?

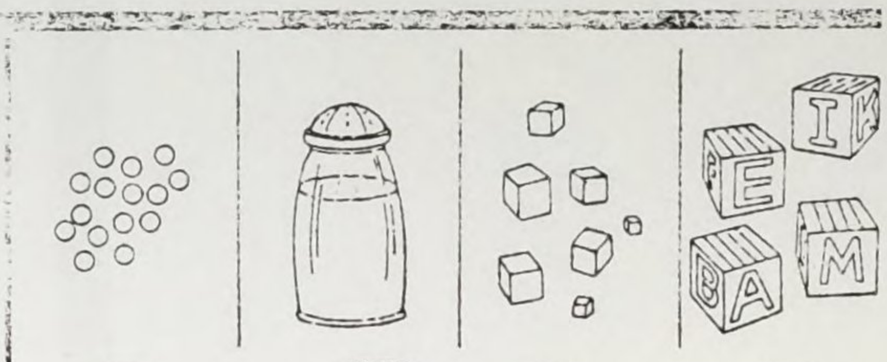
33. Lois Webster is a wildlife artist. She begins a picture outdoors, drawing an animal where it lives naturally. Then she finishes the picture by painting it indoors in her studio. Here she is starting a picture.



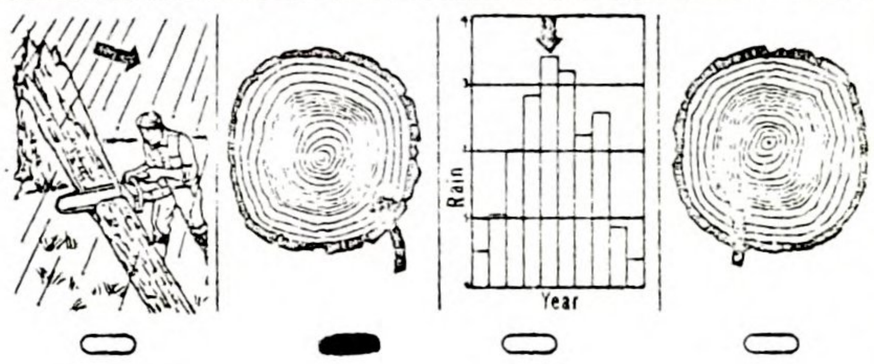
34. Train engines used to have cowcatchers. These sloping, pointed bumpers on the fronts of the engines cleared objects off the tracks.



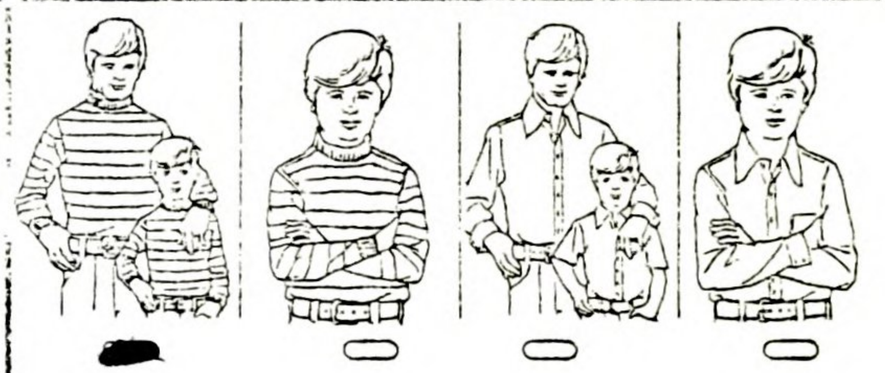
35. Robin lives on the top floor in her apartment house. Lena, who lives just below her, has a birdcage in her window. Which picture shows Lena's window?



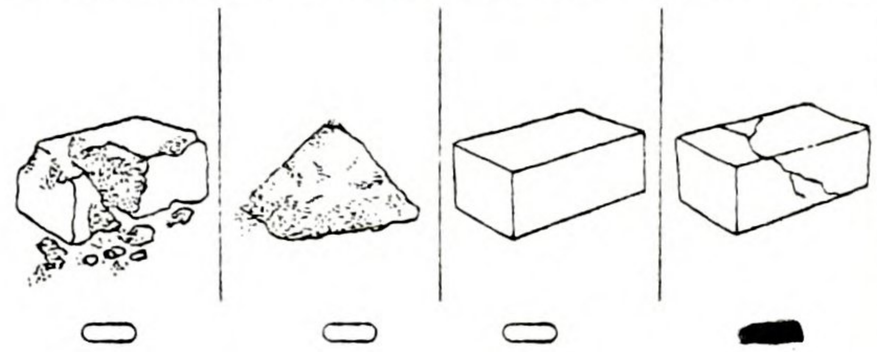
36. If you look through a microscope at grains of salt, you can see what shape they are. They are not round, as you might think, but look like little glass blocks. Which picture shows what salt looks like when seen this way?



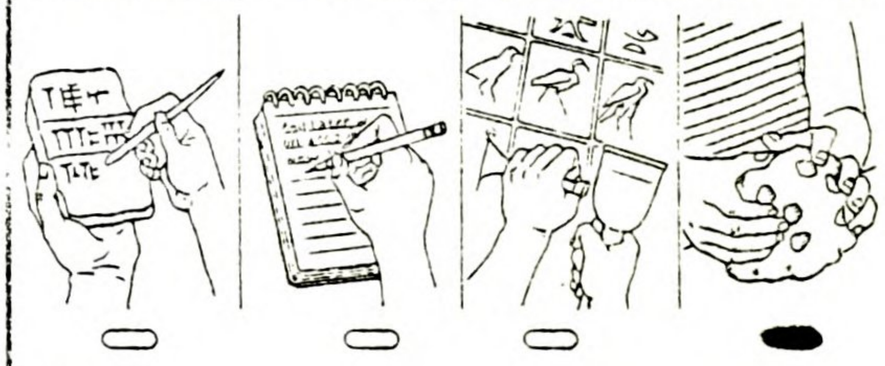
37. Where a tree is cut in two, you see rings. Rings close together may mean that dry years made the tree grow slowly. Rings far apart may mean that wet years helped the tree grow fast. Which arrow points to such a sign of wet years?



38. George got a new shirt just like his father's. It had long sleeves and buttons down the front. Which picture shows George in his new shirt?



39. Bricks are made of clay and sand. When there is not enough sand in the mixture, the bricks crack easily. When there is too much, they may crumble into tiny pieces. Which brick was made with too little sand?



40. Long ago, the Babylonians wrote by using a stick to press marks in soft clay tablets. When the clay was dried, it became hard, and the writing was fixed in the tablets.

CDEFGHIJ-B-843210/79

APPENDIX I

FLASHCARD

FLASHCARD (Actual size)

APPENDIX J

REVISED A & P SIGHT WORD LIST

Revised A and P Sight Word List*

First fifty words (according to frequency of occurrence):

the	that	it	be	each
a	was	as	can	will
to	on	have	but	up
and	for	she	there	many
of	are	what	not	we
in	they	one	when	then
you	I	this	how	her
is	with	all	were	or
he	his	had	your	out
it	said	from	do	some

Second fifty:

them	make	did	go	back
write	into	people	get	first
their	him	an	now	way
about	other	which	long	over
by	word	could	find	too
like	would	time	look	than
see	water	more	made	good
so	little	down	just	use
if	two	my	big	day
these	has	no	very	where

Third fifty:

me	right	does	why	another
went	air	say	work	number
put	sound	same	through	our
around	think	been	here	must
new	tell	take	place	off
know	after	only	before	name
come	Mr.	old	three	mother
who	man	away	home	asked
its	may	children	house	picture
came	much	help	again	most

Fourth fifty:

part	line	men	need	along
food	because	read	still	night
saw	thought	left	keep	took
different	next	hear	together	sentence
live	small	show	sun	story
well	every	end	us	land
any	want	don't	got	never
school	something	found	Mrs.	always
even	earth	eat	great	play
under	last	boy	father	began

Fifth fifty:

give	white	dog	told	ran
below	soon	door	country	page
also	let	once	white	world
head	hard	enough	large	eyes
grow	hearts	near	I'm	high
set	side	kind	year	ever
paper	until	oh	letter	might

DEC 29 1950

it's	should	top	fish	four
morning	sometimes	didn't	car	few
I'll	own	draw	city	move

Sixth fifty:

sure	vowel	far	red	both
miss	almost	today	means	turn
feet	ground	cold	hand	warm
tree	sea	inside	green	without
knew	heard	run	gave	between
often	try	cried	across	short
add	money	fast	yes	stop
better	box	answer	learn	family
room	cut	best	can't	form
such	thing	light	change	black

Seventh fifty:

those	stood	girl	animal	stay
am	table	sat	important	toward
horse	moon	bird	really	feel
front	song	town	soil	young
seen	miles	cannot	ball	himself
ready	baby	fire	hot	fly
eggs	beautiful	call	sky	cat
body	second	plant	study	hold
whole	above	talk	ago	face
blue	leaves	that's	spell	wind

Eighth fifty:

window	open	winter	fine	happened
done	book	milk	nothing	everything
half	six	goes	catch	gone
true	glass	gold	everyone	order
walk	ice	rain	legs	sleep
dark	start	river	grass	strong
sing	ten	garden	listen	anything
summer	five	Indian	someone	try
outside	watch	piece	happy	let's
behind	road	boy	being	snow

Final thirty-two:

tall	class	slowly	tiny	against
round	fun	woman	friend	covered
care	street	hole	kept	wood
store	space	remember	ride	bright
built	bed	ship	tail	game
hit	complete	stand	seeds	rest
maybe	carry			

APPENDIX K

WORD CARDS

a. Teacher's Index Card
b. Student's Word Cards

along

night

took

sentence

story

land

never

always

play

began

give

Student's Word Card

(The student cut along the broken line and kept the cards in alphabetical order in a clear plastic envelope)

began

Teacher's Index Card (These cards were kept in alphabetical order in a file box)

APPENDIX L

SIGHT WORDS

about	after	again	air
all	along	also	always
am	and	another	any
are	around	as	asked
at	ate	away	back
backtrack	backward	bag	be
beach	because	been	before
began	below	berries	buy
birthday	blade	boat	bought
boy	Brian	brother	bush
but	buy	by	called
came	camp	camp-site	can
can't	car	children	coins
collect	collects	comb	come
control	could	country	crackers
day	did	didn't	different
do	does	dog	dollars
don't	door	down	draw
drive	each	earth	eat
end	enough	even	every
farms	father	fifth	find
fire	first	fish	followed
food	forward	found	from
garage	get	give	given
go	going	good	got
grade	great	grow	had
has	hard	have	he

head	hear	hearts	help
her	here	hiked	hiking
him	his	home	hook
house	how	I	if
I'll	I'm	in	into
is	its	it's	Jay
just	keep	kind	know
land	Lansing	large	last
left	let	letter	like
likes	line	little	live
long	look	lost	lots
made	make	man	many
may	me	men	mile
mom	money	more	morning
most	mother	Mr.	Mrs.
much	must	my	name
near	need	never	new
next	night	no	not
now	number	off	oh
old	once	one	only
onto	or	other	our
out	over	own	paper
part	people	picture	place
play	pump	put	quiet
read	remote	remote-control	rip
right	round	row	said
same	saw	say	scare

school	see	sentence	set
she	should	show	side
site	small	so	sold
some	something	sometimes	soon
sound	state	Steven	still
story	sun	switch	switch-blade
take	tell	ten	than
that	them	there	these
they	think	this	thought
three	through	time	to
together	told	too	took
top	track	trail	tricks
two	under	until	up
us	use	valley	Valley-Farms
very	walked	water	way
we	well	went	were
what	when	where	which
white	who	why	will
with	woods	word	work
would	write	year	you
your	zoo		

My brother has [illegible].

My other brother has lots of money.

APPENDIX M

READING PASSAGES

Dictated stories (Language Experience)

July 1

I like to collect coins.

My coy can do tricks.

My brother has fish.

My other brother has lots of money.

July 3

I like to camp.

I like to pump up my boat and row in the water.

I can't fish because the hook may rip the boat.

July 8

I went to a garage-sale.at a drive-in.

Lots of people from all over the state came and sold things.

I bought a comb switch-blade for two dollars.

July 15

Next year I will be going to [redacted] School near my house in Lansing.

I am going into fifth grade.

I am going to scare them with fire crackers.

Read these sentences July 15

1. My brother and I went to the drive-in.

2. I bought a pump for two dollars.

3. My two brothers bought a lot of fish hooks.

4. People came from all round to see my tricks.

5. I sold a pump, hooks, a boat, two fish, a comb, a switch-blade and coins at the garage-sale. My two brothers bought a lot of things

6. My baby dog can't fish but he can do a lot of tricks.

Read these sentences July 24

I will be going onto fifth grade next year.

My school is called [illegible] School and it is near Lansing.

My house is next to the drive-in and a garage.

I am not going to scare my brothers with fire-crackers.

My other brother can't go to the camp-site because he can't find the trail.

His baby brother was quiet.

Dictated stories (cont.)

July 22

We left our camp-site to go hiking.

We went to the trail called Quiet Trail.

We hiked through the trail and we got onto the beach.

We walked for a mile and followed another trail into the woods.

Then we got lost.

We found a huckle-berry bush and ate all the berries.

My mom said we should backtrack to the camp site.

July 31

I was given ten dollars for my birthday to buy a remote 7-31

control car.

The car can go backward, forward, left and right.

You have to put five batteries in it before it will work.

I enjoy playing with it.

Read this snort story August 4

My brothers and I went hiking in the woods near [redacted] school.

I got lost.

I left the trail and walked for two miles through the woods.

I ate berries because I was lost.

The berries were near the trail.

I walked and walked for miles and miles.

I saw lots of people near a beach.

A baby was near the water.

I saw my two brothers near our camp-site.

They said,"Jay were you lost in the woods?"

Next year when I am in fifth grade I will not get lost.

Read these sentences August 21

1. I can't see a switch-blade but I can see my two brothers near my school.
2. I like to collect coins, fish, cars and fire-crackers.
3. My brother can fish from the beach. My other brother likes to hike in the woods. I like to fish and hike.
4. Next year I will buy another remote-control car for my birthday.
5. When I am in fifth grade I will not drive a car to school.
6. Some people like my brother because he can do tricks with coins.
7. I can hook these fish when I pump up my boat.
8. We walked into the valley, through many farms,and I got lost.
   We followed a trail into the woods and we ate berries.
   We walked for miles and miles through the quiet bush then we came to our camp-site on the beach.

1. He put his brother's money near their car.
2. Two people from near [redacted] School bought my boat.
3. Next year I will walk down the trail without my brothers. I will not get lost in the bush.
4. Steven said, " I got ten dollars for my birthday. I will buy lots of things. I want a remote-control car, two fish, a comb and some coins. What do you want for your birthday, Jay ?"
5. What is that little word? This word is 'no'.
6. He has given each of his dogs some water and some food.
7. The people went hiking in the woods near our camp.
8. I ate the berries we found near the beach.

1. My brothers could not find our dog. Elsie got lost when we went for a walk in the woods. Steven said to Brian, "Will we find Elsie? We will have to walk on the trail through the woods and call out for her." They walked for two miles. When they came to the beach Brian said, "Steven, you walk back to the camp-site on that track and I will go on this one." Brian walked to the left and Steven walked to the right. They walked back to the camp. When they got there, they saw Elsie near the car. Jay had found her and he had given her some water and food.

2. Mom said," Jay , could you make some long words from your little words?" Jay put these words near each other:

fire	and	crackers	to make	fire-crackers
camp	and	site	to make	campsite
back	and	track	to make	backtrack
drive	and	in	to make	drive-in
valley	and	farms	to make	Valley-Farms
school	and	house	to make	school-house
switch	and	blade	to make	switch-blade
remote	and	control	to make	remote-control
some	and	one	to make	someone

"There!" said Jay " I did it. Am I right?"

Read this short story September 3

Jay lost his new comb switch-blade. He looked and looked for it but he could not find it. He walked through the woods near the farm to the beach. He looked near the berry bush. He could not find it. When he got to his house, he said to his mom, "I have lost my new comb. The one I bought for my birthday. Have you seen it around the house? I have looked around the house, near the school, in the garage, on the track and on the beach. I just can't find it! Where could it be?" Mom had not seen it. She said," Jay , have you looked in your school bag?" Jay looked there. There it was!

Read this story September 11

Brian said to Jay, " Can you make some words that sound like other words?"

" I can try, can't I? " said Jay .

each	trick	will	back	grade	school
beach	flick	pill	lack	trade	pool
peach	sick	shrill	track	spade	tool
bleach	lick	fill	smack	shade	cool
preach	chick	chill	shack	fade	fool

"There! I made up a lot of new words. Steven, can you try it too? "

Steven made these word families.

long	found	when	about
strong	round	then	shout
along	hound	ten	lout
	mound	pen	spout
	sound		trout

Steven said, "There! I can't do any more words. You won, Jay!"

Read this story (Part 1)

September 16

Jay and Elsie went for a walk down the road for about three miles. They came to an old farm. Jay thought he would like to look around the farm-house. He thought he was a little scared because the house was very, very old. There was a track from the house to an old well and an old water-pump. Jay could see another well in the valley about a mile away.

A long way off, Jay could see some people working on a farm near a school. He could see their children playing nearby. Jay thought," Who are those people? Are they farmers? Do the children go to [illegible] School? Do I know them?"

Just then, Jay saw a new car driving up the track to the house. The farmer who lived in the house was in the car and he locked mad! Jay and Elsie ran down the trail to the people working on the farm. Jay thought the farmer would follow them. He looked back again and again. The man did not follow them.

Jay said to Elsie," Come on Elsie, I want to run home. I don't think the farmer likes children. He looked mad! I want to ask Dad about the farmer and the old farm-house."

September 23

Brian and Steven asked Jay to take them to the old house on the farm. Jay didn't want to go there again because he knew the farmer did not like children. Jay said to his brothers, " Steven and Brian, why don't we go and see the farmers who are working near the school? Their children are there too. They may like to go hiking with us."

Steven was mad! He only wanted to go to the old farm-house. Brian said " Jay , I will go with you to see the children near your school. Do you know any of them? Do they go to your school?"Jay and Brian walked along the track to [redacted] School. They walked for a mile before they could see the farmers and their children. The people on the farm saw Jay and Brian and one old man said," Good-day boys! Do you live near here? Would you like to play with our children?" Another man called the children to come over. He said," This is Jay and that is Brian. They live nearby. They want all of you to hiking along the bush trial. Do you want to go?"

Jay , Brian and ten children went along the trail

Read this story (Part 3)

September 30

Brian, Jay and the children from the farm near the school walked and walked along the trail. Some of the small children ate the berries Jay found and asked him to find more for them to eat. Jay looked around in the bush but he could not see any. Everyone walked on until they came to the beach and some rowing boats that were in the water.

Brian asked the man near the boats if he could use one of them to show the children how to row. The man said that they could have two boats and they did not have to give him any money for them. The children in Jay's boat began to row their boat away from the beach. They called to the children in the other boat, "Come on! Come to the other side of the lake. Row fast! Row fast!" The children all liked the boat ride.

When they came back, they walked back to the trail. Brian said, " We must stay together. We don't want to get lost in the bush. " Some of the children were scared because it was late.

As they walked along, Jay heard something move in the bush nearby. He said, "What was that? Something made a sound over there! Brian, can you see anything?"

What made the sound? What made Jay scared? Was it something big?

You will have to read the next story to find out.

Read these sentences: October 6

1. Brian could see some fish below the boat. Steven looked too but he couldn't see anything.
2. Jay made these word families from his words:

live	end	night	went
hive	lend	right	rent
strive	bend	bright	tent
drive	trend	light	lent
arrive	fend	fright	scent
		flight	

"I like doing this,"said Jay . "Can I do some more?"

3. Mom went to the shop and bought many things. Here are the things she bought for my birthday:

one	remote-control car
three	fire crackers
one	boy's bike
one	rowing boat
five	story books
one	switch-blade comb
three	tricks
one	picture.

She put the things in a big box until my birthday.

4. Father wrote a story about two brothers who got lost as they were walking along a bush trail. Father thought the boys were lost but they were not. They had been playing on the beach and in a rowing boat.

Read this story (Part 4)

October 17

Brian could not hear the sound. Jay thought he heard it again but this time the sound came from the left side. The children looked at Brian and Jay . They were scared! Just then, Jay called out "Who is there? What do you want? Why do you want to scare us?"

The sound could not be heard anymore so everyone walked on. A little way along the track, Brian heard the sound.

Jay and the children heard it too. They all came together because they were scared. Brian said,"Don't be scared children. I think it may be a dog. The dog could be following us and when we stop it stops too. Come on, let us walk on."

When they got back to the farm where the people were working, an old man saw the children and said," Did you have a good time? Did you learn to row a boat? Why do you all look so scared?" A little boy told the man that they had had fun at the beach but that they were scared."What scared you?" asked the man. The little boy was about to say something when Brian began to laugh. He laughed and laughed and Jay began to laugh too. They could see Steven near the school-house. Steven had followed them to the beach.Steven was the sound in the bush! He had wanted to scare Brian, Jay and the ten little children as they walked along the bush track.

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