Review of terminology and pupil placement factors pertinent to elementary school reading centers

Carol O. Endl

Follow this and additional works at: https://digitalcommons.stritch.edu/etd

Part of the Education Commons

Recommended Citation
https://digitalcommons.stritch.edu/etd/799

This Research Paper is brought to you for free and open access by Stritch Shares. It has been accepted for inclusion in Master's Theses, Capstones, and Projects by an authorized administrator of Stritch Shares. For more information, please contact smbagley@stritch.edu.
A REVIEW OF TERMINOLOGY AND PUPIL PLACEMENT FACTORS PERTINENT TO ELEMENTARY SCHOOL READING CENTERS

by

Carol O. Endl

A RESEARCH PAPER
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION (READING SPECIALIST) AT CARDINAL STRITCH COLLEGE

Milwaukee, Wisconsin
1971
This research paper has been approved for the Graduate Committee of Cardinal Stritch College by

Sister Marie Colette (Advisor)

Date March 4, 1971
ACKNOWLEDGMENTS

Special acknowledgment is made to Sister Marie Colette, advisor, for her thoughtful evaluation of this research paper and the kindesses and consideration shown the writer of this paper.

Acknowledgment is made to Solveig, the writer's Mother, for her encouragement and willingness to relieve the writer of many daily chores.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. THE PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>II. A REVIEW OF LITERATURE</td>
<td>5</td>
</tr>
<tr>
<td>III. THE SUMMARY</td>
<td>70</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>74</td>
</tr>
</tbody>
</table>
LIST OF FIGURE

Figure
1. Analysis of Pupil Placement in the Shorewood Public Schools Skill-Development Rooms ... 3

LIST OF TABLES

Tables
1. Expected Levels in Reading for Slow Learning Children ......................... 11
2. Instructional Reading Level ....................... 15
3. Independent Reading Level ...................... 16
4. Frustration Reading Level ....................... 17
5. Naming the Pupil Candidate ..................... 22
6. Diagnostic Responsibility ....................... 27
CHAPTER I

THE PROBLEM

Introduction

"The vast majority of children grow in reading with relatively desirable and consistent patterns of proficiency."¹ The ability of all children in our schools to read to their capacity is the goal parents, educators and society in general have envisioned. However, the key word in the introductory sentence is majority. Unfortunately, educators have not been able to substitute the word all for majority. Bond and Tinker estimate that from 10 to 25 per cent of our nation's children are seriously retarded in reading.² Harris states that one-fourth of the pupils in a classroom feel they are poor readers and as many as one-third are in need of special help if the above average student, who may not be achieving to his intellect, is included.³ Further, the Harvard Reading Report states that:

There are and probably will continue to be children who make little or no progress during some stage of their

²Ibid., p. 17.
reading development. Difficulty may be experienced either during the initial stages of learning to read or at some later point of development.1

Although a problem of achieving reading success for many children exists, it is not a new phenomenon for the United States. Smith notes that innovative studies by reading authorities concerning diagnosis and remediation of reading problem in the United States appeared between the years 1910 and 1925. With these studies new terminology as reading disability, reading deficiency and remedial reading appeared on the scene. Studies continued and in 1950 took a more vigorous approach as funding became more liberal.2

Liberal funds are being made available by the government to finance reading research, to buy more reading materials, to equip remedial reading centers, to establish institutes for those wishing to improve their teaching of reading, and to provide fellowships for those wishing to specialize in reading.3

Significance of the Study

Today with increased emphasis in the area of the diagnosis and remediation for children with reading problems, the lay person and educator are exposed to a more technical and greatly increased vocabulary describing varying degrees and causes of reading problems. Words such as corrective

---


2Nila Banton Smith, "Reading: Seventy-Five Years of Progress," in Reading: Seventy-Five Years of Progress, ed. by H. Alan Robinson (Chicago: University of Chicago Press, 1965), pp. 4-6.

3Ibid., p. 9.
or remedial reading, primary or secondary reading retardation and dyslexia are but a few that now appear. Too, the educator himself approaches pupil diagnosis for special reading assistance from a variety of methods; ranging from teacher judgment to reading age score compared to reading age and pupil potential.¹ The writer has reviewed literature pertaining to two of the aforementioned; terminology and pupil placement in public elementary school reading centers.

**Purpose**

The literature reviewed serves as a basis for evaluation of current defined procedures used for pupil placement in the Shorewood Public Schools Skill-Development Rooms. Present procedures were established to be tentative allowing for reevaluation based on experiences encountered and local conditions. Present procedures are reevaluated as diagrammed below.

![Diagram of Pupil Placement Procedures in the Shorewood Public Schools Skill-Development Rooms](image)

Statement of the Problem

This paper reviewed literature pertaining to criteria for pupil placement in elementary public school reading centers. Current literature was examined to answer the following questions:

1. What terminology pertinent to pupil reading diagnosis was consistently used by authorities?
2. What terminology related to pupil reading diagnosis was of a distinctive nature; not consistently used by authorities?
3. What factors are to be considered of primary importance for pupil placement in reading centers?
4. What factors are to be considered of secondary importance for pupil placement in reading centers?
CHAPTER II

A REVIEW OF LITERATURE

Terminology Pertinent to Pupil Reading Diagnosis
Consistent in Usage by Authorities

Naming the Pupil Candidate

The first avenue of review would be selecting a word or phrase to define pupil candidates for placement in a reading center room. Authorities vary in terminology, semantics and syntax. Carter and McGinnis succinctly summarize the problem.

Such terms as the retarded reader, the disabled reader, and the maladjusted reader need clarification. There is one factor common to all three terms and that is the inability to read effectively in various situations. In general, the expressions are synonymous and have the same connotations, if not the same denotation.¹

Diagnosis of the Pupil Candidate

The term diagnosis itself is consistently used by reading authorities. It is consistent as a necessity prior to assisting children with reading problems. However, it is distinctive in depth, breadth and approach. Pollack and Pierkarz note this.

There is no one formula or prescribed procedure for the diagnosis of reading problems. In diagnosing as well as in correcting reading problems some people place emphasis on some things and other people place emphasis on other things, depending upon their background, training and previous experience.

Classification of Pupil Candidates

Following a review of terms appropriate for pupils placed in reading centers and diagnosis of pupil candidates, the writer reviewed classification of pupils. The writer found three categorizations used by more than one author and two classifications in which the authors' definitions differed. The three categorizations of agreement are listed below. They may be used separately or together.

The primary, secondary and brain-injured classification was coined by Rabinovitch and associates as the result of a project at the Children's Service of the Neuropsychiatric Institute at the University of Michigan. The three categories are defined below.

1. Those in whom the reading retardation is due to frank brain damage manifested by gross neurologic deficits. In these cases there are clearly demonstrable major aphasic difficulties, and they are similar to adult dyslexic syndromes. An example is that of a nine-year-old boy who sustained a severe head injury with prolonged coma, followed by a right hemiparesis and expressive aphasia.

2. Those with no history or gross clinical findings to suggest neurologic disease but in whom the reading retardation is viewed as primary. The defect appears to be in basic capacity to integrate written material and to associate concepts with symbols. On the basis of findings to be presented later in this paper a neurologic deficit is suspected and,

---

because the defect is basic or biologic in its origin, we have called these cases primary reading retardation.

3. Those cases demonstrating reading retardation on standard tests but in whom there appears to be no defect in basic reading learning capacity. These children have a normal potential for learning to read but this has not been utilized because of exogenous factors, common among which are anxiety, negativism, emotional blocking and limited schooling opportunities. We diagnose these cases as secondary reading retardation.¹

Thompson, a neurologist as is Rabinovitch, employs the same classifications with minor variation.

1. Acquired organic damage in the central nervous system;
2. Emotional, environmental, or psychological disturbances;
3. Innate or constitutional factors.²

Thompson's only discrepancy with Rabinovitch occurs when category three is referred to as a "specific reading disability" or "developmental dyslexia" rather than primary reading disability.³ While not stated, it appears to the writer that category two would be synonymous with secondary reading disability. Kaluger and Kolson, while using the terms normal achiever, corrective readers, and remedial readers, subdivide the remedial readers into two categories. Their earlier book classified remedial readers as secondary or primary reading disabilities while their latest book


³Ibid.
substitutes the term primary learning disability for primary reading disability.¹

The disabled reader whose learning mechanism is intact, and who has the mental ability to learn but has a severe educational deficiency in reading skills, is referred to as a Secondary Reading Disability case. Secondary reading disability is an acquired reading disability, acquired in the sense that the disability was incurred because the child failed to "acquire" the necessary skills, even though he had the potential, organically and intellectually, to learn.²

Second, there is the disabled reader who has at least average mental ability but whose learning mechanism is not intact or fully developed and as a result has a perceptual handicap or a learning disorder. We refer to this type of a remedial reader as a Primary Learning Disability case. The physiological mechanism for learning is defective or not developed. The problem is organic and may be sensory, neural, or motor.³

Kaluger and Kolson have incorporated into the primary learning disability Rabinovitch's brain-injured category.

A most important statement by the authors is that at present, primary learning disability can only be considered a hypothesis.⁴

Bond and Tinker and Dechant classify children into four levels of retardation.

1. Children who are significantly retarded in reading but who show no unusual or limiting characteristics about their reading patterns and also no personal rejection of reading and no disturbance about it,


²Kaluger and Kolson, Reading and Learning Disabilities, p. 51.

³Ibid., p. 52.

⁴Ibid.
can be effectively treated in the regular classroom. They are cases of simple retardation.

2. Children best described as cases of specific retardation are those who are severely limited in one or more areas of reading but who demonstrate that they have developed the general basic skills and abilities well enough to be able readers in other areas.

3. The child who has serious deficiencies in basic reading skills and abilities which impede his entire reading growth is best described as having a limiting disability.

4. Children who are best described as complex disability cases include the disabled readers whose problems are more subtle and complicated. These children are always severely retarded in reading.¹

Dechant concurs with Bond and Tinker save referring to simple retardation by the use of the term "general retardation."²

Moburg and Robinson are in agreement as the former accepts Robinson's classifications based on the word under-achiever. Dechant also, describes and uses this classification with some modification. The first grouping is the slow learner with an intelligence quotient in the 70 to 90 range. This child will progress at a slower rate in all academic areas. His reading attainment has not reached his potential. The second grouping includes those in the 90 to 110 intelligence range. The child whose reading is not to his intellectual capacity is a retarded reader. Two aspects to be aware of with this child are his ability to


speak better than he writes and the fact he will learn more from listening than reading. The third grouping is classified as the bright underachiever whose intellect is in the 110 to 180 I.Q. range. His academic achievement may be average or above average but he is not reading to his potential. The fourth grouping is classified as the reluctant reader. The child can read to his ability and there are no impaired reading skills. However, the child never chooses to read for pleasure. The last group is that of the socially and culturally deprived who lack the background to adapt to the middle class educational structure. The problem of educating these children has been on the American scene for a long period but now is most prevalent in the larger cities. Dechant also described this classification but groups the retarded and bright underachievers into one group called the "retarded reader." 

Educational Terminology: I.Q. Classification

A table of intellectual classification has been included for reference as authorities frequently allude to I.Q. No significant disagreement with the following has been expressed by other authorities.


2 Dechant, Diagnosis and Remediation of Reading Disability, p. 9.
### TABLE 1

**EXPECTED LEVELS IN READING FOR SLOW LEARNING CHILDREN**

<table>
<thead>
<tr>
<th>I.Q.</th>
<th>Classification</th>
<th>Age of Beginning Reading</th>
<th>Minimum and Maximum Reading Achievement to Expect at Completion of Schooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 50</td>
<td>Mentally defective</td>
<td>14-16</td>
<td>Will learn only a few words. Reading instruction futile for school purposes.</td>
</tr>
<tr>
<td>50-59</td>
<td>Mentally handicapped</td>
<td>10-12</td>
<td>First to third grade</td>
</tr>
<tr>
<td>60-69</td>
<td>Mentally handicapped</td>
<td>9-10</td>
<td>Second to fourth grade</td>
</tr>
<tr>
<td>70-79</td>
<td>Borderline defective</td>
<td>8-9</td>
<td>Third to seventh grade</td>
</tr>
<tr>
<td>80-89</td>
<td>Dull normal</td>
<td>7-8</td>
<td>Fourth to eighth grade (some go through H.S.)</td>
</tr>
<tr>
<td>90-109</td>
<td>Normal or average</td>
<td>6-7</td>
<td></td>
</tr>
<tr>
<td>110-119</td>
<td>Bright normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120-139</td>
<td>Superior</td>
<td></td>
<td>do not begin reading too early because of vision</td>
</tr>
<tr>
<td>140-and up</td>
<td>Very superior</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1. A child's background (home, family, and environment) is very important in determining the extent to which a child will read and how soon he will read.
2. For IQ's of 70-79, many will read up to 7th grade level in textbooks, but on reading tests will score only on a 4th grade level.
3. Most newspapers are on a 5th to 7th grade level. Magazines vary from 5th grade to 9th grade level.

Educational Terminology: Modalities

In the context of the study of perception, the senses are spoken of as the modalities of perception. These modalities, in the order of the senses of sight, hearing, muscular, and touch are labeled as visual, auditory, kinesthetic, and tactile.¹

Davis further states it is important that three factors; discrimination, patterning, and memory be strong. An example is the visual where each letter must be properly identified, seen in correct order and remembered in that order.² The two modalities mentioned by authors were the auditory and visual.

Robinson, Spache, and Wepman use the term auditory discrimination similarly, while Harris applies the same connotation to the term auditory perception.³ Spache clarifies this with the following quotation.

Auditory discrimination differs from acuity in that the child apparently can hear the various isolated sounds but is unable to distinguish similarities and differences. He experiences difficulty with reading because each word is a pattern of sounds in itself.⁴


²Ibid., p. 31.


⁴Spache, Toward Better Reading, p. 7.
Robinson defines auditory memory span.

Some children are unable to hear sounds, which is called "lack of auditory acuity": others hear very well but are unable to discriminate between sounds which are similar, designated by the term "difficulty in auditory discrimination": still other children hear and discriminate but fail to remember the sounds, and these are said to have "short auditory memory spans" for sounds.¹

Spache and Strang provide short, inclusive definitions for the area of visual modality. Spache uses the terms visual discrimination or perception.

It may be very simply defined for our purposes as skill in distinguishing word-like shapes. Orientation to the left-to-right sequence of our symbols is another aspect of visual discrimination or perception.²

Visual imagery is described by Strang.

Visual imagery, which is ability to create mental images with photographic clarity—to "see it in the mind's eye"—has also been called "visual memory," "mental imager," "imagery," "inner perception," "re-perception," "visualization."³

Fennema, in a study at the University of Wisconsin, exploring the use of mental images by children during the reading process reveals one particularly interesting outcome. The more intelligent and faster readers form fewer mental images. Fennema feels it may be necessary for the slower reader to form more images to understand the reading material.⁴

¹ Robinson, Why Children Fail in Reading, p. 39.
² Spache, Toward Better Reading, p. 3.
³ Ruth Strang, Reading Diagnosis and Remediation (Newark, Del.: International Reading Association, Inc., 1968), p. 27.
The term dominance has been included in this section due to usage of the term and senses involved. "Dominance" is the term applied to the consistent choice of one hand, one eye, one ear, one foot or one side. The dominant cerebral hemisphere is on the opposite side from the dominant hand or foot.¹

Educational Terminology: Reading Levels

With two exceptions, most authors are in general agreement concerning the independent, instructional, frustration and capacity reading levels.

The capacity level was described in four books as a child's ability to comprehend seventy-five per cent of the material read to him.² Conklin did not give a percentage of comprehension but used descriptive terms to define the level as recalling the story, pronouncing words and supplying additional information. She states: "This gives a measure of the level which he can hope to achieve in reading."³

The other levels are found in Tables 2, 3, and 4.

²Bond and Tinker, *Reading Difficulties: Their Diagnosis and Correction*, p. 199.
⁴Kolson and Kaloger, *Clinical Aspects of Remedial Reading*, p. 62.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Word Recognition</th>
<th>Comprehension</th>
<th>Descriptive Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond and Tinker</td>
<td>95</td>
<td>75</td>
<td>Good rhythm, proper phrasing, without tension</td>
</tr>
<tr>
<td>Conklin</td>
<td>95</td>
<td>75</td>
<td>Needs moderate help</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Challenged</td>
</tr>
<tr>
<td>Della-Piana</td>
<td>Questionable 95-95</td>
<td>51-69</td>
<td>Speed--less than minimum</td>
</tr>
<tr>
<td></td>
<td>Definite 1/11 to 1/19</td>
<td>70-89</td>
<td>Speed--15 or more per minute</td>
</tr>
<tr>
<td>Dechant</td>
<td>95</td>
<td>75</td>
<td>Speed--less than minimum</td>
</tr>
<tr>
<td>Kaluger and Kolson</td>
<td>95</td>
<td>75</td>
<td>Needs moderate help</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Challenged</td>
</tr>
<tr>
<td>Kolson and Kaluger</td>
<td>95</td>
<td>75</td>
<td>Speed--less than minimum</td>
</tr>
<tr>
<td>Johnson and Kress</td>
<td>95</td>
<td>75</td>
<td>Needs moderate help</td>
</tr>
<tr>
<td>Walby</td>
<td>95</td>
<td>75</td>
<td>Speed--less than minimum</td>
</tr>
</tbody>
</table>
### TABLE 3

INDEPENDENT READING LEVEL

<table>
<thead>
<tr>
<th>Authors</th>
<th>Per Cent Word Recognition</th>
<th>Per Cent Comprehension</th>
<th>Descriptive Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond and Tinker</td>
<td>99</td>
<td>90</td>
<td>Few mechanical difficulties</td>
</tr>
<tr>
<td>Conklin</td>
<td>99</td>
<td></td>
<td>Reflect, evaluate as purpose dictates</td>
</tr>
<tr>
<td>Della-Piana</td>
<td>99-100 Errors 1/40</td>
<td>90-100</td>
<td>Speed--silent double oral</td>
</tr>
<tr>
<td>Dechant</td>
<td>99</td>
<td>90</td>
<td>Highest level fluently without assistance</td>
</tr>
<tr>
<td>Harris</td>
<td>Few errors</td>
<td>Very good</td>
<td></td>
</tr>
<tr>
<td>Johnson and Kress</td>
<td>99</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Kalugger and Kolson</td>
<td>99</td>
<td>Meaning 95 Inter. 90</td>
<td>Level of supplementary reading</td>
</tr>
<tr>
<td>Kolson and Kalugger</td>
<td>99</td>
<td>90</td>
<td>Few mechanical errors</td>
</tr>
<tr>
<td>Walby</td>
<td>95</td>
<td></td>
<td>Reads fluently</td>
</tr>
<tr>
<td>Authors</td>
<td>Per Cent Word Recognition</td>
<td>Per Cent Comprehension</td>
<td>Descriptive Words</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------</td>
<td>------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Bond and Tinker</td>
<td>50</td>
<td>50</td>
<td>Many errors, may refuse to continue reading</td>
</tr>
<tr>
<td>Conklin</td>
<td>90</td>
<td>Limited understanding</td>
<td>Poor phrasing, vocalization, inserts, omits</td>
</tr>
<tr>
<td>Della-Piana</td>
<td>94 or less Errors 1/10 or less</td>
<td>50 or less</td>
<td>Speed—silent less than oral</td>
</tr>
<tr>
<td>Dechant</td>
<td>Less than 90</td>
<td>Less than 75</td>
<td>Tension, strain, easily distracted</td>
</tr>
<tr>
<td>Harris</td>
<td>90-95 depends on material</td>
<td>50</td>
<td>Head movement, finger pointing, tension, withdrawal, substitutions, repetitions</td>
</tr>
<tr>
<td>Johnson and Kress</td>
<td>90</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Koluger and Kolson</td>
<td>Less than 70</td>
<td>70-75 Inter., below 60</td>
<td></td>
</tr>
<tr>
<td>Kolson and Kaluger</td>
<td>90</td>
<td>50</td>
<td>Tension, strain, easily distracted</td>
</tr>
<tr>
<td>Walby</td>
<td></td>
<td></td>
<td>Child breaks down in reading</td>
</tr>
</tbody>
</table>
Disagreement with authors who are generally in agreement on the reading levels comes from Spache and Powell. Spache states that in standardizing the Diagnostic Reading Scales, sixty per cent comprehension was the actual minimum rather than the "... much higher arbitrary standards of Betts and Smith." Powell comments on the Betts' levels adapted by many.

In spite of questions yet unresolved, there is strong evidence to conclude safely that the widely used Betts criterion of word-recognition for determining the instructional reading levels through the informal inventory should be held suspect. Betts originated an excellent device for evaluating reading. Perhaps, if the informal inventory could be viewed more as a methodology with defined guidelines and less as a test instrument, attempts would constantly be made to perfect those guidelines.

Educational Terminology: Test-Related

1. Auding is a term which refers to listening comprehension. Strang defines this as "... one indication of reading potential."³

2. Diagnostic and survey tests are terms which occur often. Wilson in one definition and Strang, McCullough and Traxler in another draw together for the reader a clear picture of the two. Wilson in referring to diagnostic batteries in a single unit states: "These tests are designed

---

¹George D. Spache and Evelyn B. Spache, Reading in the Elementary Schools (Boston: Allyn and Bacon, 1969), p. 246.

²Dorothy L. DeBoer, ed., Reading Diagnosis and Evaluation, p. 108.

³Strang, Reading Diagnosis and Remediation, p. 14.
for use by the reading specialist for a rather complete educational analysis on a given child.\footnote{1}

The terms diagnostic tests and survey tests are often used as if these two kinds of tests were clearly differentiated, but there is no clear dividing line between the two. An achievement test which yields only one score is not inherently diagnostic, although even this kind of test might be used in a diagnostic way if a user wished to take the trouble to group the questions testing similar abilities and to study the answers with care.\footnote{2}

3. The informal reading inventory is a test used to establish the reading levels as instructional, independent, frustration, and capacity. It may be standardized or teacher made and includes materials for both oral and silent reading. "The informal reading inventory (I.R.I.) is an informal diagnostic tool used to determine the student's strengths and limitations in word analysis and comprehension skills, and his level of reading ability."\footnote{3}

Medical Terminology

Auditory acuity refers to keenness of hearing.

In the area of vision more technical terms appear. "Any visual defect may cause dissatisfaction, discomfort, and disinclination to read. Therefore a visual screening

\footnote{1}Robert M. Wilson, Diagnostic and Remedial Reading for Classroom and Clinic (Columbus, Ohio: C. E. Merrill Books, 1967), p. 94.


test should always be included in any study of an individual's reading. 1

The terms which the reader may encounter are defined alphabetically below.

1. **Acuity** refers to the clearness of vision.
2. **Anisodominance** refers to better vision in one eye than the other.
3. **Aniseikonia** occurs when the size or shape of the image is unequal.
4. **Color recognition** refers to recognizing colors accurately.
5. **Fusion** is considered by Wilson to be a separate entity while Eames considers it a subdivision of the larger grouping, heterophoria. "Fusion involves the ability of the brain to blend or fuse an image from each into an adequate image." 2
6. **Heterophoria** is imperfect fixation and according to Eames appears to cause little difficulty at far point but may cause problems at near point. 3 Included in heterophoria is esophoria denoting eyes tending to turn inward, exophoria which finds the eyes turning outward, hyperphoria in which one eye drifts above the other when the child is tired, and fusion difficulty.

1. Strang, McCullough and Traxler, *The Improvement of Reading*, p. 5.
2. Wilson, *Diagnostic and Remedial Reading for Classroom and Clinic*, p. 44.
7. **Ocular motility** refers to the eye in motion.

8. **Refractive errors** occur: "When the eyes are out of focus, as a camera is when set for the wrong distance . . . "¹ This includes myopia, or nearsightedness, which may favor the reader rather than hinder and hypermetropia, or farsightedness, for which the child can compensate by using focusing muscles which cause constant strain.

Studies have also been made of endocrine glands and their functioning.

Many investigations of the effect on learning of endocrine gland defects and deficiencies have been made, and there is general agreement that some of these sometimes interfere with the process of learning to read.² Pituitary gland disturbance may cause mental retardation or visual field defects with reduced eye span. A thyroid gland disturbance known as hypothyroid in either mild or moderate form when undetected " . . . usually presented such manifestations as increasing preoccupation, apparent laziness, daydreaming, lack of interest, poor attention, slowing down of word perception, and inability to complete assignments."³ Disturbances of the adrenal gland were also explained. "The adrenal glands, like the thyroid affect drive, but deficiencies are not as closely related to the functions necessary to good reading. Fatigue, lack of aggressiveness, and occasional psychological problems are seen among pupils with adrenal difficulties."⁴ Diabetes mellitus is a problem only when

---

³ Natchez, *Children With Reading Problems*, p. 142.  
not detected. However visual problems are common and even cataracts in children are not unusual.

**Terminology Pertinent to Pupil Reading Diagnosis**

**Distinctive in Usage by Authorities**

**Naming the Pupil Candidate**

The terminology used to denote children to be considered for placement in a reading center was found by the writer to number twelve. Authors, themselves, do not always use one term consistently. Alphabetically the terms range from atypical children to underachiever. Preferences of authors have been tabled below.

**TABLE 5**

**NAMING THE PUPIL CANDIDATE**

<table>
<thead>
<tr>
<th>Term</th>
<th>Author/Authors Designating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atypical children</td>
<td>Monroe</td>
</tr>
<tr>
<td>Difficulty in reading</td>
<td>Davis, Gofman</td>
</tr>
<tr>
<td>Disabled Reader</td>
<td>Buerger, Kolson and Kaluger</td>
</tr>
<tr>
<td>Learning disability</td>
<td>Meier</td>
</tr>
<tr>
<td>Problem Reader</td>
<td>Wilson</td>
</tr>
<tr>
<td>Reading disability</td>
<td>Harris, Jampolsky, Kaluger and Kolson, Roswell and Matchez, Straang</td>
</tr>
<tr>
<td>Reading and learning disabilities</td>
<td>DeHirsch, Kaluger and Kolson</td>
</tr>
<tr>
<td>Reading retardation</td>
<td>Orton, Rabinovitch and Ingram</td>
</tr>
<tr>
<td>Retardation: levels of/or in reading</td>
<td>Bond and Tinker, Dechant</td>
</tr>
</tbody>
</table>
TABLE 5--Continued

<table>
<thead>
<tr>
<th>Term</th>
<th>Author/Authors Designating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retarded reader</td>
<td>Betts, Belmont and Birch, Carter and McGinnis, Cohn and Cohn</td>
</tr>
<tr>
<td>Special reading difficulty</td>
<td>Harris</td>
</tr>
<tr>
<td>Underachievers</td>
<td>Robinson</td>
</tr>
</tbody>
</table>

Diagnosis of the Pupil Candidate

The teacher or reading specialist wishing to become proficient in the diagnosis of reading disability has a tremendous but interesting task ahead.¹

Diagnosis is different in depth, breadth and approach.

Bond and Tinker give eight general principles of diagnosis. Diagnosis directs itself to methods of improvement, extends beyond appraising reading skills, is efficient, limits itself to pertinent information, relies on standardized tests, uses informal procedures for extended diagnosis, evaluates score patterns, and is continuous. It may be etiological which is not always feasible or therapeutic. Bond and Tinker prefer a therapeutic diagnosis. Diagnosis may be general diagnosis which locates areas of reading weaknesses through use of cumulative folders, mental abilities, achievement levels and locates those in need of further analysis. It may be an analytical analysis which locates specific strengths and weaknesses. The most thorough is

the case study approach delving into the explicit weakness as which blend needs strengthening, assessing all areas of the physical, exploring the child’s reaction to reading and investigating the environmental factors. The case study approach is desirable in many cases but prohibited by expenses.¹

Carter refers to the clinical study of the child. He believes diagnosis will include many facts. As more facts accumulate, the most relevant take precedence and others become superficial. Several diagnoses may be necessary but all are scientifically oriented.²

Cohn and Cohn suggest continuous diagnosis which extends from pupil assessment, including self-image, to interaction with peers, family and teacher, to educational history and finally to evaluation of environmental influences.³

Davis' one statement regarding diagnosis is that it should be in the hands of specialists.⁴

Dechant's approach is: "Diagnosis is a blueprint for instruction."⁵ The author feels that diagnosis which

¹Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, pp. 152-158.
²DeBoer, Reading Diagnosis and Evaluation, pp. 17-20.
³Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, pp. 15-16.
⁵Dechant, Diagnosis and Remediation of Reading Disability, p. 2.
provides early identification of problems, corrects the problem.

Harris considers reading diagnosis a learning process to be done in varying degrees. Both the past and present factors causing the reading difficulty should be explored. His stress is on the correct procedure and interpretation of data.¹

Kaluger and Kolson consider diagnosis a three step procedure; preliminary diagnosis assesses the mental ability and evaluates reading and other academic areas, differential diagnosis discovers if the problem is perceptual or educational and therapeutic diagnosis evaluates specific reading skills. The authors state informal diagnosis will suffice for most pupils but standardized tests are needed for problem readers and etiological diagnosis is needed only in cases of extreme reading disability.²

Lipton uses a broad scope approach including in diagnosis; the child emotionally, linguistically, neurophysiologically, as a whole, his uniqueness, the interrelationships to family and others plus the environmental aspects. It is as a circle spiraling upward continuously.³

"Diagnosis of reading disabilities may be made on different levels of comprehensiveness, psychological

¹Harris, How to Increase Reading Ability, pp. 220-221.
²Kaluger and Kolson, Reading and Learning Disabilities, p. 118.
³Aaron Lipton, "Relating Remedial Strategies to Diagnostic Considerations," Reading Teacher, XXIII (January, 1970), 353-359.
depth, and competence."\(^1\) Strang begins with the surface level and proceeds through seven levels. The surface level is diagnosis of reading performance, level two explores the behavior influencing reading, level three analyzes the pupil's reading process, level four evaluates the mental abilities as visual memory and looks for areas which produce success, level five is a clinical analysis of personality traits and values, level six is neurological, and level seven involves introspection.\(^2\)

Wilson approaches diagnosis on three levels from classroom for the compilation of data, to reading specialist for thorough analysis, to clinical for children who have not responded to assistance by classroom teacher or reading specialist.\(^3\)

---

1 Strang, *Reading Diagnosis and Remediation*, p. 4.


3 Wilson, *Diagnostic and Remedial Reading for Classroom and Clinic*, pp. 16-17.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Not noted</th>
<th>Teacher</th>
<th>Implied teacher</th>
<th>Specialist</th>
<th>Implied Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond and Tinker</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Carter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Cohn and Cohn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Davis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Dechant</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harris</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Kaluger and Kolson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lipton</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strang</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilson</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Classification of Pupil Candidates

Three authors used the terms corrective and remedial in referring to children with reading problems. They are Harris, Schiffman and Kaluger and Kolson. The latter also use the term developmental. Harris briefly defines corrective as a remedial reading program carried on by the regular classroom teacher in small groupings and remedial as a program outside the classroom for children with reading problems.¹

¹Harris, How to Increase Reading Ability, p. 21.
Schiffman agrees with Harris as to the program aspect of corrective and remedial but extends beyond and designates the children for each. The corrective program is to include "... children without associative learning disability," while the remedial is "... for children with severe reading difficulty who are unable to make appropriate associations between visual printed symbols and their experiences."¹

Kaluger and Kolson in using developmental, corrective and remedial refer to pupils and not the program. Thus the developmental reader is one who performs according to his capacity, the corrective reader "... experiences some minor difficulty in reading," and the remedial reader, although capable, is functioning far below his potential.²

Harris refers to the programs while Schiffman and Kaluger and Kolson refer to the program and/or the reader.

Betts classified reading difficulties as general or specific. The former lack basic, elementary skills and the latter are weak in one or two specific areas.³

Monroe, in her classic study of children with reading difficulties, termed the group atypical. Her subclassifications were three in nature. "The group of children, in


which there is a variety of behavior and environmental problems, will be called the 'clinic reading cases.'\(^1\)

The special reading cases were those where the reading defect was the primary reason for referral and other complications were minimum. The defective reading cases were mentally slower than average and there were problems of school adjustment and behavior.\(^2\)

**Classification of Pupil Candidates: Dyslexia**

The reading disability referred to as dyslexia is not definable in a few words. It is also necessary to consider other terms when writing about dyslexia. The writer has therefore chosen to review this classification and related terms separately.

Reading disability with its accompanying disturbances in other language functions has been labeled under a variety of terms such as word-blindness, congenital word-blindness, strephosymbolia, specific reading disability, developmental dyslexia, reading retardation and even aphasia. This disparate terminology reflects the numerous concepts concerning the causes of reading disability.\(^3\)

Alexia, mentioned by Dechant, Hermann, Olson and Strang, is the complete or partial inability to read due to disease.\(^4\) Dechant refers to it as mild brain damage


\(^2\)Ibid., pp. 2-3.

\(^3\)Thompson, *Reading Disability: Developmental Dyslexia*, p. 155.

associated with reading difficulty.\(^1\) Olson, Olson and Duncan state it is the inability to read due to major or minor brain lesion.\(^2\) Strang refers to this as "... inability to identify verbal symbols," although the intellect is unimpaired.\(^3\)

Cerebral dysfunction is mentioned by Strang as a "... neurological disturbance, not definitely identified with actual brain damage."\(^4\)

Dyslexia is defined by some authors while other authors use symptoms in lieu of a concise definition. Benton uses specific reading disability and developmental dyslexia as synonymous terms. The definition employed is "... failure to learn to read on the part of a child (usually a boy) which cannot be ascribed to mental retardation, impoverishment of oral language, inadequate teaching or any other obvious factor."\(^5\)

Crosby and Liston define dyslexia as "... a symptom resulting from one or more of the various neurological impairments."\(^6\)


\(^2\) Olson, Olson and Duncan, "Neurological Dysfunction and Reading Disability," *Reading Teacher*, pp. 159-160.

\(^3\) Strang, *Reading Diagnosis and Remediation*, p. 77.

\(^4\) Ibid., p. 78.


DeHirsch uses the terms specific dyslexia and strephosymbolia synonymously.

The syndrome we call Specific Dyslexia or Strephosymbolia is a clinical entity and should be differentiated from reading disabilities of a secondary nature, which might have resulted from a variety of causes: physical illness, environmental pathology, poor teaching. Specific dyslexia, above all, should not be confused with learning disability. In the latter, difficulties with reading are the result of a personality disturbance. It should, however, be borne in mind that a dyslexic child when not helped early enough may develop a learning inhibition.

Kress defines dyslexia as an inability to make a three-way association between visual and/or oral language and meanings although the visual experiences were available.

Strang defines dyslexia as a severe reading difficulty that exists despite adequate instruction and motivation and without evidence of mental retardation, emotional problems or sensory defects.

Dechant has chosen to divide dyslexics into three categories: secondary, maturational and specific.

1. Secondary dyslexia is the most common form of remedial reading disabilities. A reader termed a secondary dyslexic has a more severe reading problem than one classified as a corrective reader. There are many causes but no brain pathology. The reader can be helped.

---

1 Natchez, Children with Reading Problems, p. 110.
3 Strang, Reading Diagnosis and Remediation, p. 78.
2. Maturational dyslexia involves some brain pathology. The neurological development is delayed but the pupil is capable of maturing.

3. Specific dyslexia is failure to learn to read although environmental, intellectual, education and sensory areas are adequate. There may be only minimal signs in the neurological area but there is some organic problem. Clues to this are discrepancies between verbal and non-verbal IQ with the latter significantly better, right-left confusion, speech difficulty, poor auditory discrimination, some evidence of prenatal difficulty, short attention span, and associative learning disabilities. The author classifies the specific dyslexic also in terms of the difficulty; auditory, visual and auditory-visual.¹

Kolson and Kaluger do not refer to dyslexia as a disorder in itself but rather as a symptom of primary reading disability. Dyslexia is characterized by rotations and reversals in reading past grade three, inability to see words in their entirety, motor area difficulty, poor comprehension, and slow rate of reading.²

Krippner speaks of developmental and post-traumatic dyslexia. The former is characterized by five of the seven Rabinovitch symptoms plus a fifteen-point difference between the verbal and non-verbal sections of the Wechsler

¹Dechant, Improving the Teaching of Reading, pp. 472-476.
²Kolson and Kaluger, Clinical Aspects of Remedial Reading, p. 31.
Intelligence Scale for Children, favoring the non-verbal scale. The seven Rabinovitch symptoms are: disturbed body image, poor revisualization, poor reauditorization, difficulty in conceptual thinking, and confusion in the areas of time, numbers and direction. Post-traumatic dyslexia is the result of damage to the central nervous system.¹

Money describes dyslexia as defective reading which may be organic or developmental. Money prefers the term specific dyslexia and feels that etiological and prognostic considerations are necessary. Money believes dyslexia is not always isolated from other areas as it may be part of cognitive and/or mental deficiencies. The prognosis is that of limited literacy.²

Olson, Olson and Duncan state that dyslexia is a mild form of alexia which is the inability to read and note symptoms such as reversals and translocation of letters and words, word-by-word oral reading, frequent repetition and guessing, deviant speech, confused direction, concept difficulty, and poorly formed letters.³


³ Olson, Olson and Duncan, "Neurological Dysfunction and Reading Disability," _Reading Teacher_, p. 160.
Preston feels dyslexic children are those with one common trait; Gestalt dysfunction. The symptoms are difficulty synthesizing whole words and association of visual symbols and associated sounds.\textsuperscript{1}

Rabinovitch does not use the term dyslexia but employs primary reading disability. The symptomatology is so similar and Rabinovitch so prominent that review of symptoms found by Rabinovitch to define primary reading disability is noted here.

When this material is examined, a characteristic pattern emerges. It must be strongly emphasized, however, that rarely if ever does a single patient exhibit all these deviations from the normal. Thus right-left confusion, various extinction or inattention phenomena, cortical sensory disturbances, mixed hand-eye preferences, non-specific motor awkwardness, dissociated dysgraphia, and speech and spelling abnormalities are all variously combined with reading disturbances.\textsuperscript{2}

Rankin uses the terms dyslexia and learning disabilities synonymously and names another group, minimal brain dysfunction. The dyslexia or learning disability group shows identifiable neurological symptoms. The child needs medical diagnosis first and then a psychological and educational diagnosis. This is a small minority of children. The diagnosis here should first be psychological and


Thompson prefers the three-level classification of readers. The third level classification most closely resembles the dyslexic discussion. He stresses some evidence of hereditary predisposition, innate endowment and developmental lag.  

Minimal brain dysfunction was noted only by Rankin as defining a larger group of children with reading problems.  

Strang identifies neurological disorganization or dysfunction as a condition difficult to remediad. Evidence of brain damage or disease is not evident but "... the individual seems to have a basic difficulty in integrating written material and associating concepts with symbols."  

The terms congenital word-blindness, word-blindness and strephosymbolia are of a more historic nature than reading-center-oriented.  

Educational Terminology: Formulas for Degrees of Reading Retardation  

Below are identified various formulas for identifying the degrees of reading retardation.  

---

2 Thompson, Reading Disability: Developmental Dyslexia, pp. 155-156.  
4 Strang, Reading Diagnosis and Remediation, p. 49.
1. A comparison is made between the child's MA (mental age) and the child's reading achievement score.1

2. The Bond and Tinker formula involves I.Q. and years in school. It is years in school \( \times \) I.Q. + 1.02

3. The Cleland formula is an average of the grade equivalents of the CA, MA, arithmetic computation score and the Durrell-Sullivan Reading Capacity Test. The grade equivalents of the CA and MA are arrived at by subtracting five from each.3 For example, to compute the grade equivalent for a CA of ten, the examiner subtracts five from 10, or 10-5=5. To compute the grade equivalent for a MA of ten, the examiner subtracts five from 10, or 10-5=5.

4. The difference between the Durrell-Sullivan Reading Capacity Test and the Durrell-Sullivan Reading Achievement Test will yield degrees of reading retardation.4

5. The child's auding test score may be compared with his achievement test performance to give a measure of retardation. Wilson suggests the Botel or Peabody Tests for an auding measure.5

6. The learning Expectancy Level formula is suggested by Kolson and Kaluger. This is \( L.E.L. = M.A. - 5 \)

---

1Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, p. 94.

2Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, p. 93.

3Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, p. 37.

4Ibid., p. 38.

5Ibid.
or Learning Expectancy Level equals Mental Age minus five.\footnote{Kolson and Kaluger, Clinical Aspects of Remedial Reading, p. 60.}

7. Horn of the Los Angeles City Schools devised an Expected Achievement Grade Placement Table which was used in a study by Winkley. It is necessary to express the C.A. and M.A. in grade placement values.

<table>
<thead>
<tr>
<th>Age</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 to 8-6</td>
<td>M.A. + C.A./2</td>
</tr>
<tr>
<td>8-6 to 10</td>
<td>3M.A. + 2C.A./5</td>
</tr>
<tr>
<td>10 to 12</td>
<td>2M.A. + C.A./3</td>
</tr>
<tr>
<td>12 to 16-6</td>
<td>3M.A. + C.A./4</td>
</tr>
</tbody>
</table>

8. Malmquist, in a study of Swedish children, established norms for the study population and then defined the poor readers as those whose scores were more than one standard deviation from the mean.\footnote{Carol K. Winkley, "Building Staff Competence in Identifying Underachievers," in The Underachiever in Reading, ed. by H. Alan Robinson (Chicago: University of Chicago Press, 1962), p. 158.}

9. Conklin states the M.A. itself is the level at which the child should function. This is $M.A. = C.A. \times I.Q.$\footnote{Flower, Gofman and Lawson, Reading Disorders: A Multidisciplinary Symposium, p. 6.}

10. The Monroe formula is of historic value. However, Winkley found it identified only fifty-eight per cent of the reading disabilities found by four or more other formulas.\footnote{DeBoer, ed., Reading Diagnosis and Evaluation, p. 13.}
The Winkley study did not use the same tests upon which the original formula was based.\(^1\) The Monroe formula is termed the reading index which is the expectancy grade divided by the reading grade. The expectancy grade is an average of the C.A., M.A. and Arithmetic Test. The reading grade is an average of the Gray Oral; Haggerty Reading Examination Sigma I, test 2; Iota Word Test; and Word Discrimination. The reading index was expressed as a decimal to note the percentage of reading ability the child was using. The author and workers devised tables of z-scores to chart specific errors in reading.\(^2\)

**Educational Terminology: Tests**

The terms described in this section are unique for their newness. No disparity of terminology was noted, but the terminology was applicable to only cloze technique, the Frostig Developmental Test of Visual Perception and the Illinois Test of Psycholinguistic Abilities.

The cloze technique involves the omission of every fifth or tenth word. Each part of speech may be systematically omitted.

The name of this technique suggests the Gestalt psychology concept of closure. Certain words are systematically omitted in a passage, and the students are instructed to fill each blank with the missing word. The most common procedure is to select randomly one of the first words in the passage and then follow this selection with the deletion of every fifth or tenth

\(^1\)H. Alan Robinson, ed., *The Underachiever in Reading*, p. 160.

\(^2\)Monroe, *Children Who Cannot Read*, pp. 30, 57.
word. To ascertain the effect of deletion of certain grammatical categories (nouns, verbs, modifiers, prepositions, conjunctions, and noun determiners), each of these syntactical units is systematically deleted in the same way.

Frostig's test includes five areas which are eye-hand coordination, figure-ground perception, perceptual constancy, position in space, and spatial relationships. "The first of these, eye-hand coordination, explores a restricted area of motor skills." The eye-hand coordination subtest is less related to reading and arithmetic than the other subtests. "In the subtest for figure-ground perception the child is required to discriminate between intersecting figures and to find hidden figures." The figure-ground subtest is related to the child's ability to recognize parts of wholes. This subtest predicts a child's ability in both spelling and reading. "Perceptual constancy refers to the ability to recognize what is perceived as belonging to a certain class regardless of the image on the retina." The perceptual constancy subtest predicts the child's ability to recognize words in different print and usage. "Perception of position in space refers to the ability to see an object in relation to one's own body; to see it as being in front, behind, or to the

1Strang, _Reading Diagnosis and Remediation_, p. 105.


3Ibid.

4Ibid.
side, for instance." The perception of position in space subtest relates to the child's ability to discern reversed or rotated letters. "Perception of spatial relationships refers to the ability to recognize the positions of objects or of reference points in relation to each other." This subtest is predictive of the child's ability to see the letters of a word or words in proper sequence.

The Illinois Test of Psycholinguistic Ability is composed of two levels; the representational and the automatic-sequential. The representational is described first.

... Three main operations are considered: (a) decoding, (b) association, and (c) encoding. **Decoding** is the act of obtaining meaning from sensory stimuli, that is, receptive understanding of words, gestures, pictures and occurrences which are seen or heard. **Association** includes the manipulation of concepts and linguistic symbols internally. It is a central process elicited by decoding and which in turn elicits expressive processes. **Encoding** is the ability to express ideas in words or gestures. All of these processes are interdependent both in their operation and development.

The decoding process consists of two tests; auditory and visual. The association process consists of two tests; auditory-vocal and visual-motor. The encoding process consists of two tests also; vocal and motor. The automatic-sequential is described below.

... This level mediates less complex, more automatic processes than the representational level. This is illustrated by the ability to recite poems and sing songs without conscious effort. Defects at this level

---

1Ibid., p. 115.  
2Ibid.  
interfere with sequential imitation and the ability to retain sequences of visual and/or auditory stimuli. There are three tests at this level: an auditory-vocal automatic test, and auditory-vocal sequential test, and a visual-motor sequential test.

Factors to be Considered of Primary Importance for Pupil Placement in Reading Centers

Primary Factor: Pupil Selection

Among the negative influences at work in Title I Reading Projects were selection procedures which lacked clarity and reality, failure to diagnose pupil difficulties before assigning a child to a corrective class and the exclusion of primary children from special reading activities.

The primary consideration is pupil selection. Much of this will rest on the philosophy of the school system as regards the reading center and terminology.

Bond and Tinker recommend that cases of simple retardation in which there is no disturbance or rejection of reading and cases of specific retardation should remain in the classroom. However, the latter may be accommodated in a reading center by grouping with others needing the same instruction. A limiting disability should be referred to the school reading center. A complex disability is in need of clinical assistance. Davis concurs with this approach.

---

1 Ibid., p. 26.
3 Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, pp. 172-174.
4 Dorothy L. DeBoer, ed., Reading Diagnosis and Evaluation, p. 80.
Dechant's approach is very similar to that of Bond and Tinker. It is that the corrective reader should be kept in the classroom functioning at his level. The children with a specific disability are to be taught in small groups of three-to-five in the classroom. The children with a limiting disability need small group, three-to-five, assistance in a remedial group. The complex disability case is in need of a multidisciplinary evaluation with remedial class or clinic teaching on a one-to-one basis.¹

In their first book, Clinical Aspects of Remedial Reading, Kolson and Kaluger do not specify exactly the designation of reading disabilities except to imply that secondary disability cases are candidates for a reading center. They imply clinical appraisal for the primary reading group. This is to include an etiological diagnosis. They firmly state that if early identification of primary reading disabilities was made, preventative programs could be instituted. In their new book, Reading and Learning Disabilities, the authors state that corrective reading cases should remain in the classroom; this includes those with minor reading disabilities of not more than one year below their M.A. The child seriously disabled, functioning far below capacity, is remedial; whether he is a secondary or primary disability type. The former will respond to

¹Dechant, Diagnosis and Remediation of Reading Disability, pp. 49-51.
standard reading procedure while the latter is in need of specialized techniques.¹

Bullock and Gofman both express the opinion that potential is the important factor. Bullock notes that diagnosis is the first function; to determine whose potential is farthest from achievement. Gofman states that concern should be for the average and above average.²

Carter and McGinnis define the retarded reader as the individual scoring two or more years below grade level; scoring below expected level as determined by either the Stanford-Binet Intelligence Scale or the Wechsler Intelligence Scale for Children; scoring well on a survey or other reading test but not functioning in reading; and being a non-reader. They advise a four step diagnosis prior to remediation; identifying the problem, classifying, locating needs, and determining casual factors.³

Betts stated most retarded readers and non-readers could be taught to read. A good diagnostic test would suffice for specific reading disabilities while a detailed

¹Clifford J. Kolson and George Kaluger, Clinical Aspects of Remedial Reading, pp. 22-23.


³Carter and McGinnis, Diagnosis and Treatment of the Disabled Reader, p. 20.
analysis was needed for the severely disabled.\(^1\)

Austin categorized retarded readers as those one or more years below expected level in the primary grades and two or more years below in the upper grades.\(^2\)

Harris suggests the selection of children for reading remediation should be based on two factors. The child should be reading at least one year below the grade norm and the difference between the child's Reading Age and Mental Age should be at least six months in grades one through three, nine months in grades four and five, and a year for grades above five.\(^3\)

Durrell writes the demand for remedial assistance is so great only the very severely retarded can be enrolled. He notes the community itself will dictate policy. A favored community may accommodate those one or more years below grade level while other communities may not take pupils unless they are two or more years below level. He suggests admitting those showing aptitude and by consultation of classroom and remedial teacher.\(^4\)

Cohn and Cohn suggest careful diagnosis, accepting the average or above average ability pupil with a reading

\(^1\)Betts, The Prevention and Correction of Reading Difficulties, pp. 11, 77.

\(^2\)H. Alan Robinson, ed., The Underachiever in Reading, p. 34.

\(^3\)Harris, How to Increase Reading Ability, p. 269.

retardation of one and one-half years in grade four. Those in the primary grades would show less retardation and those in the upper grades greater retardation.¹

Buerger suggests that disabled readers are those functioning below the average for their age and grade. Preference should be given those who have the potential to improve.²

Kratz found the larger school systems of this country enrolling pupils on years of retardation. Seven schools accepted pupils showing two years' retardation; four accepted one year's retardation; three varied; and one each used two to three years, one to two years, one and one-half at the intermediate, one and one-half to two, one at one year in primary, and one below potential.³

Primary Factor: Level of Reading Expectancy

The level of reading expectancy can be computed mathematically or summarized subjectively.

Robinson suggests the use of the Stanford-Binet Intelligence Scale and a nonverbal test to determine the level of reading expectancy.⁴

¹ Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, p. 22.
² T. A. Buerger, "Follow-up of Remedial Reading Instruction," Reading Teacher, XXI (January, 1968), 329.
⁴ Helen M. Robinson, Why Children Fail in Reading, p. 73.
Kaluger and Kolson use a formula: \( M.A. - 5 = L.E.L. \), or Learning Expectancy Level. They suggest a table to designate reading disabilities.

<table>
<thead>
<tr>
<th>Grades</th>
<th>Behind in Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>3-6 months</td>
</tr>
<tr>
<td>3, 4</td>
<td>6-8 months</td>
</tr>
<tr>
<td>5, 6</td>
<td>9 months-1 year</td>
</tr>
</tbody>
</table>

Wilson suggests five methods to determine the level of reading expectancy. The most common was to compare the mental age and reading age. The Bond and Tinker formula of Years in School \( \times \) I.Q. + 1.0 has advantages but teachers lack an understanding of this formula. Wilson prefers the Cleland formula. "We find it compares much more favorably to the Bond and Tinker formula than to the mental age formula, and is preferable to either of these for a precise clinical diagnosis." Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, p. 38.

The Cleland formula averages in grade equivalents the C.A., M.A., arithmetic computation and the Durrell-Sullivan Reading Capacity Test. One may also find the difference between the Durrell-Sullivan Reading Capacity and Durrell-Sullivan Achievement Test scores. An easy method is comparing the Peabody Picture Vocabulary Test or the Botel Listening Test to the child's achievement tests.  

---

2. Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, p. 38.
3. Ibid., pp. 37-38.
Della-Plana recommends a review of the most recent tests to estimate a child's reading expectancy. "In a brief paragraph, summarize your estimate of the child's reading potential, taking into account data on current test, background information and inconsistencies in data from different sources."¹ The estimate should include an intellectual assessment, an arithmetic computation test and a listening comprehension test. When further assessment of the child's potential is necessary, Della-Plana suggests the following.

There are standardized tests available (such as the California Test of Mental Maturity and the School and College Ability Tests), for which average reading grades of children are given for various I.Q. groups on specific reading achievement tests. Locally derived norms of this type make the best predictors of reading potential within a given community and curriculum.²

Krippner, in a study at Kent State University, used the Bond and Tinker formula.³

Stevens stated the Topeka Public Schools were using the Bond and Tinker formula and I.Q. in selecting pupils for the remedial reading center. The expectancy and performance discrepancy was to be not less than one year in

---

¹Della-Plana, Reading Diagnosis and Prescription: An Introduction, p. 9.
²Ibid., p. 42.
the lower or two years in the upper grades. The I.Q. minimum was 90.¹

Dechant states that in diagnosis the first step is a comparison of reading potential or the reading expectancy level and reading achievement.²

Durrell uses a measure of M.A. or listening comprehension to discover the amount of retardation.³

Carter and McGinnis utilize these factors; C.A., M.A., Reading Age equivalent plus the instructional, frustrational and capacity levels. Also, investigation of school history and observation is important.⁴

Kirk and Bateman recommended no specific formula but used the M.A., arithmetic achievement and years in school to determine reading expectancy.⁵

Harris prefers the M.A. minus the Reading Age to assess reading potential.⁶

Kratz found that some schools used specific formula, others did not. Three schools employed a Reading Age score;

---


²Dechant, Diagnosis and Remediation of Reading Disability, p. 10.

³Durrell, Improving Reading Instruction, p. 357.

⁴Carter and McGinnis, Diagnosis and Treatment of the Disabled Reader, p. 25.

⁵Natchez, ed., Children with Reading Problems, p. 272.

⁶Harris, How to Increase Reading Ability, p. 300.
two each the Bond and Tinker, Reading Age and potential, and teacher and administrative judgment; while one each used an individual reading inventory, standard test and teacher judgment, IRI and other test, IRI and standard test, and Reading Age compared to M.A. and grade placement.¹

Harris criticizes the Bond and Tinker formula as too high for the dull and too low for the bright.²

A study was made by Winkley to determine the percentage of underachievers identified by each of seven formula. The final stage of the study was to determine the percentage of underachievers each particular formula identified that four or more other study formulas also identified. The final results of the Winkley study found the Bond and Tinker and the Alice Horn formulas each identified ninety-five per cent of the underachievers; the Mental Age Discrepancy identified ninety-one per cent of the underachievers; the scattergram based on local norms called the Deviation from Regression Line identified eighty-eight per cent of the underachiever; the Anticipated Achievement Calculator designed for the California Achievement Tests identified seventy-four per cent of the underachievers; a stanine comparison identified sixty per cent of the


²Harris, How to Increase Reading Ability, p. 300.
underachievers; and the Monroe formula identified fifty-eight per cent of the underachievers.  

Primary Factors: Intellectual Assessment

As noted by the previous section on formula, some measure of M.A. should be derived. Several tests are available; both group and individual, more or less widely recognized, verbal, nonverbal or both; and usable for all grades or restricted. Some writers show preferences and others list possible choices. Many reading authorities qualified their list of suggested tests.

Spache while preferring the Mills Learning Method Tests suggested other tests usable for groups.  

Harris prefers the Revised Stanford-Binet Scale to the Wechsler Intelligence Scale for Children as the former is more reading related. However, Harris does supplement the Revised Stanford-Binet Scale with the performance section of the Wechsler Intelligence Scale for Children. Harris suggested group tests for schools according to primary and elementary/secondary levels. Harris further qualified these listings by suggesting various subsections of the Pintner General Abilities Tests and the Lorge-Thorndike Intelligence Test; reading and picture content in the former for elementary/secondary and picture

1H. Alan Robinson, The Underachiever in Reading, pp. 156-160.


George D. Spache and Evelyn B. Spache, Reading in the Elementary Schools (Boston: Allyn and Bacon, 1969), p. 54.
content in the latter for primary. He does not recommend the Davis Eells Culture Free Test.¹

Wilson states the Peabody Picture Vocabulary Test is practical if the Wechsler Intelligence Scale for Children or the Revised Stanford-Binet Scale is not available. "Generally, considered the most accurate single test for measuring intelligence, the Binet may be administered and scored only by personnel with formal course work and/or clinic experience."² Wilson states the Wechsler Intelligence Scale is popular due to the performance section for problem readers.³

Kaluger and Kolson prefer the Wechsler Intelligence Scale for Children to other individual intellectual assessments and use the subscores as guides to further testing. Any difference of ten points between the two sections of this test is a clue for further analysis. If the child scores ten points higher on the performance scale than the verbal, three areas are reviewed; auditory discrimination, perception or acuity, environmental influences and poor speech development. If the child scores higher on the verbal than on the performance scale, the visual areas of discrimination, perception or acuity, visual motor or personality are checked. The authors note that mental

¹Harris, How to Increase Reading Ability, pp. 223-224.
²Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, p. 32.
³Ibid., pp. 32-33.
illness affects the intellectual scores. "Mental disorders generally score higher on verbal scores and delinquents score higher on performance."\(^1\)

Strang, McCullough and Traxler gave further clues in the use of the Wechsler Intelligence Scale for Children.

The most outstanding single feature of the unsuccessful reader's Wechsler profile is that it shows a higher score on the performance than on the verbal part of the scale. Among the performance subtests, Picture Arrangement scores are often high. According to Wechsler, the combined Object Assembly and Picture Arrangement scores nearly always exceed the combined Block Design and Picture Completion scores. Within the whole total performance group, Digit Symbol is usually the lowest score. This subtest requires sustained attention, which may be disturbed by the anxiety that is often felt by unsuccessful readers. They also tend to do poorly on Arithmetic, Digit Span, and Information, all of which resemble classroom situation.

The new Wechsler vocabulary has considerable diagnostic value over and above its measurement of intelligence. Many of the word may evoke personal association bearing upon important aspects of human experience.\(^2\)

Dechant approaches diagnosis in a step method.

The first step is an intellectual assessment of the entire school population. "Probably every child whose IQ score falls below 90 or below the 25 percentile on a test requiring reading should be given another intelligence or scholastic aptitude test."\(^3\)

\(^1\) Kaluger and Kolson, *Reading and Learning Disabilities*, p. 141.

\(^2\) Strang, McCullough and Traxler, *The Improvement of Reading*, pp. 276-277.

\(^3\) Dechant, *Diagnosis and Remediation of Reading Disability*, p. 11.
Kratz found these tests employed by the schools surveyed. Five schools used the Revised Stanford-Binet Scale or Wechsler Intelligence Scale for Children; four used the Revised Stanford-Binet Scale; three used the Lorge-Thorndike Intelligence Test; two used the Wechsler Intelligence Scale for Children; two used the Otis Quick Scoring Mental Ability Test; and one each the California Test of Mental Maturity, the Philadelphia Verbal Ability, the Kuhlmann-Anderson IQ Test and the Metropolitan Achievement Test.1

Primary Factors: Educational Assessment

One aspect of pupil selection is the use of appropriate tests for both screening and diagnosis.

Carter and McGinnis suggesting the value of an Informal Reading Inventory make the following statement.

Clinical workers frequently report that scores provided by standardized tests resemble closely the frustration level of students as determined by informal reading inventories. These inventories can be employed to identify quickly and effectively the individual who shows evidence of reading maladjustment.2

Cohn and Cohn, also, stress the need for informal procedures as well as standardized tests.

In making a diagnosis, in addition to environmental, behavioral, or physical problems contributing to the reading difficulty, it is essential to analyze the


2Carter and McGinnis, Diagnosis and Treatment of the Disabled Reader, p. 23.
reading disability and proceed to correct it. This may be done by informal as well as formal procedures.

Some of this diagnosis will be informal approached with attractive reading material on the pupil's probable reading level, and hopefully aimed at bringing out his best efforts to read.¹

Dechant suggests determining the child's reading attainment following an assessment of the child's intellectual capacity. The reading is first diagnosed through the use of a survey test. When a reading disability exists, the classroom teacher should administer the formal and informal inventory levels. The remedial teacher should administer the oral and diagnostic tests. He stresses the need for a case study approach.

The teacher must identify the symptoms, study them, and seek the cause of these symptoms. The breakdown in remediation of reading disability cases often occurs because no one connects the symptoms with the proper cause.²

Della-Plana comments on various aspects of reading assessment. One group diagnostic test receiving favorable comment from Della-Plana was the Stanford Diagnostic Reading Test.

Though experience with this newly developed instrument is limited, it promises to be a useful test. The major reading skills are assessed with an instrument that is well developed, norms and reliability data are available for adequate profile interpretation, and practical suggestions are given for treatment. The group administration makes it possible for a

¹Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, pp. 17, 50.

²Dechant, Diagnosis and Remediation of Reading Disability, p. 54.
classroom teacher to get much information on those pupils scoring low on a survey test of reading ability.1 Della-Piana, also, commented on individual diagnostic reading tests. The Durrell Analysis of Reading Difficulty requires the use of a separate silent reading test as the Durrell test does not test upper limits. "The ITPA appears to be an excellent instrument for studying the correlation between aptitude and beginning reading achievement under different treatment methods."2 It is interesting to discover that the four major individual diagnostic batteries are the Durrell Analysis of Reading Difficulty, the Monroe Diagnostic Reading Test, the Gates-McKillop Diagnostic Tests, and the Diagnostic Reading Scales by Spache. It is suggested that beginning diagnosticians use the Monroe "... because it aids in development of an organized diagnostic approach."3

Durrell believes the start of reading diagnosis rests on informal tests and observation charts of the classroom teacher. The tests of a reading clinic or teacher really vary only from the informal in that they are more detailed and precise. The child's silent reading is to be determined by a standardized test. "However, many essential reading abilities are not measured by present standard tests.

---

1Della-Piana, Reading Diagnosis and Prescription: An Introduction, p. 73.
2Ibid., p. 55.  
3Ibid., p. 63.
The informal analysis is still the best way to observe many of these abilities.¹

Harris states the purpose of various tests and then expresses reservations in regard to some. Although he lists four primary and four intermediate survey tests, he states that the purpose, which is to obtain a fairly accurate measure of the child's reading, does not apply to the poor reader. The poor reader tends to show higher scores due to guessing. Analytical tests give a more detailed analysis of strengths and weaknesses in silent reading skills. Harris feels the oral reading batteries by Monroe, Gates and Durrell are essential for a reading clinic or examiner. As they are not expensive, all three should be available for the examiner to select. Harris comments favorably regarding the Mills Learning Methods Test. He expresses reservations about the validity of both the Marianne Frostig Developmental Test of Visual Perception and the Illinois Test of Psycholinguistic Ability.²

Kaluger and Kolson place their emphasis on the IRI for two reasons. Rapport with the child allows the examiner to observe the child closely and standardized test scores often are near the frustration level. They do list several tests but are cautious.

¹ Durrell, Improving Reading Instruction, p. 111.
² Harris, How to Increase Reading Ability, pp. 170-217.
  Albert J. Harris, "What About Special Theories of Teaching Remedial Reading," in Current Issues in Reading, ed. by Nila Banton Smith (Newark, Del.: International Reading Association, Inc., 1969), p. 399.
Approach all test results in a sensitive, qualitative, analytic manner. The scores resulting from the tests will be meaningful only if interpreted in terms of the total picture and tempered by the clinical judgment of the diagnostician.

Spache states that the basis of remediation is a successful counseling relationship. This must rest on proper diagnosis which is "... more skilled, objective and thorough in a clinical or child study center than in the classroom."  

Kratz found that the reading systems surveyed used a variety of tests. Among the group tests eight systems used the Gates Reading Survey; seven used the Iowa Basic Skills Test; four used the California Reading Test, Metropolitan Reading Test or Stanford Achievement Test; three used an IRI; two used a basal reader test; and one each used the Durrell-Sullivan Reading Capacity and Achievement Test and the Botel Reading Inventory. Among the oral reading tests, ten systems used the Durrell Analysis of Reading Difficulty; eight used the Gray Standardized Oral Reading Paragraphs Test; six used the Gilmore Oral Reading Test; four each used an IRI and Gates-McKilippo Diagnostic Test; and there was a scattering of others ranging in depth from the Monroe Diagnostic Reading Examination to the Dolch Basic Sight Words.

---


2 Spache, Toward Better Reading, p. 299.

Primary Factors: Auditory Acuity

Della-Piana stresses the need for auditory acuity tests for the entire school population. "The school should have a thorough testing program for screening out children with hearing defects and referring them to an otologist or otolaryngologist." With the exception of two authorities, all authors noted a preference for the audiometer test. Spache was firm in his use of the word only in referring to the audiometer. Bond and Tinker did suggest the watch-tick or whisper or low voice test when an audiometer was not available, as did others. Flowers cautions that the 500 to 3000 cycles per second are the speech range and should be checked with care. Only Dechant and Kalugger and Kolson recommended other hearing measures. Dechant suggested the VASC, Verbal Auditory Screen for Children, as it may be used by classroom teachers or examiners without special training. Kalugger and Kolson prefer the speech threshold test as it is more related to reading.

1 Della-Piana, Reading Diagnosis and Prescription: An Introduction, pp. 47-48.
2 Spache, Toward Better Reading, p. 114.
3 Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, p. 113.
5 Dechant, Improving the Teaching of Reading, p. 70.
6 Kalugger and Kolson, Reading and Learning Disabilities, p. 123.
Primary Factors: Auditory Discrimination, Auditory Memory

These factors are included in the primary factors section as proficiency or lack of it will dictate placement and procedures in a remedial room. Betts in his book in 1936 recognized the importance of auditory perception, span, fusion and discrimination and listed tests for each area. 1

Wepman whose test, The Wepman Auditory Discrimination Test, was suggested by reading specialists, stated the ability to discriminate all sound takes up to eight years. 2 Strang and Kaluger and Kolson also suggested the Boston University Speech Sound Discrimination Picture Test. 3 Strang also listed the SRA subtest of auditory discrimination. 4 Spache included the auditory comprehension of the Diagnostic Reading Scales or the Durrell Analysis of Reading Difficulty tests. 5 Flowers suggested the primary form of Monroe's Diagnostic Reading Examination, Auditory Tests 1 and 2. 6

3 Strang, Reading Diagnosis and Remediation, p. 31. Kaluger and Kolson, Reading and Learning Disabilities, p. 150.
4 Strang, Reading Diagnosis and Remediation, p. 31.
5 Spache and Spache, Reading in the Elementary Schools, p. 53.
6 Flower, Gofman and Lawson, eds., Reading Disorders: A Multidisciplinary Symposium, pp. 93-94.
In the area of auditory memory, Flower favored the digit span tests of the *Revised Stanford-Binet Scale* or the *Wechsler Intelligence Scale for Children*, the primary form of the *Monroe Diagnostic Reading Examination* and the listening section of the *Durrell Analysis of Reading Difficulty Test*.¹ Kaluger and Kolson included the digit span of the *Wechsler Intelligence Scale for Children*, the *Illinois Test of Psycholinguistic Ability* auditory sequencing or the *Schnell Sentence Repetition* to test auditory memory.²

Krippner's study grouped auditory skills and used the *Weisman Auditory Discrimination Test*, the *Roswell-Chall Diagnostic Test of Word Analysis*, the *Illinois Test of Psycholinguistic Ability*, and the digit span of the *Wechsler Intelligence Scale for Children* for evaluation.³

**Primary Factors: Visual Acuity**

Although there is little agreement as to the exact relationship of eye disorders and reading disability, visual acuity is considered important. None of the authorities who commented in this area dismissed the need of an eye examination. "Any visual defect may cause dissatisfaction,"

¹Ibid.
discomfort, and disinclination to read. Therefore, a visual screening should always be included in any study of an individual's reading. The approach varies from the teacher's observation to eye cameras. Among the many devices listed the one favored was the Keystone Visual Survey Telebinocular. Robinson and Spache qualified their recommendation. Robinson found seventy-three per cent of the children studied had eye defects. Although she found neither the Snellen nor Keystone were completely accurate, the Keystone was the better. Spache favors the Keystone, Ortho-Rater or other similar devices supplemented by his Binocular Reading Test.

Four authorities favored other methods. Wilson used the Binocular Reading Test by Spache coupled with a reading eye camera. Crosby and Liston prefer the Massachusetts Eye Test. Durrell suggested the Eames Eye Test. Kaluger and Kolson prefer the Modified Clinical Technique which was developed as a result of a study in Orindo, California. This involves the services of a vision specialist.

---

1 Strang, McCullough and Traxler, The Improvement of Reading, p. 5.
2 Robinson, Why Children Fail in Reading, pp. 223-224.
3 Spache, Toward Better Reading, p. 104.
4 Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, pp. 45-46.
5 Crosby and Liston, The Waysiders, p. 29.
6 Durrell, Improving Reading Instruction, p. 355.
7 Kaluger and Kolson, Reading and Learning Disabilities, pp. 121-122.
Factors to be Considered of Secondary Importance for Pupil Placement in Reading Centers

Secondary Factors: Remedial Room Organization

The actual organization of the classroom is placed in the area of secondary factors as it will of necessity rest on the results of adequate/proper diagnosis.

The first avenue of discussion is the child himself. Harris states, "Nearly all children will show improvement when special attention is devoted to their learning." Harris believes preference should be given to those whose potential is farthest from their ability. Durrell, Bullock and Carter and McGinnis caution against enrolling difficult children whose basic problem is discipline. Others favor enrolling the disturbed child on a one-to-one basis. People of this opinion are Bond and Tinker and Cohn and Cohn when they speak of complex disabilities. Restrictions based on intellect vary. Cohn and Cohn place emphasis on selecting the average or above average excluding only the mentally

---

1 Harris, How to Increase Reading Ability, p. 299.
2 Durrell, Improving Reading Instruction, p. 342.
   Carter and McGinnis, Diagnosis and Treatment of the Disabled Readers, p. 29.
3 Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, p. 51.
   Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, p. 23.
retarded and borderline. Carter and McGinnis state that the areas of mental, emotional and social should be mature or developed.

Grades to be accommodated vary with authorities. Harris implies that all elementary grades may be serviced. Cohn and Cohn concur. Meier, in speaking of individual learning difficulties, states that concentration should be spent on second graders before problems become too severe. Those favoring enrollments beginning with third graders were Carter and McGinnis, Durrell and the St. Louis Reading Clinic. Kolson and Kaluger, Flierl, in reviewing the Bethlehem Central School District of Delmar, New York, and Stevens in his review of the Topeka Clinic opened enrollments to those in fourth grade or above.

---

1 Ibid., pp. 14, 23.
2 Carter and McGinnis, Diagnosis and Treatment of the Disabled Reader, p. 28.
3 Harris, How to Increase Reading Ability, p. 269.
4 Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, p. 22.
6 Carter and McGinnis, Diagnosis and Treatment of the Disabled Reader, p. 28.
7 Durrell, Improving Reading Instruction, p. 341.
9 Kolson and Kaluger, Clinical Aspects of Remedial Reading, p. 111.
10 N. T. Flierl, "Reading Skills Class," Reading Teacher, XXI (May, 1968), 749-753.
The number of pupils per group varies. Spache, who places emphasis on the relationship of the teacher and pupil, suggests one or few poor readers.\(^1\) Dechant prefers one-to-one or at the most one-to-three-to-eight, with individualized instruction.\(^2\) Harris suggests two to six children per group but adds that some may need to begin on an individual basis.\(^3\) Cohn and Cohn do not give grouping size but say teachers may service two schools and accommodate forty or more pupils per week.\(^4\) Durrell feels groups should not exceed five or six. However, if the reading problems are of a like nature more can be enrolled in one group. The teacher should be able to pair pupils for classroom carry-over.\(^5\) Bond and Tinker suggest group sizes of six-to-fifteen for the moderately disabled reader, with the smaller group size yielding more results. Less than six pupils per remedial reading group was not recommended by the authors.\(^6\) The Flierl review shows eight to ten per group and the Topeka Clinic allows not more than five.\(^7\)

1 Spache, Toward Better Reading, p. 300.
2 Dechant, Diagnosis and Remediation of Reading Disability, p. 122.
3 Harris, How to Increase Reading Ability, p. 303.
4 Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, p. 29.
5 Durrell, Improving Reading Instruction, p. 342.
6 Bond and Tinker, Reading Difficulties: Their Diagnosis and Correction, p. 171.
7 Flierl, "Reading Skills Class," Reading Teacher, pp. 329-334.
Stevens, "Organization and Operation of the Topeka Reading Clinic," Reading Teacher, pp. 414-417.
The instructional time in both minutes and days also varies. Harris states forty-five minute sessions are best as less time is not effective. The weekly time depends on the pupil; from every day to three or two times per week. Durrell favors daily attendance by pupils when possible. Cohn and Cohn note that little research has been done on this; one study found no difference between achievement of pupils taught four or two sessions per week over a one-year period. Hicks and his associates studied time allotments to determine if the number of sessions per week influenced the reading growth. Children in grades three and four attending remedial reading class were the subjects. The children were assigned to classes for two, three or four thirty-minute sessions per week. No significant difference in reading growth was noted at the fourth grade level. However, third graders did significantly better as the number of sessions increased; three sessions were better than two and four sessions better than three. Flierl states that sessions were one and one-half hours daily for the Reading Skills Rooms of the Bethlehem Central School District of Delmar, New York.

1 Harris, How to Increase Reading Ability, pp. 303-304.
2 Durrell, Improving Reading Instruction, p. 342.
3 Cohn and Cohn, Teaching the Retarded Reader: A Guide for Teachers, Reading Specialists and Supervisors, p. 29.
4 Robert A. Hicks, et al., "Reading Gains and Instructional Sessions," Reading Teacher, XXI (May, 1968), 738-739.
5 Flierl, "Reading Skills Class," Reading Teacher, pp. 749-753.
An appropriate time each day is suggested by Harris and Dechant, both of whom suggested reading remediation should be during a reading class. Dechant says at times reading remediation may have to be before or after school.\(^1\) Durrell's unique approach to the actual operation of the room would imply part of the reading in the homeroom and part in the remedial class.\(^2\)

Other suggestions include preparation and consultation time for the teacher. Durrell suggests one period per day and Kolson and Kaluger one day per week to include testing and individual work.\(^3\)

Two items to be considered were Cohn and Cohn's advice to set no time limits and Durrell's advice to do the screening at the end of the school year so the program is ready to begin early the following year.\(^4\)

Secondary Factors: Lateral Dominance

Harris takes a firm, positive stand regarding dominance as is evidenced by his development of the Harris Tests of Lateral Dominance. "The writer has become

\(^1\)Harris, *How to Increase Reading Ability*, p. 304. Dechant, *Improving the Teaching of Reading*, p. 492.


convinced from his own experience that there is more than a chance relationship between lateral dominance and reading disability.\(^1\)

Other authorities take a middle-of-the-road approach. The authorities suggest use of lateral dominance tests but caution regarding the interpretation of laterality tests. Bond and Tinker labeled the area controversial and state: "Careful analysis of data and conclusions indicates that, in certain rare clinical cases, one or another of these anomalies may contribute to reading disability as part of a pattern of hindering factors."\(^2\) Carter and McGinnis state that: "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."\(^3\) Robinson too states that while not proven as a cause of reading disability, dominance should be considered. Dominance was not included in the results of her study as the specialists were not able to interpret the results. Robinson and others in her study felt, the area of dominance should be a study in itself.\(^4\)

At the other extreme is Spache who feels one's time is better spent discovering poor perceptual-motor

---

\(^1\) Harris, *How to Increase Reading Ability*, p. 251.

\(^2\) Bond and Tinker, *Reading Difficulties: Their Diagnosis and Correction*, p. 122.

\(^3\) Carter and McGinnis, *Diagnosis and Treatment of the Disabled Reader*, pp. 55-56.

development than testing for dominance.  

Secondary Factors:  
Multidisciplinary Areas

Three areas which can be considered part of or distinct from the reading teacher's role are the physical, emotional and social/environmental. Frequently, it will be necessary to enlist the assistance of other school personnel or outside personnel/agencies to evaluate the child's physical, emotional and social/environmental factors.

In the area of physical well-being, Durrell suggests an evaluation of the child's physical health should be the first concern.

Before any intelligence or reading test is given to a child with severe reading difficulty, a careful medical examination should be made. The child may have a physical condition that seriously affects his performance on such tests.  

Austin and Robinson emphasize the areas of nutrition, infection and endocrine function.  

Harris notes that teachers need to review school health records. Other authorities also emphasize the health aspect.

Robinson found that emotional problems caused reading failure in thirty-two per cent of the cases.

1 Spache, Toward Better Reading, p. 116.  
2 Durrell, Improving Reading Instruction, p. 355.  
4 Harris, How to Increase Reading Ability, p. 264.
studied.\textsuperscript{1} Kaluger and Kolson along with Carter and McGinnis stress an awareness of the child's self-image/concept. The latter stated that is may be a cause or affect of reading disability.\textsuperscript{2} Harris states his clinic uses the Rorschach routinely supplemented by a picture interpretation test, preferably the \textit{Michigan Picture Test}.\textsuperscript{3} Spache believes teachers are aware of personality and should use tests of their preference.\textsuperscript{4} He further cautions that research in this area is scanty and personality patterns related to reading disability are not yet known.\textsuperscript{5}

In the area of social/environmental factors, Robinson found 54.5 per cent of the reading disabilities were caused by maladjusted homes or poor interfamily relationships.\textsuperscript{6} Teachers can be aware of parent expectations and family history, frequent school changes and the home environment, and the pupil's relationship with his peers through observation, school records and simple

\begin{enumerate}
\item Robinson, \textit{Why Children Fail in Reading}, p. 225.
\item Carter and McGinnis, \textit{Diagnosis and Treatment of the Disabled Reader}, p. 60.
\item Harris, \textit{How to Increase Reading Ability}, pp. 271-272.
\item Spache, \textit{Toward Better Reading}, pp. 119-121.
\end{enumerate}
sociometric tests. Wilson cautions the teacher to report abnormal home conditions to the proper authorities.

   Spache, Toward Better Reading, p. 123.

2 Wilson, Diagnostic and Remedial Reading for Classroom and Clinic, p. 60.
studied. Kaluger and Kolson along with Carter and McGinnis stress an awareness of the child's self-image/concept. The latter stated that is may be a cause or affect of reading disability. Harris states his clinic uses the Rorschach routinely supplemented by a picture interpretation test, preferably the Michigan Picture Test. Spache believes teachers are aware of personality and should use tests of their preference. He further cautions that research in this area is scanty and personality patterns related to reading disability are not yet known.

In the area of social/environmental factors, Robinson found 54.5 per cent of the reading disabilities were caused by maladjusted homes or poor interfamily relationships. Teachers can be aware of parent expectations and family history, frequent school changes and the home environment, and the pupil's relationship with his peers through observation, school records and simple

---

1 Robinson, Why Children Fail in Reading, p. 225.
3 Harris, How to Increase Reading Ability, pp. 271-272.
4 Spache, Toward Better Reading, pp. 119-121.
sociometric tests.\textsuperscript{1} Wilson cautions the teacher to report abnormal home conditions to the proper authorities.\textsuperscript{2}

\textsuperscript{1} Flower, Gofman and Lawson, eds., \textit{Reading Disorders: A Multidisciplinary Symposium}, pp. 9-10, 20.
Spache, \textit{Toward Better Reading}, p. 123.

\textsuperscript{2} Wilson, \textit{Diagnostic and Remedial Reading for Classroom and Clinic}, p. 60.
studied. Kaluger and Kolson along with Carter and McGinnis stress an awareness of the child's self-image/concept. The latter stated that this may be a cause or effect of reading disability. Harris states his clinic uses the Rorschach routinely supplemented by a picture interpretation test, preferably the Michigan Picture Test. Spache believes teachers are aware of personality and should use tests of their preference. He further cautions that research in this area is scanty and personality patterns related to reading disability are not yet known.

In the area of social/environmental factors, Robinson found 54.5 percent of the reading disabilities were caused by maladjusted homes or poor interfamily relationships. Teachers can be aware of parent expectations and family history, frequent school changes and the home environment, and the pupil's relationship with his peers through observation, school records and simple

---

sociometric tests. Wilson cautions the teacher to report abnormal home conditions to the proper authorities.

---


2 Wilson, *Diagnostic and Remedial Reading for Classroom and Clinic*, p. 60.
CHAPTER III

THE SUMMARY

Conclusions

The writer reviewed literature concerning terminology, consistent and distinctive in usage by authorities, pertinent to pupil reading diagnosis and factors, of primary and secondary importance, to be considered for pupil placement in reading centers.

The writer found these areas of terminology to be consistent in usage: educational terminology including I.Q. classification, reading levels and modalities and medical terminology. Terminology to be considered distinctive in usage was the classification of pupils as dyslexic and the formulas for determining the degrees of reading retardation. Other areas of terminology could not be considered either consistent or distinctive in usage. The writer reviewed naming, classification and diagnosis of the pupil candidates and test-related terminology in both the consistent and distinctive areas.

The review of the factors to be considered of primary and secondary importance for pupil placement in reading centers found a clear dividing line between the two areas. Those factors of primary importance for pupil
placement were pupil selection; levels of reading expectancy; intellectual assessment; educational assessment; diagnosis of auditory acuity, discrimination and memory; and diagnosis of visual acuity. The factors of secondary importance for pupil placement in reading centers were the remedial room organization, lateral dominance and the multidisciplinary area.

**Implications**

The writer believes many choices are afforded in the area of terminology selection. The reading center teacher should select terms which will be applicable to the pupils and the community he/she serves. In the selection of terminology, the reading center teacher should select terminology which is consistent in usage by authorities. The reading teacher should be aware of the more controversial terminology and review current literature to determine general trends in controversial areas. However, the use of terminology which is distinctive may be threatening when related to other people even if defined by the user.

The most important factor to be considered in pupil placement in reading centers is pupil selection. The reading center teacher and school administration should decide the depth and responsibility of pupil diagnosis upon which the selection of pupils for reading centers rests. The depth and responsibility of diagnosis will in turn be decided by the type of reading center the school
will accommodate. Will the reading center service all degrees of reading disability or refer the very seriously disabled readers to private reading clinics?

**Recommendations**

Three recommendations to assist both reading center teacher and other school personnel are listed below.

1. A small handbook of reading terminology should be developed by all school systems, whether or not a reading center has been established. This would lead to continuity in both parent-teacher and staff conferences.

2. Each school system should develop a reading diagnostic chart listing in order the steps used by the school system for diagnosis of reading disabilities. The chart should include the names of tests used and the personnel responsible for each step of the reading diagnosis. The designation of responsibility to various school personnel would eliminate overlap in reading diagnosis. Following the reading diagnosis, a copy of the child's chart should be maintained by the classroom teacher, reading center teacher, administrator, and in a central file.

3. All school systems should develop a reading test file. The file would contain samples of reading tests available for the grades accommodated by the school. Teachers could refer
to the file to assist in interpreting data received from the school reading center. The reading center teacher would have a ready reference for the ordering of diagnostic reading materials.
BIBLIOGRAPHY

Books


Wilson, Robert M. *Diagnostic and Remedial Reading for Classroom and Clinic*. Columbus, Ohio: C. E. Merrill Books, 1967.

**Proceedings: Selected Articles**


Harris, Albert J. "Diagnosis and Remedial Instruction in Remedial Reading." \textit{Current Issues in Reading.} Edited by Nila Banton Smith. Newark, Del.: International Reading Association, Inc., 1969.


Journals and Periodicals


Flierl, N. T. "Reading Skills Class." Reading Teacher, XXI (May, 1968), 749-753.

Hicks, Robert A.; Hicks, Maralee J.; Kellogg, Mary; and Honnen, Ruth A. "Reading Gains and Instructional Sessions." Reading Teacher, XXI (May, 1968), 738-739.


Olson, Norinne H.; Olson, Arthur V.; and Duncan, Patricia A. "Neurological Dysfunction and Reading Disability." Reading Teacher, XXII (November, 1968), 157-162.


Other
