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# A pilot study : can games be used to diagnose reading difficulties?

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A PILOT STUDY: CAN GAMES BE USED  
TO DIAGNOSE READING DIFFICULTIES?

A Dissertation Presented

By

Alice Marie Scales

Submitted to the Graduate School  
of the  
University of Massachusetts  
in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

June 1971

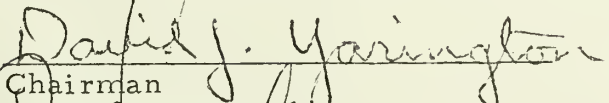
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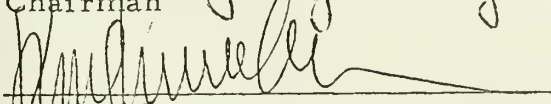
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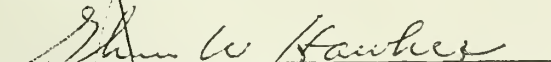
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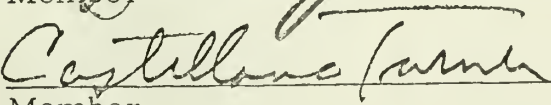
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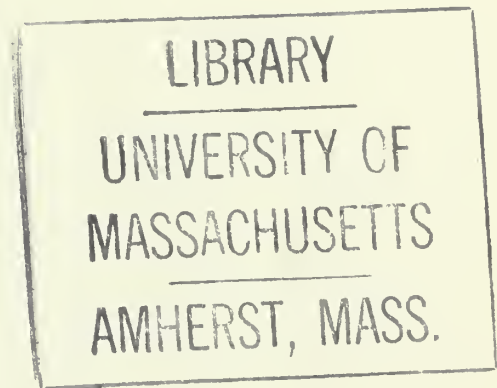
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Dedicated to my parents,

Mr. Joe Scales and Mrs. Lennie P. Scales

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## CHAPTER I

### INTRODUCTION

This pilot study deals with the problem of diagnosing reading difficulties. In diagnosing children's reading difficulties, or, more specifically, diagnosing problems of children who are not reading as well as they ought to be reading, using a valid mental capacity index as a criterion, data is usually gathered using a diagnostic case study technique. The traditional diagnostic case study is usually based on the administration of twenty or so diagnostic reading tests and other formally gathered information. As of 1968, there were 209 published reading tests which could be used in diagnosing reading difficulties. Of these 209 tests, eighty-nine are classified as general, and twenty-seven are classified as diagnostic. Forty-two of the 209 tests are classified as new, revised, or supplemented since 1965.<sup>1</sup> The reading tests, both general and diagnostic, overlap in the abilities they purport to measure.

Courses in the diagnosis of reading difficulties traditionally train teachers and specialists to administer and interpret a battery of such tests. For

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<sup>1</sup>Oscar K. Buros (ed.), Reading Tests and Reviews, (New Jersey: The Gryphon Press, 1968), p. xviii.

years critical reviews of such reading tests have been published,<sup>2</sup> although their general quality, validity, and reliability have been debated. Trela pointed out that in five hours of testing with six commonly used tests, thirty-two reading skills were purported to be measured and that these skills overlapped considerably.<sup>3</sup> The six tests, the thirty-two reading skills and evidence of the overlapping of skills are presented in Table I.

New York City tested pupils on a citywide basis using the Metropolitan Achievement Tests: Reading,<sup>4</sup> and found that:

. . . two of every five pupils in the second through the ninth grades were at least a year behind in reading, one in five was at least two years behind, and one in 10 three or more years behind.

In all . . . 63.3 per cent of the youngsters tested . . . were below the . . . national norm when the 1970 tests were given.<sup>5</sup>

Of course, there were youngsters who tested above the national norm. Hence, fifty-eight per cent of New York City's school population is Black, Puerto

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<sup>2</sup>

Oscar K. Buros (ed.), Mental Measurements Yearbooks: Third, Fourth, Fifth, Sixth (New Jersey: The Gryphon Press, 1949, 1953, 1959, 1965).

<sup>3</sup>Thaddeus M. Trela, "What Do Diagnostic Reading Tests Diagnose?" Elementary English, XIII (April, 1966), pp. 370-372.

<sup>4</sup>Walter N. Durost and others, Metropolitan Achievement Tests: Reading, (New York: Harcourt, Brace and World, Inc., 1962).

<sup>5</sup>News item in the New York Times, December 20, 1970.

TABLE I  
WHAT DO DIAGNOSTIC READING TESTS DIAGNOSE?

Skills Included in Six Analytical Reading Measures

	Botel Reading Inventory	Developmental Reading Tests - - - Silent Reading Diagnostic Tests	Durriel Analysis of Reading Difficulty	Gilmore Oral Reading Test	Diagnostic Reading Scale	Gates- McKillop Reading Diagnostic Tests
Silent Reading Comprehension			X		X	
Oral Reading Comprehension			X	X	X	
Oral Reading Accuracy			X	X	X	
Oral Reading Rate			X	X	X	X
Listening Comprehension			X		X	
Word Recognition (oral)	X		X		X	
Word Recognition (silent)		X			X	X
Word Recognition in context (silent)		X				
Phrase Reading (oral)						X
Recognition of phonetic word elements (oral)	X				X	X
Recognition of phonetic word parts (silent & listening)		X	X			
Root Words (silent)		X				
Rhyming Words (listening or silent)	X	X				
Word Opposites (listening and/or silent)	X					
Reversible Words (silent)		X				
Visual memory of words (silent)			X			
Word Blending (silent)		X			X	X
Word Blending (oral)					X	X
Saying Syllables						
Number and accent syllables (listening)	X					
Syllabication (silent)		X				
Identifying Letter Sounds (listening)		X	X			
Identifying Beginning Word Sounds (listening)	X	X	X			X
Identifying Word Endings (listening)			X			X
Saying Letter Sounds					X	X
Identifying consonant blends and digraphs (listening)	X					
Saying consonant blends and/or digraphs			X		X	
Identifying long and short vowels (oral)					X	X
Identifying long and short vowels (listening)	X					X
Naming capital and lower case letters (oral)			X			X
Spelling (listening)			X			X
Spelling (oral)						

Oral - oral response required of one being tested

Listening - said by tester, testee marks answer in test booklet

Silent - from directions in the test booklet testee responds in booklet<sup>6</sup>

<sup>6</sup>Frela, *op. cit.*, p. 371.

Rican, and other Spanish backgrounds. Publishing these results indicated that the pupils were inferior in reading ability. It was further pointed out, in relation to accepting the national norms based on this test that:

If this result can be achieved with the typical American child, should we not accept it as a goal for the average New York City child, despite the special problems of New York City children, compared to the nation at large?<sup>6</sup>

This information suggests to the public that Blacks, and other minority groups are inferior in their reading ability and thus help to perpetuate racism in our society. Obviously, the "typical American child" referred to above is assumed to be white middle-class. "One out of every four students nationwide has significant reading deficiencies."<sup>7</sup> All of these children are not Black or minority group children. Something must be done about the present measuring techniques, and reporting of results. The Metropolitan Achievement Tests: Reading, served "its purpose as a rough measure of reading achievement for comparative purposes,"<sup>8</sup> and nothing more. This pilot study proposes to ameliorate some of the misconceptions about reading achievement among minority and majority groups.

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<sup>6</sup>News item, loc. cit.

<sup>7</sup>James E. Allen, Jr., "The Right to Read - Target for the 70's" (paper read before the 1969 Annual Convention of the National Association of State Boards of Education, California, September 23, 1969).

<sup>8</sup>Buros, op. cit., p. 6:698.

Specifically, the present study asks the question: What is the concurrent validity of trained clinicians using games to diagnose reading difficulties? The results of a study such as the present one may provide information which might significantly change procedures for diagnosing reading difficulties. Hours of testing and possible pupil alienation might be eliminated through information gleaned in this pilot study. Reading clinics and teacher training institutions across the country are training specialists to administer a steadily enlarging battery of tests, some of which have questionable validity. The present study suggests alternate ways of diagnosing reading difficulties for teachers and reading-problem diagnosticians.

### THE PROBLEM

Statement of the problem. It is the purpose of this pilot study to determine the concurrent validity of trained clinicians using games to diagnose reading difficulties.

Importance of the study. This study is significant because alternative measures for diagnosing reading difficulties may be the eventual result. Farr stated that:

. . . Evaluations based on informal means are more reliable estimates of the student's true reading behavior than standardized reading



tests precisely because they are not based on the comparison of any one student to any other student. . .<sup>9</sup>

Needless to say, the use of games is a very informal technique. The limitations of this study include: (1) training clinicians to administer formal tests through the use of video tapes, (2) the sample is exclusively from the Amherst, Massachusetts' area, and (3) the children were identified by classroom teachers as having reading difficulties. The latter limitation is identified because some argue that, "teachers are unreliable in identifying degrees of reading performance and that they may not have a well developed concept of reading."<sup>10</sup> Therefore, some of the children who were referred and participated in this study may not have a reading deficiency, according to their ability to perform in reading.

#### DEFINITION OF TERM USED

Clinicians. The clinicians were twenty-nine students enrolled in a Reading Diagnosis course at the University of Massachusetts. In order to control the variables of training and experience, for the game and test session results, students with no previous formal training in reading diagnosis were selected and trained in the Reading Diagnosis course.

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<sup>9</sup>Roger Farr, Reading: What can be measured? (Newark: International Reading Association, 1969), p. 98.

<sup>10</sup>William K. Durr (ed.), READING DIFFICULTIES: Diagnosis, Correction, and Remediation (Newark: International Reading Association, 1970), p. 122.

ORGANIZATION OF THE REMAINDER  
OF THE DISSERTATION

The second chapter reviews the literature exploring the use and misuse of standardized and informal reading tests. It also brings into focus the need for an assessment of the present methods of diagnoses, and possible alternatives to other measures. Chapter III explains the procedure of this pilot study. It gives a step by step description of the pupil-elinician involvement. Chapter IV, eites the results of the study. The reader will find the summary, conelusions and reeommendations in Chapter V. A Bibliography and Appendiees are included for further referenees.

## CHAPTER II

### REVIEW OF THE LITERATURE

Diagnosis of reading abilities is essential to determine the strengths and weaknesses of students before the actual teaching of reading begins. Standardized and informal reading tests are the major means of determining the student's strengths and weaknesses. Occasionally, teacher observation is accepted as being the technique, or part of the technique in diagnosing students. Generally, following the diagnosis, many teachers accept as irrefutable the results of such diagnostic techniques, and they rely on the results for setting up a program of instruction for pupils with reading difficulties. For years, Buros,<sup>1</sup> has published critical reviews of reading tests through exploration of their quality, validity, and reliability. Recently, Buros published a single volume<sup>2</sup> of all the reading tests and reviews cited in the Mental Measurements Yearbooks. Goodman reviewed this latest publication, and asserted that the information is almost ten years out-of-date. He further concluded that:

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<sup>1</sup>Oscar K. Buros (ed.), Mental Measurements Yearbooks: Third, Fourth, Fifth, Sixth (New Jersey: The Gryphon Press, 1949, 1953, 1959, 1965).

<sup>2</sup>Oscar K. Buros (ed.), Reading Tests and Reviews (New Jersey: The Gryphon Press, 1968).

Buros' Reading Tests and Reviews has brought all that is known about reading tests into a single volume, out-of-date at the time of publication. The picture this volume presents is one of a still quite primitive art. No one needs to keep that in mind more than reading researchers.<sup>3</sup>

### STANDARDIZED AND INFORMAL TESTING

Because reliable standardized tests are consistent in measuring one student's performance in relationship to that of other students, they may be misleading in placing students at their proper grade level. Too often an attempt is made to predict the instructional level from standardized test scores. The instructional reading level is that level of reading which is slightly more difficult than the independent level. This level is defined as "the highest level at which the child makes no more than five uncorrected errors in reading 100 running words with at least 75 per cent comprehension of ideas in the text."<sup>4</sup>

Betts,<sup>5</sup> reported that standardized reading tests tend to place children at their frustrational level. The frustrational reading level is the lowest level of readability. It is so identified when a pupil laboriously reads a book with

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<sup>3</sup>Kenneth S. Goodman, "Reviews," American Educational Research Journal, VIII (January 1971), p. 171.

<sup>4</sup>Miles V. Zintz, The Reading Process: The Teacher and the Learner (Dubuque: Wm. C. Brown Company Publishers, 1970), p. 54.

<sup>5</sup>Emmett A. Betts, Foundations of Reading Instruction (New York: American Book, 1946), p. 450.

less than 50 per cent comprehension. His oral reading is without rhythm or phrasing and in an unnatural voice.<sup>6</sup> Errors committed at this level according to one authority in the reading field are: "inability to anticipate meaning, pronunciation less than 90 percent, head movements, finger pointing, tension, withdrawal, vocalization, substitutions, repetition, insertions and omissions."<sup>7</sup> The importance of recognizing this level avoids the placing of pupils in levels too difficult for them. If a teacher does not know the frustrational level of a pupil, the pupil may be assigned material at this level and be expected to perform satisfactorily. Unsatisfactory performance by the pupil may lead the teacher to unjustly categorize the pupil as lazy or indolent, when in reality, this pupil has been overplaced.

Chall stated that:

Standardized reading tests designed for a few grades frequently give a distorted picture of reading achievement, particularly at the extremes among the poorest and best readers. . . if students are significantly retarded or advanced for their grade, they will be unable to reveal their true achievement levels.<sup>8</sup>

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<sup>6</sup>Miles A. Tinker, Bases for Effective Reading (Minneapolis: University of Minnesota Press, 1965), p. 274.

<sup>7</sup>Betts, op. cit., p. 448.

<sup>8</sup>Jeanne S. Chall, "Interpretation of the Results of Standardized Reading Tests," Evaluation of Reading, XX (December, 1958), p. 134.

To find out if standardized reading tests placed children at their frustrational level, using basal readers as the criterion, Botel,<sup>9</sup> compared the results of standardized reading test scores to scores on informal reading inventories. The findings revealed a .93 correlation in grade two; .80 correlation in grade three; .65 correlation in grade four; .60 correlation in grade five; and .55 correlation in grade six. Since these findings are in agreement with Betts' statement, it is an indication that teachers and diagnosticians should look beyond standardized test scores as valid criteria for setting up an instructional program. Generally, instructional programs are based on the instructional level of pupils. The instructional level, then, is the level at which the pupil is to be instructed. If teachers rely on standardized test scores, which place pupils at their frustration levels, pupils will be expected to perform at a level which is too advanced for them and beyond their present capabilities.

McCracken,<sup>10</sup> in a study similar to Botel's, found that standardized test scores placed 63 per cent of the pupils at their frustrational level and 93

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<sup>9</sup>Morton Botel, "A Comparative Study of the Validity of the Botel Reading Inventory and Selected Standardized Tests," Reading and Realism, XIII (1969), pp. 721-727.

<sup>10</sup>Robert A. McCracken, "Standardized Reading Tests and Informal Reading Inventories," Education LXXXII (February, 1962), pp. 366-369.

per cent of the pupils in books that were too difficult for them. This is another indication of what teachers can expect from using standardized test scores as a sole criterion for placing pupils.

If conclusions can be drawn from the above, the attempt by teachers to ascertain the individual reading instructional levels of pupils, has been seriously hampered by the use of standardized tests.

Harris<sup>11</sup> in apparent disagreement with Betts, Chall, McCracken and Botel, wrote that standardized test scores tend to show the instructional level of pupils. He further pointed out that standardized tests are less accurate for poor readers than for good readers. The reason is that poor readers tend to guess, causing their scores to overestimate their instructional level. This same reason could and does apply to good readers. When good readers are being tested, they may guess and/or take time to re-read a selection for the purpose of deducing illogical answers because of their intelligence, not their reading ability. This intelligence could effect the test score causing the child to be placed at his frustration level instead of his instructional level.

Sipay<sup>12</sup> in comparing standardized reading achievement test scores

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<sup>11</sup>Albert J. Harris, How to Increase Reading Ability (New York: David McKay Company, 1966), p. 180.

<sup>12</sup>Edward R. Sipay, "A Comparison of Standardized Reading Scores and Functional Reading Levels," The Reading Teacher, XVII (January, 1964), pp. 265-268.

to informal reading inventories, found it impossible to generalize as to whether standardized reading achievement test scores tend to indicate the instructional or frustrational level of pupils.

Several leaders in the reading field have suggested the concept of diagnostic teaching (i. e., combining diagnosis with instruction). Diagnostic teaching gives

. . . the student the satisfaction of accomplishing something in every period. The information obtained is immediately used. . . this approach gives definite responsibility for self-appraisal; it encourages the student to take the initiative in solving his own reading problems.<sup>13</sup>

This is an alternative to standardized tests. However, it is still testing in the traditional sense.

Dolch,<sup>14</sup> suggested tests that test what teachers can teach. The teacher can teach meanings of words, sight words, sounding-out of words, story comprehension, etc. Here are more alternatives to standardized tests. Are they readily adaptable to varying grade levels? Can any teacher make fairly good use of them? How would the pupils respond? Would the school system permit this instrument? Is it convincing enough for the classroom teacher?

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<sup>13</sup>Ruth Strang, Diagnostic Teaching of Reading (New York: McGraw-Hill Book Company, 1964), p. 9.

<sup>14</sup>Edward A. Dolch, Problems in Reading (Champaign: The Garrard Press, 1950), pp. 200-205.



What are the advantages and disadvantages of these instruments as compared to standardized tests? These are questions for individual teachers to consider if they decide to use these instruments.

Betts,<sup>15</sup> and Sheldon,<sup>16</sup> suggested that the teacher begin diagnosing by administering a standardized test of reading achievement. This information would be an indication of the pupils' achievement in relationship to other pupils of about the same age or grade level based on a set of norms. Standardized tests by their very nature are not based on specific classroom materials. They recommend that the second step should be to administer informal reading inventories.

It is argued that informal reading tests are valid because they are constructed from functional materials; that is, the textbooks or reading matter that the pupil is going to use. It is further argued that because of this factor they are more accurate than standardized tests, at least insofar as they are used to place pupils in reading materials for instruction.<sup>17</sup>

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<sup>15</sup>Emmett A. Betts, The American Adventure Series Handbook (Evanston: Row, Peterson and Company, 1960), pp. 10-16.

<sup>16</sup>William D. Sheldon and Mary C. Austin, Sheldon Basic Series: Teacher's Manual (Boston: Allyn and Bacon, Inc., 1964), pp. 27-43.

<sup>17</sup>Joseph P. Kender, "How Useful Are Informal Reading Tests?" The Journal of Reading, II (February, 1968), p. 337.

One authority stated that, "both standardized and informal tests can help in grouping students for instruction, determining reading levels, and diagnosing reading achievement."<sup>18</sup>

According to Betts, the informal reading inventory may provide "the basal reading level, independent reading level, instructional reading level, and specific reading needs at the instructional level."<sup>19</sup> The basal reading level is the level of supplementary and independent reading. At this level the pupil should read with 90 per cent comprehension, 99 per cent pronunciation, no head movement, finger-pointing, or vocalization, and read with good phrasing.<sup>20</sup> Thus, if a pupil's reading grade score is approximately 3.2 on the informal reading inventory, that pupil should be placed in the first reading book at the third grade level. Similarly, a pupil scoring approximately 1.8 on an informal reading inventory would naturally be placed in the second reading book at the first grade level. The independent reading level refers to the level at which the pupil is able to read fluently and with personal satisfaction without the aid of the teacher or some other help. At this level the pupil encounters practically

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<sup>18</sup>Roger Farr, Reading: What can be measured? (Newark: International Reading Association, 1969), p. 122.

<sup>19</sup>Betts, op. cit., p. 17.

<sup>20</sup>Emmett A. Betts, Foundations of Reading Instruction (New York: American Book, 1946), p. 448.

no mechanical difficulties with the words and no problems with understanding the material. "The level is generally defined as that level where the child makes no more than one error in 100 words in the mechanics of reading and where he has no difficulties in comprehension."<sup>21</sup>

Some specific reading needs at the instructional level of the pupil may be deficiencies in syllabication, word recognition, word analysis, vocabulary development, comprehension, interpretation, etc. The pupil's inventory will be an assessment of his particular reading needs.

Another important level for the diagnostician, teacher and pupil to consider is a possible mental capacity level. This level is sometimes determined when an intelligence quotient score is not available or when an intelligence quotient score is in doubt for various reasons. This level is sometimes tested by determining a student's listening capacity level. Material of increasing conceptual difficulty is read to the pupil. The criteria for establishing a listening capacity level is determining whether the pupil understands 75 per cent of the material read to him. This is done by asking him questions, or having him describe some of the facts or experiences cited in the material.<sup>22</sup> Knowing the capacity level may be one indication of the child's reading potential.

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<sup>21</sup>Zintz, loc. cit.

<sup>22</sup>Betts, loc. cit.

It is important for teachers and diagnosticians to be familiar with the different levels of reading. Such expertise should bring about a better assessment of the pupil's reading levels. The main use of these levels should be in guiding teachers to set up appropriate instructional programs for pupils.

The literature yielded different opinions among reading authorities about standardized and informal means of arriving at levels suitable for instruction. In establishing a suitable level for instruction one must know the reading deficiencies of pupils. Standardized reading tests purport to give teachers and diagnosticians that level. Do they? Most of the literature reviewed indicates that they do not. If standardized tests are insufficient in providing teachers and diagnosticians with accurate information for instruction, should not researchers and teachers explore alternatives beyond standardized reading tests?

This pilot study proposes an alternative to tests, both informal and standardized. The use of games as diagnostic tools may be especially valuable in their appeal to children and diagnostic value to teacher and pupil. Games are often used in classrooms to teach, review, and reinforce different reading skills. Professional and non-professional publications, and numerous teachers' manuals of basal reading series recommend the use of games in teaching and learning situations. One source cited that:

. . . The impulse to play games is part of your child's nature. . . what a child learns in his games adds to and is incorporated into his school instruction. His games awaken the eagerness to learn, to think, to imagine, to listen, to create, and to express his ideas. . . . With games it is easy to overcome. . . hostility to the work involved in studying, memorizing, or reviewing, and to transform these negative attitudes into a lifelong love of learning.<sup>23</sup>

Perhaps diagnosing can be transformed into a love of being diagnosed, through commercial, teacher-made and, pupil-made games.

#### DIAGNOSIS INVOLVES THE APPRAISAL OF PHYSICAL, EMOTIONAL AND ENVIRONMENTAL FACTORS

It must be understood by diagnosticians and teachers that a reasonable measure of a pupil's reading success is related to physical health.

. . . In order that he may succeed in learning to read the child must focus on words and a line of print, move along a line, make return sweeps to the next line, change focus, note similarities and differences, recognize figure-ground relationships, and concentrate visually. When the teacher notices the child squinting, rubbing eyes, holding material too close or too far away, reversing letters, or blinking, he may rightly question the efficiency of the child's visual functioning. Hearing is one of the senses that is important for the reading process. When the child confuses the phonemes he hears, he cannot correctly form the phoneme-grapheme relationships. His response will usually reflect this difficulty.<sup>24</sup>

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<sup>23</sup> Abraham B. Hurwitz and Arthur Goddard, Games to Improve Your Child's English (New York: Simon and Schuster, 1969), p. 13.

<sup>24</sup> Clifford L. Bush and Mildred H. Huebner, Strategies for Reading in the Elementary School (New York: The Macmillan Company, 1970), p. 9.

In addition to sight and hearing, "low energy level. . . nervous tension. . . physical fatigue . . . and vitamin deficiencies have been associated with poor reading."<sup>25</sup>

Children suffering from a low energy level may appear to be sluggish, apathetic, dull, and unattentive. If the diagnostician and teacher are aware of this energy level preceding, during, or after the diagnostic period, a better assessment of the child's difficulties could be made. Hence, programs dealing with the amelioration of such difficulties could be explored and possibly set up through the school to help the child overcome this hindrance or low energy level.

A child who is experiencing nervous tension may be described as one who is jumpy, jittery, fidgety, tense, fearful and sensitive. The child possessing these characteristics, generally, will be unable to follow a line of print, nor participate in a discussion because of the discomfort he is experiencing. Understanding the child's problem should guide the diagnostician in setting up a program of instruction, whereby the child can function with a feeling of security.

Children who are suffering from physical fatigue and vitamin deficiencies may be unable to function to their capacity level. They may be characterized by tiredness, boredom, exhaustion, and inadequate work. Knowledge of these deficiencies should aid in contacting the proper sources for assistance.

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<sup>25</sup>John J. DeBoer and Martha Dallmann, The Teaching of Reading, (New York: Holt, Rinehart and Winston, Inc., 1970), p. 20.

Smith and Dechant,<sup>26</sup> mentioned such conditions as adenoids, infected tonsils, poor teeth, rickets, asthma, allergies, tuberculosis, rheumatic fever, and other prolonged illnesses as possible factors in reading retardation. If any of the aforementioned defects are causing poor reading, as much assistance as possible should be made available in order that a suitable program for instruction is established.

The physical health of a child is essential to learning. Poor health can cause retardation in reading. Teachers and diagnosticians must be aware of the pupil's physical health and the assistance that can be given the child to ameliorate some of the physical discomfort that may be plaguing him.

The child's emotional status must be appraised in diagnosis. Tinker and McCullough described immature children as: "shy and fearful, self-centered, uncooperative in routine school activities, unable to get along with other children in play or work, and easily upset."<sup>27</sup> It was further pointed out that:

. . . Inadequate emotional stability, insufficient self-reliance, and inability to cooperate may handicap a child in his efforts to learn to read. However, it has been shown again and again that a child with symptoms of emotional maladjustment need not necessarily fail in reading. In fact many such children learn to read well.<sup>28</sup>

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<sup>26</sup>Henry P. Smith and Emerald V. Dechant, Psychology in Teaching Reading (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1961), pp. 154-155.

<sup>27</sup>Miles A. Tinker and Constance M. McCullough, Teaching Elementary Reading, (New York: Appleton-Century-Crofts, 1968), p. 103.

<sup>28</sup>Ibid.

Knowledge of one or more of the situations mentioned above will give the teacher and diagnostician a clearer picture of the child's performance in the classroom. With this helpful information, the teacher and diagnostician can proceed in setting up an instructional reading program for the child. It is important to note that one should not wait until all of these situations are corrected before reading instruction is begun or continued, because reading does help children to become secure in the classroom.

A child's environment is "whatever operates as a signal to direct it toward. . . or away from. . . conditions."<sup>29</sup> Family, friends, enemies, social surroundings, and physical conditions are related factors which touch the child's life. The conditions may be impoverished, desolate, non-stimulating, depressed, and vociferous. Children coming from an area such as this may lack some of the necessary skills needed for reading. This environment may not have provided them with the pre-school and out-of-school experiences required for reading success. Teachers and diagnosticians must be aware of the fact that all children coming from this type of environment are not handicapped by it. On the other hand, an environment can be stimulating, encouraging, reassuring, inspiring, rewarding, and demanding. In such an environment the child is permitted to explore freely, to enjoy, to participate in, become

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<sup>29</sup>Paul Monroe (ed.), A Cyclopdia of Education (New York: The Macmillan Company, 1911), p. 487.



more fully aware of, and to be a part of situations surrounding him. Children living in such an environment are more apt to enter school ready to begin reading or continue reading than the children coming from the aforementioned environment.

Naturally, the physical, emotional, and environmental factors are discrete entities which must be considered in diagnosing children. During the diagnostic period these factors must be contemplated because they have an effect on the child's reading performance. The significance of including these factors in the diagnostic process is to get a total picture of the child. The total picture would allow the teacher and diagnostician to view the complete child, thus permitting them to delete facts not related to reading retardation. This information is usually obtained from a medical report, intelligence quotient score, and formal and informal observations. Knowledge gleaned through these records would be retained and analyzed.

This pilot study proposes to obtain comparable information through informal observation, and by playing the fifteen games with pupils, as advocated by this study.

## SUMMARY

The literature reviewed yielded various opinions among leading reading authorities about standardized and informal measures of testing. From this review, it can be asserted that children are continually being tested, retested, labeled, grouped, treated for their diagnosed reading deficiencies according to reading tests, and still continuing to experience reading failure. To this investigator's knowledge, based on careful review of the literature, no study has attempted to diagnose children through the use of commercial games. This pilot study explores possible alternatives to traditional testing.

### CHAPTER III

#### PROCEDURE

The purpose of this chapter is to describe the procedure utilized in completing this pilot study.

#### SAMPLE

The sample, forty-three children, with a mean IQ of 101, came from Crocker Farm Elementary, East Street Elementary, Mark's Meadow Elementary, Amherst Junior High, St. Michael's Elementary, and South Deerfield Elementary Schools. All of the schools are located in Amherst, Massachusetts with the exceptions of St. Michael's, which is located in Northampton, Massachusetts, and South Deerfield Elementary, located in Deerfield, Massachusetts. Table II presents the schools, distribution of grades within each school, the number of enrollment, the operating cost per pupil, and the special services provided within the schools. The average annual expenditure per pupil for Massachusetts' cities and towns is \$670.00.

Amherst, Northampton, and South Deerfield are New England towns located in the Western part of Massachusetts. Amherst, and Northampton have their share of higher learning institutions. Amherst contains the University of Massachusetts, 1863, Amherst College, 1821, and Hampshire, College, 1970.

TABLE II

## OPERATING FACTS ABOUT THE SCHOOLS

Elementary Schools	Distribution of grades	Enrollment	Operating Cost Per Pupil	Special Services
Crocker Farm	K-6	475	601.00	RS PE ST MT GC N
East Street	3-4	86	601.00	RS PE ST MT GC N
Mark's Meadow	K-6	360	601.00	RS PE ST MT GC N
Amherst Junior High	5-6	114	601.00	RS PE ST MT GC N
St. Michael's	1-8	245	240.64	U CT U CT GC N
South Deerfield	K-6	311	650.00	RS PE ST MT GC N

NOTE: RS Reading Specialist  
 PE Physical Education Teacher  
 ST Speech Therapist  
 MT Music Teacher  
 GC Guidance Counselor  
 N Nurse  
 U Utilizes services from another school  
 CT Classroom Teacher

Northampton has Smith College, established in 1875, an all women's college. All of the towns are predominantly white, and reflect a middle-class environment.

In September, 1970, thirty students from a reading diagnosis course at the University of Massachusetts were introduced to the design of this study. Their course requirement was to learn through video taped demonstrations, how to diagnose children for reading deficiencies through traditional testing, and to play commercial games<sup>1</sup> with pupils to make judgments about the criteria as they appear in Table III. The criteria selected are comparable to information gathered through traditional diagnostic case studies.

In order for the children to participate, permission had to be granted by both schools and parents. Letters, parent information forms, summary school record forms, and release forms for school records were sent to the schools. This information is presented in Appendix A. The teachers selected the students and forwarded letters, parent information forms, and release forms for school records to the parents. Notification of permission was received through the returned signed letters, release forms, and the completed parent information forms.

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<sup>1</sup>Games were donated by the Milton Bradley Company (Springfield, Massachusetts). The company is interested in research done with games.

TABLE III  
CLINICIAN'S FORM (GAMES)

Clinician \_\_\_\_\_ Name of Child \_\_\_\_\_ Date \_\_\_\_\_ Session # \_\_\_\_\_

Criteria	1 + or -	2 Age Grade yr. -mos.	3 Game #	4 Time Played (mins.)
✓ Word Analysis				
Syllabication		//////		
Word Recognition		//////		
Reading Grade Level	//////			
Intelligence quotient	//////	I. Q.		
Oral Reading Fluency	//////			
Oral Reading Comprehension	//////			
Silent Reading Comprehension	//////			
✓ Listening Comprehension	//////			
Presence of Reversals		//////		
Lateral Dominance	//////	R. L. M.		
Visual Acuity		//////		
Visual Discrimination		//////		
Auditory Acuity		//////		
Auditory Discrimination		//////		
Emotional Adjustment		//////		
Interests		//////		
✓ Attitudes		//////		
Visual Memory		//////		
Auditory Memory		//////		
Concept Formation		//////		
Visual-motor Coordination		age		
Physical Problems		//////		
General Language		age		

Column 1 Enter "+" if you think the child passed the criterion.  
Enter "-" if you think he failed the criterion. (The "+" means good for the child's age, the "-" means poor for the child's age.)

Column 2 Enter the age or grade level at which the child performs where appropriate (blank). Under Intelligence enter your best guess as to I. Q.

Column 3 Enter number of games used for diagnosing the difficulty after each criterion.

Column 4 Enter time you played the game in minutes.

How do you feel?

good \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: bad

sad \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: happy

play \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: \_\_\_\_: work.

## DATA GATHERING

This pilot study covered a ten week period of diagnosing reading difficulties with formal tests and commercial games. It began with thirty clinicians and sixty pupils with a range of second through sixth grade. During the ten week period, seventeen of the pupils, and one clinician were dropped from the study because of insufficient data recording for thirteen children, one child's parents refused to let him continue, three children refused to continue participating, and one clinician dropped the course. The study continued with one second grader, sixteen third graders, seven fourth graders, eighteen fifth graders, and four sixth graders. The number of students per grade level are presented in Table IV. Table IV includes Group A and Group B. Group A was tested, and Group B played games during the first five weeks. During the second five weeks the order was reversed. Throughout the period fifteen different commercial games were played and a battery of tests were administered to forty-three pupils individually.

Clinicians participating in the study administered the following battery of tests to pupils, utilizing a varied number of testing sessions.

1. Roswell-Chall Diagnostic Reading Test of Word Analysis Skills
2. University of Massachusetts Reading Center Comprehensive Informal Reading Inventory
3. Durrell Analysis of Reading Difficulty
4. Phonics Knowledge Survey
5. Gray Oral Reading Test

TABLE IV

## GRADE LEVEL AND NUMBER OF PUPILS

		G R O U P A				
Grades	2	3	4	5	6	
Pupils	1	6	2	12	2	

		G R O U P B				
Grades	2	3	4	5	6	
Pupils	0	7	5	6	2	



6. Lorge-Thorndike Intelligence Tests (the schools administered this test)
7. The Harris Test of Lateral Dominance
8. Keystone Visual Survey Telebinocular Test
9. Auditory Discrimination Test
10. Inventory of Interest and Attitudes
11. John N. Buck Time Appreciation Test

The test results were interpreted and compiled into the Test Battery Form presented in Appendix B. Copies of the tests administered are presented in Appendix C.

The clinicians played games with pupils in ten sessions. Following is a descriptive list of the fifteen commercial games used in this study:

1. Guess Again

This game consists of an electric box with pegged wires, 250 questions, and 750 answers on punched cards. Players take turns reading the questions and pegging their answers. If the right answer is pegged a white electric bulb lights, if wrong, a red bulb lights, and the player must guess again. All players should answer the same number of questions. The player who has the highest score at the end of the game is the winner.

2. Dial 'N Spell

Dial 'N Spell is set up to look like a telephone dial, but instead of numbers in each dial hole there are alphabet letters. Surrounding the dial wheel are various pictures. At the top of the board are the names of the pictures spelled correctly. The child can spell the names of the pictures by dialing letters. If he spells the word correctly, an arrow on the dial points to the object. Five additional cards accompany this game providing a total of ninety-nine different words and objects.

3. Look and Learn Lotto

This game consists of six large Lotto cards, and a small deck of matching cards. Every large card has eight objects, the name of the object printed below, and the first letter of the word in the upper left hand corner. To play this game, each player must select a large Lotto card. The leader takes a small card, and holds it up for all to see. The first player to recognize the object as one on his Lotto card, and

say its name is given the card to place over his matching object. The object of the game, is to be the first to cover all of the objects on a player's card with matching small cards.

#### 4. Concentration

Concentration is a game for two to five players. The equipment consists of a concentration box with different sets of puzzles, a gift rack for the winners' prizes, and play money. In playing this game players try to uncover matching pairs of gift cards, which are removed from the concentration board and put on his rack. As the cards are taken away, part of a hidden rebus, or word puzzle appears. The object of the game is to solve the puzzle, and win the prizes in the player's rack.

#### 5. Game of the States

Game of the States consists of a large imprinted United States playing board, state cards, miniature trucks, wooden counters, play money, and spinners. The players must read the state cards to find out the name of the state, the state products, its population, and other general information. The game's focal point is on traveling by plastic truck from one state to another, buying, delivering and selling state products. Players compete with their opponents to see who can sell the most from coast to coast.

#### 6. Animal Lotto

Animal Lotto consists of six large Lotto cards, and a small deck of matching cards. Every large card has pictures of eight different animals, and the name of the animal printed next to it. To play this game, each player must select a large Lotto card. The leader takes a small card, and holds it up for all to see. The first player to recognize the animal as one on his Lotto card, and say its name is given the card to place over his matching animal. The object of the game is to be the first to cover all of the animals on a player's card with matching small cards.

#### 7. Geography Lotto

Geography Lotto consists of six large Lotto cards, and a small deck of matching cards. Every large card has a picture of eight different states with the names of the states given, and other general information about the states. To play this game, each player must select a large Lotto card. The leader takes a small card, and holds it up for all to see. The first player to recognize the state as one on his card, and call

it by name is given the card to place over his matching state. The object of the game is to be the first to cover all of the states on a player's card with matching small cards.

#### 8. Foresight

Foresight is a challenging word game. The game consists of sets of letters, and an alphabet rack. Each player receives an identical set of letters which are placed in their alphabet rack. One player calls a letter, and both must try to use it to begin to form a word. Both players form words secretly on their racks, alternating in the calling of letters. The object of the game is to form words using a limited number of letters. Points are scored according to the number of letters in each word, and the number of words formed. The player with the most points at the end of the game is the winner.

#### 9. Recall

Recall is a game for two, three, or four players. The equipment consists of a turn table, show tray, design cards, recall trays, spinner, and score pad. The object of this game is to recall a design exposed briefly on a revolving turntable. The players are expected to duplicate in as much detail as possible the design with their design cards in their recall trays. Points are given for each correctly placed card. The player with the most points at the end of the game is the winner.

#### 10. Old Maid

Old Maid consists of nineteen pairs of cards, and one odd card. The odd card is the Old Maid. All cards are dealt to the players. The object of the game is to match pairs of cards by drawing cards from a neighboring opponent. The player caught holding the odd card after all pairs are matched is called the "Old Maid."

#### 11. Jumbo Old Maid

Jumbo Old Maid is played with giant size cards with full color illustrations of the Old Maid and other characters. Each player, in turn selects a card from an opponent's hand, and tries to eliminate all of his cards by pairing characters. The player caught holding the Old Maid card at the end of the game is called the "Old Maid."

#### 12. Memory

Memory is a matching game. It consists of fifty-four matching pairs of cards, and a plastic card tray. In this game, players try to locate and collect matching pairs of cards. The player who succeeds in locating the most matched pairs is the winner.

### 13. Password

This game contains two word holders, over 700 words, score pad, rule book, and scoring dial. The game is played by two teams of four people. Each team has a word holder, and a list of words. One person on one team begins the game by giving a verbal clue to his partner. If the word is not guessed the other team repeats the process. The object of the game is to score points by guessing the correct password from one of the clues given by a partner. The team with the most points for correctly guessed passwords wins the game.

### 14. Word Building Lotto

Word Building Lotto consists of six large Lotto cards, and a small deck of matching cards. Every large card has a picture of eight different objects with the name of each object printed beside the picture. To play this game, each player must select a large Lotto card. The leader takes a small card, and holds it up for all to see. The first player to recognize the object as one on his card, and calls it by name is given the card to place over his matching object. The object of the game is to be the first to cover all of the objects on a player's card with matching small cards.

### 15. Snap Judgment

This game consists of word cards, word holders, magic slates with wooden marking pencils, and a bundle of play money. The game is played by two teams of four people. Each team has a list of words. The game begins with one person giving a verbal word-association clue to his partner. If the word is not guessed, the other team repeats the process. Money is given for the words guessed correctly. The team with the largest sum of money at the end of the game is the winner.

After each game session the clinicians made a judgment about the following criteria listed on the clinician's rating form for games presented in Table III.

Clinicians and pupils were assigned numerical numbers, and will be referred to as clinician twenty-nine, twenty-eight, etc., and pupil one, two, etc. The procedure for testing, and gaming was the following: The first week, clinicians one through twenty-three administered one or more of the tests from

the test battery to pupils one through twenty-three. Within the same week clinicians two, five, seven, eight, eleven through eighteen, and twenty through twenty-seven had game sessions with pupils twenty-four through forty-three. The second week clinicians one through twenty-three administered more tests to pupils from the test battery, and clinicians two, five, seven, eight, eleven through eighteen, and twenty through twenty-seven had more game sessions with pupils twenty-four through forty-three. There were ten game sessions, but the number of test sessions were determined by the clinicians. The mean number of test sessions was 5.0. Notes on timing per test session were recorded haphazardly for various reasons, and are therefore not recorded. However, administration of the entire battery of tests requires a maximum of six hours and thirty minutes. Hence, the mean time for playing games was 5.40. Figure I presented this procedure and explains the pairing up of pupils with clinicians throughout the first five week period.

During the first week of the second period clinicians one through six, nine through thirteen, and fifteen through twenty-six had game sessions with pupils one through twenty-three. Within the same week clinicians one through three, seven, eight, eleven through eighteen, twenty, twenty-one, twenty-three, twenty-four, twenty-six, twenty-eight, and twenty-nine administered tests from the battery to pupils twenty-four through forty-three. The second week clinicians one through six, nine through thirteen, and fifteen through twenty-six had more game sessions with pupils one through twenty-three. Clinicians one

C L I N I C I A N S

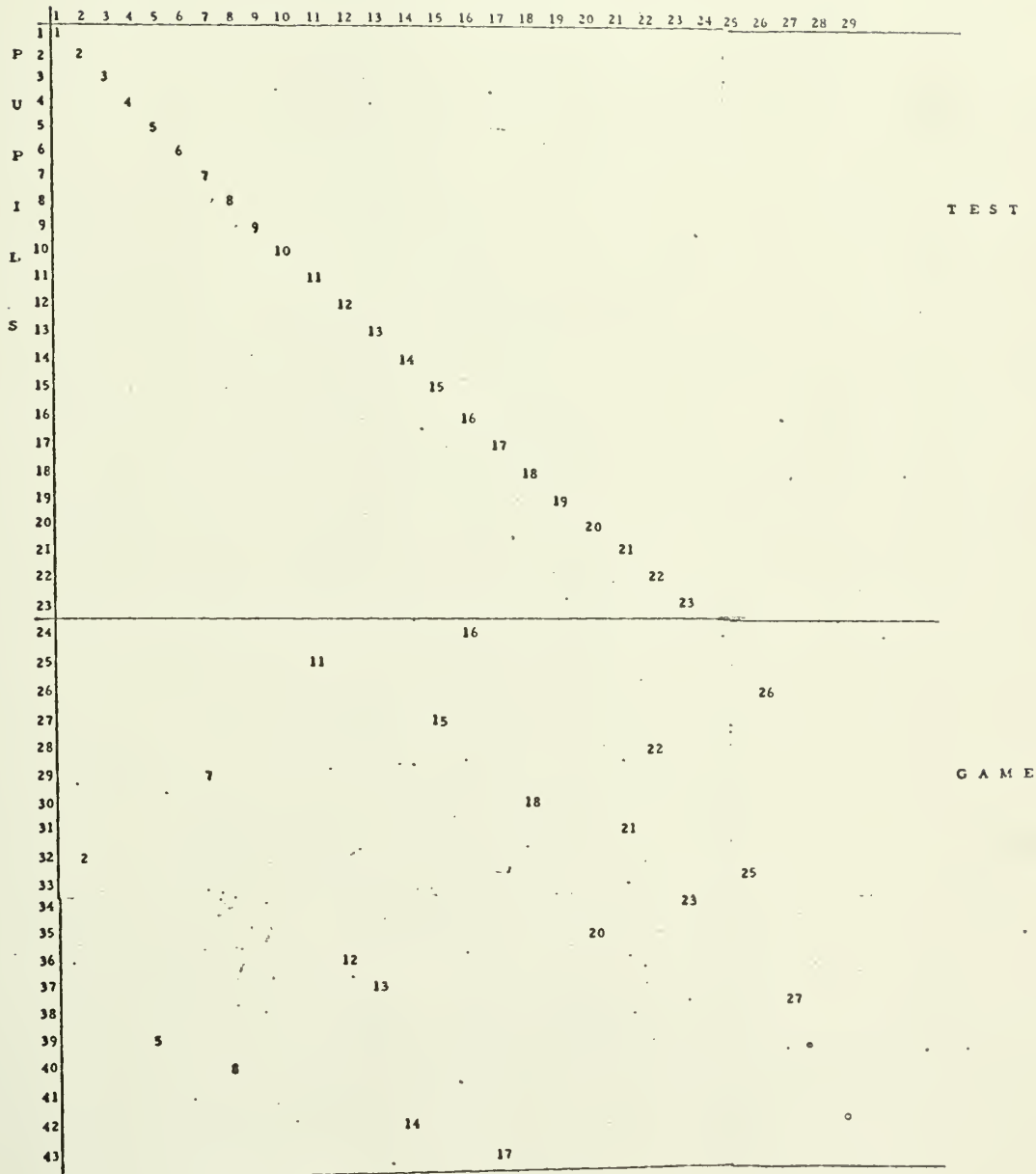


FIGURE 1

FIRST FIVE WEEKS

NOTE: This figure should be read as follows: Clinicians one through twenty-three tested pupils one through twenty-three. Clinicians two, five, seven, eight, eleven through eighteen, and twenty through twenty-seven had game sessions with pupils twenty-four through forty-three.

through three, seven, eight, eleven through eighteen, twenty, twenty-one, twenty-three, twenty-four, twenty-six, twenty-eight, and twenty-nine administered more tests from the test battery to pupils twenty-four through forty-three. There were ten game sessions, but the number of test sessions were determined by the clinicians. The mean number of test sessions for this period was 3.5. Notes on timing per test session were recorded haphazardly for various reasons, and are therefore not recorded. However, administration of the entire battery of tests requires a maximum of six hours and thirty minutes. Hence, the mean time for playing games was 4.28. Figure II presents this procedure, and explains the pairing up of pupils with clinicians throughout the second five week period.

#### DATA RECORDING

Data from the tests were recorded for the twenty-four variables in the following manner.

##### 1. Roswell-Chall Diagnostic Reading Tests of Word Analysis Skills

From the Roswell-Chall the following variables were reported as a plus or minus.

- a. Single consonant sounds
- b. Consonant combinations
- c. Short vowels
- d. Rule of silent e
- e. Vowel combinations

CLINICIANS

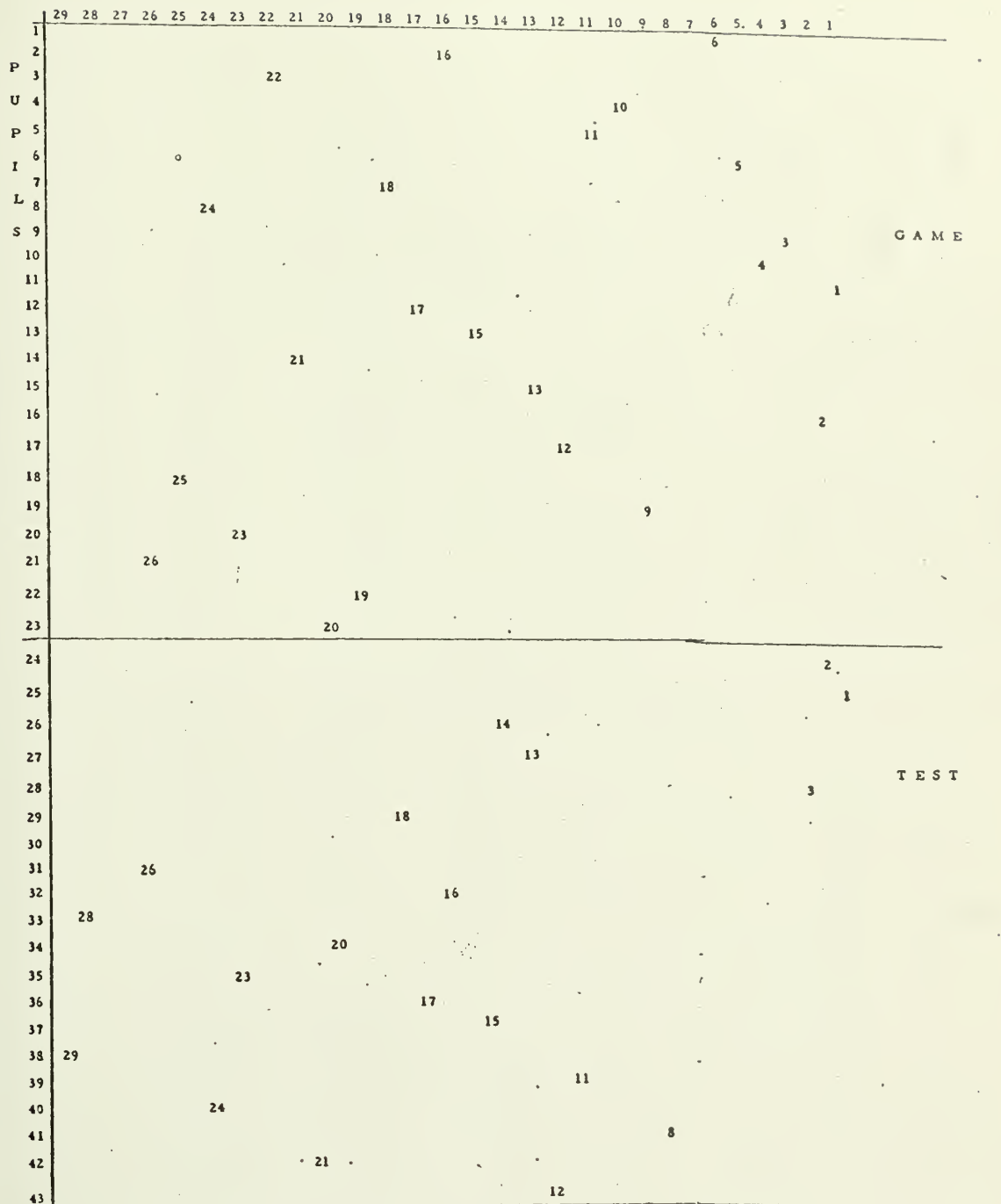


FIGURE 11

SECOND FIVE WEEKS

NOTE: This figure should be read as follows: Clinicians one through six, nine through thirteen, and fifteen through twenty-six conducted game session with pupils one through twenty-three. Clinicians one through three, seven, eight, eleven through eighteen, twenty, twenty-one, twenty-three, twenty-four, twenty-six, twenty-eight, and twenty-nine tested pupils twenty-four through forty-three.



Five of the variables encompassed word analysis and word recognition. If the clinician checked "needs help" for three or more of the variables, the pupil received a minus, indicating failure. If the pupil needs help in less than three of the variables, he received a plus, meaning pass. Syllabication was reported as a plus or minus directly from the test.

1. Word analysis-----
2. Syllabication -----
3. Word recognition -----

## 2. University of Massachusetts Reading Center Comprehensive Informal Reading Inventory

Word analysis and word recognition was assessed through the thirteen analysis skills for recognizing words on page one of the Inventory presented in Appendix C. Ten of the thirteen skills arbitrarily chosen must be known in order to be rated plus. Less than ten was rated minus.

Syllabication, reading grade level, oral reading fluency, oral reading comprehension, silent reading comprehension, visual discrimination, and auditory discrimination was reported directly from the Inventory by grade level or as good or poor. Good was rated as plus and poor as minus.

1. Word analysis-----
2. Syllabication-----
3. Word recognition -----
4. Reading grade level-----
5. Oral reading fluency-----
6. Oral reading comprehension-----
7. Silent reading comprehension-----
8. Visual discrimination-----
9. Auditory discrimination-----

## 3. Durrell Analysis of Reading Difficulty

Pupil ratings were plus or minus for variables numbered one, two, eight and nine below. A plus indicated pass according to the test and a minus indicated failure according to the test. Variables numbered three, four, five, six and seven were reported by grade level as taken directly from the test norms. Variable number ten was rated as plus or minus from observing the pupil, plus his handwriting on the test.

1. Word analysis-----
2. Word recognition-----
3. Reading grade level-----
4. Oral reading fluency-----
5. Oral reading comprehension-----

6. Silent reading comprehension-----
7. Listening comprehension-----
8. Visual memory-----
9. Auditory memory-----
10. Visual-motor coordination-----

#### 4. Phonics Knowledge Survey

Word analysis, syllabication, and word recognition was reported from this test. A plus or minus was given to indicate pass or fail. Word analysis and word recognition was assessed through the fourteen analysis skills for recognizing words on the summary pages of the Survey presented in Appendix C. Of the fourteen skills tested, eleven correct was arbitrarily chosen as the criterion for a plus rating. Less than eleven was rated minus. Syllabication was reported directly from the Survey as a plus or minus.

1. Word analysis-----
2. Syllabication-----
3. Word recognition-----

#### 5. Gray Oral Reading Test

Word analysis was assessed through the number and types of errors made in the passages read, final ratings being determined by: number of mistakes per passage, and specific errors in the passage read. Types of errors are: gross mispronunciation, repetition, and inversion. Five errors equaled a minus, and less than five errors equaled a plus. Reading grade level, oral reading fluency, and oral reading comprehension was assigned a grade level directly from the test.

1. Word analysis-----
2. Reading grade level-----
3. Oral reading fluency-----
4. Oral reading comprehension-----

#### 6. Lorge-Thorndike Intelligence Test

The Lorge-Thorndike Intelligence Test, or any standardized intelligence test, was an assessment of the intelligence quotient.

1. Intelligence quotient-----

#### 7. The Harris Test of Lateral Dominance

Presence of reversals, lateral dominance, and visual-motor coordination was reported from this test. Presence of reversals was reported as a plus or minus. A plus means there are no reversals present. A minus indicates reversals are present. Lateral dominance was reported with a 1, 2, or 3. 1 indicates right dominance, 2 indicates left dominance, and 3 indicates mixed

dominance. Visual-motor coordination was an overall assessment of simultaneous writing and tapping from the test presented in Appendix C. If the pupil was coordinated enough to perform the task, his rating was plus. If he could not perform the writing and tapping tasks, his rating was minus.

1. Presence of reversals-----
2. Lateral dominance-----
3. Visual-motor coordination-----

#### 8. Keystone Visual Survey Telebinocular Test

The variable, visual acuity, was reported from this test. A minus was given if the pupil failed the test, and a plus was given if the pupil passed the test.

1. Visual acuity-----

#### 9. Auditory Discrimination Test

Auditory discrimination was reported directly from the test. A plus indicated adequate, and a minus indicated inadequate.

1. Auditory discrimination-----

#### 10. Inventory of Interest and Attitudes

The investigator pin-pointed specific items from the Inventory to indicate an interest in reading. Items nineteen and twenty were chosen. They are:

19. What subjects do you like best? Why?
20. What subjects do you like least? Why?

Positive answers about reading were rated with a plus, and negative answers were rated with a minus. Both answers must be positive in order to receive a plus.

An attitude toward reading was determined by the following items:

23. Do you like to have someone read to you? Who?
24. Do you enjoy reading to yourself?
25. What kinds of stories do you like?
26. Do you have any books of your own?

Positive answers, in the opinion of the investigator, were rated with a plus and negative answers were rated with a minus. Three answers must be positive in order to receive a plus rating for attitude toward reading.

General language was rated with a plus if the child responded to 90% of the items on the Inventory of Interest and Attitudes. Less than 90% was rated minus. Ninety per cent was arbitrarily chosen by the investigator.

1. Interest-----
2. Attitude-----
3. General language-----

### 11. John N. Buck Time Appreciation Test

Concept formation abilities were determined through this test. If a pupil received a score of less than sixteen for third grade, less than twenty-five for fourth grade, less than thirty-one for fifth grade, or less than thirty-five for sixth grade, he received a minus, indicating failure. If he received a score of what was indicated for grade level, he received a plus, indicating pass. The scores chosen per grade level are based on the mental age column and test point score column of the tentative norms table set up for the Time Appreciation Test presented in Appendix C.

#### 1. Concept formation-----

Data from the games were recorded for the twenty-four variables in the following manner.

- ✓1. Word analysis - was rated a plus or minus, and assigned a grade level.
- ✓2. Syllabication - was rated with a plus or minus.
- ✓3. Word recognition - was rated with a plus or minus.
- ✓4. Reading grade level - was assigned a grade level.
- ✓5. Intelligence quotient - was assigned a numerical number.
- ✓6. Oral reading fluence - was rated a plus or minus, and assigned a grade level.
- ✓7. Oral reading comprehension - was assigned a grade level.
- ✓8. Silent reading comprehension - was assigned a grade level.
- ✓9. Listening comprehension - was assigned a grade level.
10. Presence of reversals - was rated with a plus or minus.
11. Lateral dominance - was rated R, L, or M. R indicated right, L indicated left, and M indicated mixed. For computer analysis R equaled 1, L equaled 2, and M equaled 3.
12. Visual acuity - was rated with a plus or minus.
13. Visual discrimination - was rated with a plus or minus.
14. Auditory acuity - was rated with a plus or minus.
15. Auditory discrimination - was rated with a plus or minus.
16. Emotional adjustment - was rated with a plus or minus.
- ✓17. Interest - was rated with a plus or minus.
- ✓18. Attitudes - was rated with a plus or minus.
19. Visual memory - was rated with a plus or minus.
20. Auditory memory - was rated with a plus or minus.
21. Concept formation - was rated with a plus or minus.
22. Visual-motor coordination - was rated plus or minus, and assigned an age level.

23. Physical problems - was rated with a plus or minus.
- ✓24. General language - was rated with a plus or minus, and assigned an age level.

For computer analysis the plus equaled 9, and the minus equaled 8.

### SUMMARY

This chapter gives a description of the procedures of this pilot study. The results are reported in Chapter IV. Copies of the tests used are located in Appendix C.

## CHAPTER IV

### RESULTS OF THE PILOT STUDY

#### INTRODUCTION

The primary purpose of this chapter is to report:

1. the Pearson product-moment coefficients of correlation between test data and game data.
2. an analysis of variance between the following relationships:
  - a. are there significant differences in scores between the first five weeks and the second five weeks (order effect or practice effect)?

T <sub>1</sub>	G <sub>2</sub>
G <sub>1</sub>	T <sub>2</sub>

T<sub>1</sub> + G<sub>1</sub> and G<sub>2</sub> + T<sub>2</sub>

- b. are there significant differences in scores between the two groups (pupils 1 - 23 and pupils 24 - 43)?

Pupils 1-23

Pupils 24-43

T <sub>1</sub>	G <sub>2</sub>
G <sub>1</sub>	T <sub>2</sub>

T<sub>1</sub> + G<sub>2</sub> and G<sub>1</sub> + T<sub>2</sub>

- c. are there significant differences between test scores and game scores?

T <sub>1</sub>	G <sub>2</sub>
G <sub>1</sub>	T <sub>2</sub>

T<sub>1</sub> + T<sub>2</sub> and G<sub>1</sub> + G<sub>2</sub>

#### ANALYSIS OF DATA

To report:

1. the Pearson product-moment coefficients of correlation between test data and game data.
2. an analysis of variance (of significant differences among mean scores) between:
  - a. the first five weeks and the second

T <sub>1</sub>	G <sub>2</sub>
G <sub>1</sub>	T <sub>2</sub>

T<sub>1</sub> + G<sub>1</sub> and G<sub>2</sub> + T<sub>2</sub>

- b. the groups of pupils (1 - 23 and 24-43)

T <sub>1</sub>	G <sub>2</sub>
G <sub>1</sub>	T <sub>2</sub>

T<sub>1</sub> + G<sub>2</sub> and G<sub>1</sub> + T<sub>2</sub>

c. the test scores and the game scores,

T <sub>1</sub>	G <sub>2</sub>
G <sub>1</sub>	T <sub>2</sub>

T<sub>1</sub> + T<sub>2</sub> and G<sub>1</sub> + G<sub>2</sub>

each criterion has a game score and a test score. The tests overlapped considerably in measuring the criteria as is noted in Chapter III under "Data Gathering." For the analysis, specific tests from the test battery were deliberately chosen as the measuring instruments. The tests chosen and the twenty-four criteria are presented in Table V.

Only in cases where more than one test was used to test one variable, were some tests deleted. For example, for "word analysis skills," the Informal Inventory, the Durrell Analysis, the Roswell-Chall Diagnostic Reading Tests, Phonics Knowledge Survey, and the Gray Oral Reading Test were all used. The investigator chose the Gray Oral Reading Test, probably the most sophisticated test of all, for analysis purposes.



## CRITERIA AND TESTS

Criteria	Tests
✓ Word analysis	Gray Oral Reading Test
✓ Syllabication	Durrell Analysis of Reading Difficulty
✓ Word recognition	Roswell-Chall Diagnostic Reading Test of Word Analysis Skills
✓ Reading grade level	Informal Inventory
✓ Intelligence quotient	Large-Thorndike Intelligence Tests
✓ Oral reading fluency	Gray Oral Reading Test Informal Inventory
✓ Oral reading comprehension	Gray Oral Reading Test
✓ Silent reading comprehension	Informal Inventory
✓ Listening comprehension	Durrell Analysis of Reading Difficulty
Presence of reversals	The Harris Test of Lateral Dominance
Lateral dominance	The Harris Test of Lateral Dominance
Visual acuity	Keystone Visual Survey Telebinocular Test, Medical Report
Visual discrimination	Informal Inventory
Auditory acuity	Audiometer Medical Report
Auditory discrimination	Auditory Discrimination Test
Emotional adjustment	Observation, Subjective Judgment
✓ Interest	Inventory of Interest and Attitudes
✓ Attitudes	Inventory of Interest and Attitudes
Visual memory	Durrell Analysis of Reading Difficulty
Auditory memory	Durrell Analysis of Reading Difficulty
Concept formation	John N. Buck Time Appreciation Test
Visual-motor coordination	The Harris Test of Lateral Dominance
Physical problems	Observation, Medical Report
✓ General language	Observation, Medical Report

Informal Inventory = University of Massachusetts Reading Center Comprehensive Informal Reading Inventory

Table VI reports the actual scores made by pupils 1-43 on the tests and the games. For nineteen of the variables a plus "+" or minus "-" rating was given. The plus "+" was arbitrarily assigned the numerical value of "9" (which represents a pass), and the minus "-" was arbitrarily assigned the numerical value of "8" (which represents a fail), for the purpose of computer processing where numbers are needed.

The Pearson product-moment coefficients of correlation between test data and game data for the criteria are reported in Table VII.

For what most reading specialists would consider the most important variables, or at least the variables which are most easily defined, the correlations are relatively high and positive, that is, over .50. These variables are: (1) Word analysis (grade level), (2) Word recognition, (3) Reading grade level, (4) Oral reading fluency (grade level), (5) Oral reading and comprehension, (6) Silent reading comprehension, and (7) Listening comprehension.

For only four of the variables are there negative correlations. These are: (1) Visual acuity, (2) Visual discrimination, (3) Attitudes, and (4) Visual memory. Perhaps it takes a certain kind of training to recognize these abilities while playing games. Or, in the case of the latter three, perhaps the tests are not valid.

All but four of the correlations are positive, and as mentioned earlier, seven of the most traditionally important variables are positive and over .50.



TABLE VI (Continued)

	WORD ANALYSIS	SYLLABICATION	WORD RECOGNITION	READING GRADE LEVEL	INTELLIGENCE QUOTIENT	DRAFL READING FLUENCY	ORAL READING COMPREHENSION	SILENT READING COMPREHENSION	LISTENING COMPREHENSION	PRESENTATION REVERSALS	VISUAL DISCRIMINATION	AUDITORY DISCRIMINATION	EMOTIONAL ADJUSTMENTS	CONCEPT VISUALIZATION	GENERALIZATION
24 TEST	83.4	88	3.5	100	83.5	3.4									
24 GAME	93.7	99	4.0	123	93.7	3.7	3.7	3.7	9	1	9	9	9	9	9
25 TEST	81.9	88	.5	100	.5	1.9	.5								
25 GAME	81.8	88	1.6	95	81.5	1.8	1.8	3.2	9	1	9	9	9	9	9
26 TEST	82.6	88	.8	86	.8	2.6	.8								
26 GAME	8	88	2.6	110	81.8	1.8		2.8	9	1	9	9	9	9	9
27 TEST	94.0	99	.9	108	.9	4.0	.9	3.6	9	1	9	9	9	9	9
27 GAME	95.1	99	5.0	100	95.0	5.0	5.0	4.0	1	9	9	9	9	9	9
28 TEST	98.5	99	3.2		93.2	8.5	3.2	6.0	9	1	9	9	9	9	9
28 GAME	98.5	99	6.5	110	9	6.5	6.5	6.0	9	1	9	9	9	9	9
29 TEST	84.5	9	2.2	114	82.2	4.5	2.2								
29 GAME	84.0	89	4.0	115	83.0	4.0	4.0	4.2	9	1	9	9	9	9	9
30 TEST	81.7	88	.5	87	.5	1.7	.5	3.0	9	1	9	9	9	9	9
30 GAME	81.0	88	1.0	110	81.2	1.2	1.0	3.0	9	1	9	9	9	9	9
31 TEST	82.5	9	2.6	91	82.6	2.5	2.6								
31 GAME	83.0	88	3.0	108	93.0	3.5	3.0	3.5	9	1	9	9	9	9	9
32 TEST	81.7	88	.8	75	.8	1.7									
32 GAME	82.0	89	2.1	100	82.1	2.0	2.5	2.8	8	2	9	9	9	9	9
33 TEST	95.3	89	3.1	105	83.1	5.3	4.5								
33 GAME	94.0	99	4.0	100	94.0	4.0	4.0	4.0	9	1	9	9	9	9	9
34 TEST	82.2	99	3.3		83.3	2.2	3.3								
34 GAME	96.0	99	6.0	110	96.0	6.3	6.3	6.3	9	1	9	9	9	9	9
35 TEST	95.5	99	4.1	114	94.1	5.5									
35 GAME	94.0	99	5.2	120	95.1	5.0	5.0	5.2	9	1	9	9	9	9	9
36 TEST	82.2	88	1.2	93	81.2	2.2	1.2	3.0	9	1	9	9	9	9	9
36 GAME	82.0	88	2.0	90	82.0	2.0	2.0	2.0	9	8	8	8	8	8	8
37 TEST	83.2	99	2.1	108	82.1	3.2	2.1								
37 GAME	94.0	99	4.0	120	94.0	4.0	4.0	4.0	9	1	9	9	9	9	9
38 TEST	83.5	89	2.2	108	82.2	3.5	2.2	3.8	9	1	9	9	9	9	9
38 GAME	9	9			9				9	1	9	9	9	9	9
39 TEST	98.7	99	5.1	123	95.1	5.1	5.0	9	2	9	9	9	9	9	9
39 GAME	95.0	99	5.2	110	95.0	4.8	5.2	4.8	9	3	9	9	9	9	9
40 TEST	4.8	88	3.1	109	83.1	4.8	3.1								
40 GAME	93.2	99	3.8	115	82.5	3.0	4.0	5.0	9	1	9	9	9	9	9
41 TEST	83.2	99	3.5	106	83.5	3.2	3.5	4.2	9	1	9	9	9	9	9
41 GAME	96.7	99	6.3	120	96.5	6.6	6.6	6.8	9	1	9	9	9	9	9
42 TEST	81.8	88	2.5	109	82.5	1.8	2.5	4.5	8	3	9	9	9	9	9
42 GAME	93.0	99	3.0	112	93.0	3.0	3.0	3.0	8	1	9	9	9	9	9
43 TEST	85.4	88	2.2	93	82.2	5.4	2.2								
43 GAME	96.0	99	6.0	105	96.0	6.0	6.0	6.0	9	1	9	9	9	9	9

TABLE VII  
 PRODUCT-MOMENT CORRELATION COEFFICIENTS FOR NUMBER OF CASES BETWEEN TEST DATA  
 AND GAME DATA

CRITERIA	Number of Cases	Mean		Std. Dev		Mean		Std. Dev		Corr. Coeff
		X	Y	X	Y	X	Y			
Word analysis (+ or -)	37	8.217		0.45		8.62		0.49		0.35
Word analysis (grade level)	36	3.71		1.83		4.03		1.60		0.58
Syllabication	40	8.35		0.48		8.75		0.44		0.42
Word recognition	41	8.54		0.50		8.68		0.47		0.52
Reading grade level	41	2.20		1.37		4.07		1.47		0.64
Intelligence quotient	34	101.94		12.84		108.18		8.95		0.14
Oral reading fluency (+ or -)	40	8.18		0.38		8.68		0.47		0.18
Oral reading fluency (grade level)	36	2.33		1.39		3.98		1.50		0.57
Oral reading comprehension	37	3.40		1.71		4.04		1.55		0.56
Silent reading compre- hension	32	2.38		1.40		4.19		1.53		0.67
Listening comprehension	16	4.11		1.04		4.47		1.40		0.68
Presence of reversals	40	8.90		0.30		8.95		0.22		0.31
Lateral dominance	42	1.17		0.44		1.14		0.47		0.47
Visual acuity	42	8.98		0.15		8.98		0.15		-0.02
Visual discrimination	43	8.98		0.15		8.93		0.26		-0.04
Auditory acuity	41	8.95		0.22		8.95		0.22		0.47
Auditory discrimination	42	8.88		0.33		8.93		0.26		0.18
Emotional adjustment	40	8.75		1.43		8.95		0.22		0.04
Interest	42	8.50		0.51		8.93		0.26		0.09
Attitudes	40	8.93		0.27		8.95		0.22		-0.07
Visual memory	15	7.80		2.21		8.93		0.26		-0.03
Auditory memory	41	8.88		0.33		8.90		0.30		0.38
Concept formation	40	8.85		0.36		8.88		0.33		0.26
Visual-motor coordination	36	8.92		0.28		8.67		1.51		0.00
Physical problems	39	9.00		0.00		8.74		1.45		0.00
General language	41	9.00		0.00		8.78		1.40		0.00

NOTE: X = Test scores  
 Y = Game scores

One might conclude then, as judged by a preliminary pilot study, that for the important variables, a trained clinician playing games with children may yield the same results as a battery of standardized tests.

Table VIII shows the product-moment coefficients of correlation between the test scores and the game scores for the nineteen variables which were rated either pass or fail (9 or 8). These particular correlations are lower than .50, with the exception of word recognition, because of the dichotomous nature of the data. A better way to look at these particular data is presented in Table IX.

Table IX presents the numbers of cases and percentages of times the clinicians reported exactly the same and different scores on both games and tests for the nineteen variables. This table indicates how correlation coefficients are not always the appropriate means of statistically treating dichotomous data. These percentages, or more specifically, the percentages in the "same" column, indicate even further evidence for accepting the notion that trained clinicians are able to elicit comparable scores by using games in lieu of standardized tests. The percentages are amazingly high for all the variables with the exception of Visual memory, Interest, Oral reading fluency, Syllabication and Word analysis.

TABLE VIII  
 PRODUCT-MOMENT CORRELATION COEFFICIENTS (DICHOTOMOUS DATA ONLY)  
 FOR NUMBER OF CASES BETWEEN TEST DATA AND GAME DATA

CRITERIA	Number of Cases	Mean		Std Dev		Corr Coeff
		X	Y	X	Y	
Word analysis	37	8.27	8.62	0.45	0.49	0.35
Syllabication	40	8.35	8.75	0.48	0.44	0.42
Word recognition	41	8.54	8.68	0.50	0.47	0.52
Oral reading fluency	40	8.18	8.68	0.38	0.47	0.18
Presence of reversals	40	8.90	8.95	0.30	0.22	0.31
Lateral dominance	42	1.17	1.14	0.44	0.47	0.47
Visual acuity	43	8.98	8.98	0.15	0.15	-0.02
Visual discrimination	43	8.98	8.93	0.15	0.26	-0.04
Auditory acuity	41	8.95	8.95	0.22	0.22	0.47
Auditory discrimination	42	8.88	8.93	0.33	0.26	0.18
Emotional adjustment	40	8.75	8.95	1.43	0.22	0.04
Interest	42	8.50	8.93	0.51	0.26	0.09
Attitudes	40	8.93	8.95	0.27	0.22	-0.07
Visual memory	15	7.80	8.93	2.21	0.26	-0.03
Auditory memory	41	8.88	8.90	0.33	0.30	0.38
Concept formation	40	8.85	8.88	0.36	0.33	0.26
Visual-motor coordina- tion	36	8.92	8.67	0.28	1.51	0.00
Physical problems	39	9.00	8.74	0.00	1.45	0.00
General language	41	9.00	8.78	0.00	1.40	0.00

NOTE: X = Test scores  
 Y = Game Scores

TABLE IX

NUMBER OF PUPILS AND PERCENTAGE OF PUPILS FOR WHICH SAME AND DIFFERENT SCORES (DICHOTOMOUS DATA ONLY) WERE REPORTED FOR TESTS AND GAMES FOR NINETEEN OF THE VARIABLES

Criteria	Same Scores		Different Scores		No Report	
	%	N	%	N	%	N
Word analysis	51	22	35	15	14	6
Syllabication	56	24	37	16	7	3
Word recognition	74	32	21	9	5	2
Oral reading fluency	42	18	51	22	7	3
Presence of reversals	81	35	9	4	9	4
Lateral dominance	86	37	12	5	2	1
Visual acuity	95	41	5	2		
Visual discrimination	91	39	9	4		
Auditory acuity	91	39	5	2	5	2
Auditory discrimination	84	36	14	6	2	1
Emotional adjustment	88	38	2	1	9	4
Interest	51	22	47	20	2	1
Attitudes	81	35	12	5	7	3
Visual memory	19	8	19	8	63	27
Auditory memory	84	36	12	5	5	2
Concept formation	77	33	16	7	7	3
Visual-motor coordination	72	31	9	4	19	8
Physical problems	86	37	2	1	12	5
General language	93	40			7	3



Analysis of Variance. Table X shows the Fisher ratios for differences among the mean scores for all the variables between testing and gaming ( $T_1$  and  $G_1$ ) the first five weeks and testing and gaming ( $T_2$  and  $G_2$ ) the second five weeks.

This analysis asks the question, are there any significant differences between scores the first five weeks and scores the second five weeks? If significant differences do occur, then one would assume that the differences would be due to order or practice effect. The fact that the clinicians had had a chance to practice testing and gaming during the first five weeks may have had an effect on their performance the second five weeks. This seems to be the case for eleven of the twenty-four variables since eleven of the F-ratios were significant at the .05 level of confidence. The differences, therefore, were not due to chance.

The variables for which significant differences were reported in Table X are: Word analysis (+ or -), Syllabication, Reading grade level, Intelligence quotient, Oral reading fluency (+ or -), Oral reading comprehension, Silent reading comprehension, Listening comprehension, Interest, and Visual memory.

The logical explanation is that <sup>there</sup> appears to be some order or practice effect. It is true that if one practices, especially in gaming, one will most

TABLE X

## ORDER BETWEEN TESTING AND GAMING THE FIRST FIVE WEEKS AND THE SECOND FIVE WEEKS

CRITERIA	Observations**	d.f. (numerator)	d.f. (denominator)	F-ratio
Word analysis (+ or -)	80	1	76	17.328*
Word analysis (grade level)	79	1	75	1.618
Syllabication	82	1	78	7.974*
Word recognition	82	1	78	2.700
Reading grade level	84	1	80	36.456*
Intelligence quotient	76	1	72	7.374*
Oral reading fluency (+ or -)	83	1	79	30.853*
Oral reading comprehension	81	1	77	5.816*
Silent reading comprehension	76	1	72	34.913*
Listening comprehension	59	1	55	3.748*
Presence of reversals	82	1	78	0.746
Lateral dominance	84	1	80	0.000
Visual acuity	76	1	72	0.000
Visual discrimination	86	1	82	0.874
Oral reading fluency (grade level)	80	1	76	23.965*
Auditory acuity	34	1	80	0.009
Auditory discrimination	85	1	81	0.562
Emotional adjustment	82	1	78	0.220
Interest	85	1	81	25.758*
Attitudes	83	1	79	0.263
Visual memory	58	1	54	12.880*
Auditory memory	84	1	80	0.124
Concept formation	83	1	79	0.104
Visual-motor coordination	76	1	72	0.156
Physical problems	78	1	74	0.936
General language	83	1	79	0.000

NOTE: \* Significant at the .05 level of confidence

\*\* Observations are the total number of responses made by judgment and test scores

likely become more accurate at guessing a pupil's ability, more so, with the above eleven variables than others. However, as explained earlier, this study is not a tightly knit, controlled-variable research study. Differences between the first five weeks and the second five weeks are probably due to a myriad of uncontrolled variables which were impossible to control in a large pilot study such as the present one. For example, during the second five weeks, some clinicians may have been hurrying through to complete their cases in order to finish the course and, therefore, reported less accurate data. We will never know until a more controlled follow-up study is completed.

Table XI shows the F-ratios for differences among mean scores between group one (pupils 1-23) and group two (pupils 24-43). Group one was tested first, then gamed. Group two was gamed first, then tested. As seen in Table XI, there were no significant differences among the mean scores of the two groups. This indicates that the sample of children chosen for the study was, in fact, a random sample. Also, strangely enough, it may verify the fact that there may have been no differences between the first and second five weeks. However, Table X indicated that there are such differences.

Table XII shows the F -ratios for differences among mean scores between all of the test scores (first and second five weeks) and all of the game scores (first and second five weeks). Test scores are not significantly higher than game scores, nor are game scores significantly higher than test scores. This further justifies the finding and conclusion that there is a strong positive

TABLE XI

## CONDITION BETWEEN GROUPS OF PUPILS (1-23 and 24-43)

CRITERIA	Observations**	d. f. (numerator)	d. f. (denominator)	F-ratio
Word analysis (+ or -)	80	1	76	0.073
Word analysis (grade level)	79	1	75	0.259
Syllabication	82	1	78	0.011
Word recognition	82	1	78	0.308
Reading grade level	84	1	80	0.006
Intelligence quotient	76	1	72	0.003
Oral reading fluency (+ or -)	83	1	79	0.001
Oral reading fluency (grade level)	80	1	76	0.130
Oral reading comprehension	81	1	77	0.063
Silent reading comprehension	76	1	72	0.053
Listening comprehension	59	1	55	0.117
Presence of reversals	82	1	78	0.894
Lateral dominance	84	1	80	0.061
Visual acuity	76	1	72	0.000
Visual discrimination	86	1	82	1.285
Auditory acuity	84	1	80	0.009
Auditory discrimination	85	1	81	0.367
Emotional adjustment	82	1	78	0.367
Interest	85	1	81	0.122
Attitudes	83	1	79	0.353
Visual memory	58	1	54	2.462
Auditory memory	84	1	80	0.831
Concept formation	83	1	79	0.667
Visual-motor coordination	76	1	62	0.085
Physical problems	78	1	74	0.963
General language	83	1	79	0.000

NOTE: \*Significant at the .05 level of confidence

\*\*Observations are the total number of responses made by judgment and test scores

TABLE XII

## INTERACTION AMONG TEST AND GAME SCORES

CRITERIA	Observations**	d.f. (numerator)	d.f. (denominator)	F-ratio
Word analysis (+ or -)	80	1	76	0.015
Word analysis (grade level)	79	1	75	0.000
Syllabication	82	1	79	0.139
Word recognition	82	1	78	0.202
Reading grade level	84	1	80	0.748
Intelligence quotient	76	1	72	0.116
Oral reading fluency (+ or -)	83	1	79	0.078
Oral reading fluency (grad level)	80	1	76	1.329
Oral reading comprehension	81	1	77	0.011
Silent reading comprehension	76	1	72	0.496
Listening comprehension	59	1	55	0.082
Presence of reversals	82	1	78	0.598
Lateral dominance	84	1	80	0.007
Visual acuity	76	1	72	1.989
Visual discrimination	86	1	82	0.000
Auditory acuity	84	1	80	0.000
Auditory discrimination	85	1	81	1.007
Emotional adjustment	82	1	78	0.220
Interest	85	1	81	0.010
Attitudes	83	1	79	1.435
Visual memory	58	1	54	1.460
Auditory memory	84	1	80	0.951
Concept formation	83	1	79	0.036
Visual-motor coordination	76	1	72	3.470
Physical problems	78	1	74	0.936
General language	83	1	79	0.000

NOTE: \*Significant at the .05 level of confidence

\*\*Observations are the total number of responses made by judgment and test scores

relationship between the test scores and the game scores.

Table XIII shows a separate analysis of one of the variables, IQ or intelligence quotient. This appeared, at the outset of the study, to be one of the more interesting variables. How could a clinician guess an IQ score? Indeed she/he could! Table XII indicated that there were no significant differences between test scores and game scores. Table XIII indicates the specific differences between individual game and test data cases.

It is interesting to note that of the thirty-four cases for which data was available on IQ, only eleven have differences of more than fifteen IQ points. Since most educators accept fifteen as the standard deviation for IQ scores, then the clinicians' guesses during gaming were amazingly accurate.

Furthermore, it is also interesting to note that the gaming IQ scores are the higher scores in twenty-one of the thirty-four cases or more than 60 per cent of the cases. If Merton's<sup>1</sup> theory of the "self-fulfilling prophecy" is working in our schools, then it is refreshing to note the data in Table XIII.

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<sup>1</sup> Robert K. Merton, Social Theory and Social Structure, (London: The Free Press of Glencoe, 1957), pp. 421-436.

TABLE X III

IQ SCORES AS MEASURED BY TESTS AND AS MEASURED BY  
GAME SCORES

Pupil Number	Test Scores*	Game Scores**
1	84	110
2	109	112
4	133	120
5	108	100
6	112	100
8	89	115
9	91	104
11	86	114
12	97	95
15	108	115
17	109	100
18	91	110
19	113	90
20	82	115
21	112	100
22	111	110
23	110	115
24	100	123
25	100	95
26	86	110
27	108	100
29	114	115
30	87	110
31	91	108
32	75	100
33	105	100
35	114	120
36	93	90
37	108	120
39	123	110
40	109	115
41	106	120
42	109	112
43	93	105

NOTE: \*as judged by the Lorge-Thorndike Intelligence Tests

\*\*as judged by the clinicians playing games

## CHAPTER V

## SUMMARY AND RECOMMENDATIONS

The purpose of this pilot study was to determine the concurrent validity of trained clinicians using commercial games to diagnose reading difficulties.

The literature reviewed yielded various opinions among leading reading authorities about the use of standardized tests, informal tests and teacher observations in diagnosing reading difficulties. Standardized and informal reading tests are the major measures used by many diagnosticians and teachers to evaluate pupils reading abilities.

Sample. The sample consisted of forty-three pupils with a mean IQ of 101, from the Amherst, Massachusetts area.

Procedure. This pilot study covered a ten week period of diagnosing reading difficulties with formal tests and commercial games. Twenty-four variables, usually found in a traditional case study were the base criteria for this study. Eleven commercial tests plus medical reports, observations and subjective judgments were the determining tests that equaled the twenty-four variables. The fifteen commercial games included fun games (games without written words), and reading games (games with written words).

Data was collected by twenty-nine clinicians with the help of forty-three



pupils in two, five week periods. During the periods each clinician diagnosed and played games with a different pupil.

Results. Findings of this pilot study indicated that games can be used as effectively as tests in diagnosing reading abilities. Table VII shows relatively high and positive correlations, that is, over .50 for seven of the most important variables, or at least the variables which are most easily defined. Table X shows that there are significant differences for eleven of the variables between the weeks of testing and playing games. The differences are probably due to order or practice effect. Table XI shows that there is no significant difference between group one (pupils 1-23) and group two (pupils 24-43). Table XII shows that there is no significant difference between the test scores and game scores.

Conclusions. The major conclusion of the pilot study is that trained clinicians' judgments of pupils, when using games rather than tests, do seem to be valid. Further controlled research definitely is indicated. Findings indicate that clinicians can guess IQ scores rather accurately, and that the more traditional variables, as tested by standardized tests, seem to be the ones that are most accurately guessed by clinicians.

### RECOMMENDATIONS

Based on this pilot study, the investigator recommends the following:

1. That this same design be used with a different sample.
2. That this design be used with classroom teachers as clinicians.
3. That remedial reading teachers and diagnosticians be used as

clinicians in a study of this nature.

4. That some tests be discarded; especially for IQ.
5. That peer groups should try out this design on each other as a model. Is it possible for peer groups to judge reading levels or specific skills that make one an efficient reader?
6. That schools construct reading programs utilizing games as the basic teaching and learning media.
7. That reading games should be used as a complete diagnostic program in reading.
8. That students devise their own games with teacher guidance, for classroom use and diagnostic purposes.
9. That further controlled research be conducted on each variable of the present study.

#### REACTION

This pilot study explored the possibility of utilizing commercial games as an alternative to traditional testing. Why alternatives to traditional testing? The traditional testing domain leaves much to be desired. Some children are victimized because of test results. This is evident through grade and group placement. Pupils may be overplaced and expected to achieve at this level. Frustration could be the end product of this overplacement causing the teacher to think unfavorably about the pupil. The pupil, who is experiencing frustration may lose interest and start thinking unfavorably about himself, because the test indicated one thing and his ability is another. On the other hand, tests could underplace pupils, causing them to become bored with the intended objective. Boredom and frustration may be overcome for many if tests were

not so rigidly relied upon. First, to administer a complete battery of tests requires hours of testing time, and second the interpretation of those results are not always in the best interest of the pupil. Victimized pupils? Yes, some pupils are victimized because of test results, especially minority group children.

. . . In Scotland an IBM computer was incorrectly programmed, sending the "slow" students into the high track and the "bright" ones into the low track. About one year later, when the mistake was discovered, authorities found that the "slow pupils were behaving as though they were bright and the "bright" pupils were behaving as though they were stupid."<sup>1</sup>

If teachers think and treat their pupils as if they were dense, so shall they respond. Standardized and informal tests are dictators for many classroom teachers and administrators. They decide the pupils achievement level or tolerance level in many schools. They label the child "bright," "average," and "slow," or Eagles, Roadrunners, and Turkeys. These names are supposed to camouflage "highly intelligent," "intelligent," and "dumb." The children are not supposed to be intelligent enough to see through these sugar-coated labels. But, can they? Ask any child in any classroom what group he is in, and he is likely to answer "dumb group," "middle group," or "smart group." Children should not be subjected to such treatment.

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<sup>1</sup>Louis L. Knowles and Kenneth Prewitt, Institutional Racism in America, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969), p. 39.

Because some schools are being forced to integrate their student body, tests are a handy means of desegregation within integrated schools. Black and minority group children are literally thrown into slower paced classrooms. They are degraded in the classroom because of teacher expectancy, degraded by peers because they are in the "dummy" room, and degraded by the administrators because they use the tests to help keep the children at this level of achievement.

In conclusion, this study has shown that it is possible to judge various things about pupils through playing games or by observation. Some educators are firm believers in IQ scores. They believe that the actual score taken from a standardized IQ test is irrefutable. Some pupils are treated as if they are lacking in intelligence because of an IQ score. Naturally, if children are having problems in reading and they are given an IQ test which requires reading, their score will be low on the test. This should not be interpreted as low intelligence, but as an inability to read the test.

Minority group children are often victimized because of tests. Their educator's beliefs, ignorance or laziness confines them to an intolerable level of achievement. The beliefs are: (1) a low score on a given test indicates his level of achievement, (2) do not vary from a test specified level, because the test is the truth, (3) if he scored low on a test, expect only that level of achievement from him and nothing more, (4) as educators, continue to make

the child aware of his failure and (5) treat him as if he is inferior.

Ignorance may stem from not knowing the tests, i. e. , sample it was standardized on, what it was supposed to measure and items on the tests unknown to the administrator. Laziness is not making an effort toward trying to help the child improve. In this case the test score has convinced the educator, that this is the pupil's level of achievement so the educator chooses to do nothing.

Educators: expect and you shall receive.

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APPENDIX A



*The Commonwealth of Massachusetts*  
*University of Massachusetts*  
*Amherst 01002*

SCHOOL OF EDUCATION

Reading Clinic

October 6, 1970

Dear Parents:

The School of Education's Reading Clinic will be in operation this Fall. As part of a research project we are presently concentrating on the diagnosis of the reading ability of third, fourth, and fifth grade pupils, through the use of traditional diagnostic tests and also through the use of commercial games. We will be seeing the children twice a week for a period of five to ten weeks. Some of the sessions can be arranged at the school. At the end of the sessions, a complete diagnostic report for each child will be sent to the school and reports will be sent to the parents.

If you would be interested in having your child participate in this program, please sign the enclosed form and return it to:

Reading Clinic  
School of Education  
University of Massachusetts  
Amherst, Massachusetts, 01002

In a few days, you will be contacted by a member of the University who will arrange for your child's participation, if you so desire.

This project is another example of the cooperation between the Amherst School System and the School of Education.

Sincerely yours,

D. J. Yarrington

PARENT INFORMATION FORM

Date: \_\_\_\_\_

Child's Name: \_\_\_\_\_ Nickname: \_\_\_\_\_

Child's Sex: \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Age: \_\_\_\_\_

School Attending: \_\_\_\_\_ Grade: \_\_\_\_\_

Father's Name: \_\_\_\_\_ Birthdate \_\_\_\_\_

Father's Address: \_\_\_\_\_

Mother's Name: \_\_\_\_\_ Birthdate \_\_\_\_\_

Mother's Address \_\_\_\_\_

Parent's Present Marital Status:

\_\_\_\_\_(date) Married \_\_\_\_\_(date) Divorced \_\_\_\_\_(date) Separated \_\_\_\_\_(date) Other \_\_\_\_\_(specify)

Home Phone: \_\_\_\_\_ Business Phone: \_\_\_\_\_

Father's Occupation: \_\_\_\_\_

Mother's Occupation: \_\_\_\_\_

Was Father in Service? \_\_\_\_\_ If so, dates \_\_\_\_\_ to \_\_\_\_\_

Are both parents the child's natural parents? \_\_\_\_\_

If not, explain briefly \_\_\_\_\_

Other children in the family:

Name:	Birthdate	Grade in School

Other Persons in the Home:	Age	Relationship to Child

Name: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Has the child been seen by other medical, psychiatric or psychological specialists? If so, please list below and obtain reports if possible.

Name \_\_\_\_\_ Address \_\_\_\_\_ Date Seen \_\_\_\_\_

Was delivery normal? (Circle one) Yes \_\_\_\_\_ No \_\_\_\_\_ If "No", explain.

Age at which child: Walked \_\_\_\_\_ Talked \_\_\_\_\_

Has child always been in the same school: Yes \_\_\_\_\_ No \_\_\_\_\_

If "no", please fill in below:

Name of School \_\_\_\_\_ Town \_\_\_\_\_ Grades Attended \_\_\_\_\_

Has child ever failed in school: Yes \_\_\_\_\_ No \_\_\_\_\_ If "Yes", please fill in.

Grade \_\_\_\_\_ Reason \_\_\_\_\_

Reasons for Referral: (Please discuss as fully as you wish. Use additional sheets if desired, or use the back of this page.)

Source of Referral \_\_\_\_\_

Signature of Parent: \_\_\_\_\_

Note: All reports and information in connection with this child will be treated as confidential by the Clinic and will not be discussed with other individuals except by the request of parents completing this form.

Date \_\_\_\_\_

School Record

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Parent: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Age: \_\_\_\_\_ yrs. \_\_\_\_\_ mos.

School: \_\_\_\_\_

School Address: \_\_\_\_\_

Principal: \_\_\_\_\_

Teacher: \_\_\_\_\_

Referred by: \_\_\_\_\_

Grade; \_\_\_\_\_

School History:

Date entered present school: \_\_\_\_\_

Attendance: \_\_\_\_\_ regular \_\_\_\_\_ irregular

Number of schools attended: \_\_\_\_\_

SchoolLocationGrades attended

Age at entrance in Grade 1 \_\_\_\_\_

Grades repeated \_\_\_\_\_ Grades skipped \_\_\_\_\_

Standardized Test Results

1. Intelligence Tests (name, date administered, IQ scores)
  
  
  
  
  
  
  
  
  
  
2. Achievement Tests (name, date administered, subtests & grade equivalents only)

Best subject \_\_\_\_\_ Poorest subject \_\_\_\_\_

In what activities has he been most successful? \_\_\_\_\_

What phonics program has been used with the child? \_\_\_\_\_

What reading program has been used with the child? \_\_\_\_\_

Has pupil had any previous diagnostic testing? \_\_\_\_\_

Where? \_\_\_\_\_

When? \_\_\_\_\_

By whom? \_\_\_\_\_

Has pupil had any remedial instruction? \_\_\_\_\_

Where? \_\_\_\_\_

When? \_\_\_\_\_

By whom? \_\_\_\_\_

Health:

General physical condition \_\_\_\_\_

Vision test (date and results) \_\_\_\_\_

Audiometer test (date and results) \_\_\_\_\_

\_\_\_\_\_

Comments:



The School of Education  
Reading Clinic  
D. J. Yarrington, Director

Dear \_\_\_\_\_,  
(Principal)

I would appreciate your releasing to Dr. Yarrington, Director of the Reading Clinic, all your records or abstracts pertaining to my child \_\_\_\_\_.  
I herewith grant permission for their release.

Signature \_\_\_\_\_

Relationship \_\_\_\_\_

Date \_\_\_\_\_

APPENDIX B

TEST BATTERY FORMS FOR (Student) \_\_\_\_\_  
School \_\_\_\_\_  
Clinician \_\_\_\_\_

1. Roswell-Chall Diagnostic Test of Work Analysis

Date \_\_\_\_\_

Pupil needs help in:

- (1) single consonant sounds
- (2) consonant combinations
- (3) short vowels
- (4) rule of silent e
- (5) syllabication

Remarks:

2. Inventory of Interests and Attitudes Date \_\_\_\_\_

1. Does the child appear to have any sustaining interests?
2. Are there any clues to interests that might be developed?

Remarks:

3. John N. Buck Time Test Date \_\_\_\_\_

Correct \_\_\_\_\_ Half Correct \_\_\_\_\_

Total Points \_\_\_\_\_

Remarks:

4. Keystone Visual Survey Tests Date \_\_\_\_\_

Passed \_\_\_\_\_ Failed \_\_\_\_\_

Remarks:

5. Auditory Discrimination Test Date \_\_\_\_\_

X

Y

Adequate \_\_\_\_\_ Inadequate \_\_\_\_\_

Remarks:

6. Durrell Analysis of Reading Difficulty

Date \_\_\_\_\_

Grade	Reading		Listening	Flash Words	Word Analysis	Spelling	Hand-writing	Age
	Oral	Silent						
6.5	H							12.0
	M							11.8
	L							11.4
6.0	H							11.2
	M							11.0
	L							10.8
5.5	H							10.4
	M							10.2
	L							9.11
5.0	H							9.8
	M							9.5
	L							9.2
4.5	H							9.0
	M							8.8
	L							8.5
4.0	H							8.2
	M							8.0
	L							7.9
3.5	H							7.5
	M							7.3
	L							7.0
3.0	H							6.9
	M							6.6
	L							
2.5	H							
	M							
	L							
2.0	H							
	M							
	L							
1.5	H							
	M							
	L							
Scores								



7. Phonics Knowledge Survey

Date \_\_\_\_\_

(unknown)

Part 1. Names of letters \_\_\_\_\_

Part 2. Consonant sounds \_\_\_\_\_

Part 3. Vowels: Long \_\_\_\_\_  
Short \_\_\_\_\_

Part 4. Vowel generalizations \_\_\_\_\_

No. Right

No Wrong

Part 5. Sounds of C and G \_\_\_\_\_

Part 6. Sounds of Y \_\_\_\_\_

(unknown)

Part 7. Consonant blends \_\_\_\_\_

Part 8. Digraphs \_\_\_\_\_

Part 9. Vowel combinations \_\_\_\_\_

Part 10. Vowels followed by R \_\_\_\_\_

Part 11. Sounds of QU \_\_\_\_\_

Part 12. Sounds of OO \_\_\_\_\_

Part 13. Sounds of X \_\_\_\_\_

Part 14. Beginning consonant combinations \_\_\_\_\_

No. Right

No. Wrong

Part 15. Syllabication \_\_\_\_\_

Remarks:

8. University of Massachusetts Reading Center  
Comprehensive Informal Reading Inventory

Date \_\_\_\_\_

Part I. Informal Reading Survey

Independent Level \_\_\_\_\_  
 Instruction Level \_\_\_\_\_

Part II. Bucks County Reading Placement Tests

Independent Level \_\_\_\_\_  
 Instruction Level \_\_\_\_\_

Part III. Paragraphs from Basal Reader Series

Independent Level \_\_\_\_\_  
 Instruction Level \_\_\_\_\_

Part IV. Word Analysis Inventory

Visual Discrimination \_\_\_\_\_ %  
 Auditory Discrimination \_\_\_\_\_ %  
 Alphabet \_\_\_\_\_ %  
 Vowel Sounds \_\_\_\_\_ (correct ones)

1. Initial consonants \_\_\_\_\_ %
2. Final consonants \_\_\_\_\_ %
3. Consonant blends \_\_\_\_\_ %
4. Consonant digraphs \_\_\_\_\_ %
5. Long and short vowel sounds \_\_\_\_\_ %
6. Controlled "r" \_\_\_\_\_ %
7. "l" and "w" controller \_\_\_\_\_ %
8. Silent "gh" and 3 letter blends \_\_\_\_\_ %
9. Diphthongs \_\_\_\_\_ %
10. Hard and soft "c" and "g" \_\_\_\_\_ %
11. Two consonant letters & final "e" \_\_\_\_\_ %
12. Syllabication \_\_\_\_\_ %
13. "le" syllabication & "schwa" \_\_\_\_\_ %
14. Visual discrimination \_\_\_\_\_ %

Remarks:

9. Gray Oral Reading Test

Date \_\_\_\_\_

Passage Number	No. of Errors	Time (in seconds)	Passage Score	Comprehension
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
Total Passage Scores				
Grade Equivalent				

Types of Errors

1.	Aid	
2.	Gross Mispronunciation	
3.	Partial Mispronunciation	
4.	Omission	
5.	Insertion	
6.	Substitution	
7.	Repetition	
8.	Inversion	

Observations

- Word-by-word reading  
 Poor phrasing  
 Lack of expression  
 Monotonous Tone  
 Pitch too high or low; voice too soft, loud or strained  
 Poor enunciation  
 Disregard of punctuation  
 Overuse of phrases  
 Little or no method of word analysis  
 Unawareness of errors  
 Head movement  
 Finger pointing  
 Loss of place

Comments



10. The Harris Tests of Laterality

Date \_\_\_\_\_

Test

1.

Knowledge of Left and Right							
Confused			Hesitant			Normal	
Hand Dominance							
L	:	1	:	M	:	r : R	
2.	L	:	1	:	M	:	r : R
3.	L	:	1	:	M	:	r : R
4.	L	:	1	:	M	:	r : R
5.	L	:	1	:	M	:	r : R
6.	L	:	1	:	M	:	r : R
7.	L	:	1	:	M	:	r : R

Remarks:

8.

Eye Dominance							
L	:	1	:	M	:	rr : R	
8.	L	:	1	:	M	:	r : R
9.	L	:	1	:	M	:	r : R
10.	L	:	1	:	M	:	r : R

11.

11.1

11.2

Foot Dominance							
L	:	1	:	M	:	r : R	
11.	L	:	1	:	M	:	r : R
11.1	L	:	1	:	M	:	r : R
11.2	L	:	1	:	M	:	r : R

APPENDIX C

Pupil's Name \_\_\_\_\_

Summary of Word Analysis Skills

Pupil needs help in:

- (1) single consonant sounds \_\_\_\_\_
- (2) consonant combinations \_\_\_\_\_
- (3) short vowels \_\_\_\_\_
- (4) rule of silent e \_\_\_\_\_
- (5) vowel combination \_\_\_\_\_
- (6) syllabication \_\_\_\_\_

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other Pertinent Data (to be filled in if available)

Achievement Test Results:

Test \_\_\_\_\_ Date Given \_\_\_\_\_

Grade Scores

Paragraph Reading \_\_\_\_\_

Vocabulary (Word Meaning) \_\_\_\_\_

Spelling \_\_\_\_\_

Estimated Level of Oral Reading \_\_\_\_\_

# Roswell-Chall Diagnostic Reading Test

## of Word Analysis Skills

by Florence G. Roswell and Jeanne S. Chall  
The City College  
New York, N.Y.

### FORM I

Name _____
Boy _____ Girl _____
Age (Yrs.) _____ (Mos.) _____
Grade _____
School _____
Date of Test _____
Examined by _____

#### DIRECTIONS TO THE EXAMINER

Test each pupil individually. Give him a blank copy of the test. Use another copy for recording the results. Fill in pupil's name and all identifying data on your copy. See manual of instructions for directions regarding the administration, recording, and interpretation of results.

Copyright 1956 and 1959 by Florence G. Roswell and Jeanne S. Chall. This test is copyrighted. The reproduction of any part of it by mimeograph, photograph, or any other means, whether the reproductions are sold or furnished free for use, without permission of the publishers is a violation of the copyright law.



essay  
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PO Box 5 Planetarium Station New York, N.Y. 10024

I. s p m c h b  
 r n k j w z  
 d g l f v y t

ch fl th st tr  
 cr sh wh str scr

II. let rim nap dot hut  
 sip mad tub beg mob

He took a sip of milk from the top of the jug.

Sam let him take a nap on the cot in the hut.

i o a u e

III. pin cut dim mat rob  
 pine cute dime mate robe

IV. seek pall coast harm  
 gain boil load cart  
 meal coin leaf peel

V. daytime overcome invented  
 enjoyment expansion contribution  
 departmental permanently

University of Massachusetts Reading Center  
Comprehensive Informal Reading Inventory

1.

Name \_\_\_\_\_ Date \_\_\_\_\_

Tester \_\_\_\_\_

Score Sheet

Part I. Independent Level \_\_\_\_\_

Instruction Level \_\_\_\_\_

Part II. Independent Level \_\_\_\_\_

Instruction Level \_\_\_\_\_

Part III. Independent Level \_\_\_\_\_

Instruction Level \_\_\_\_\_

Part IV. Visual Discrimination \_\_\_\_\_ (%)

Auditory Discrimination \_\_\_\_\_ (%)

Alphabet \_\_\_\_\_ (%)

Vowel sounds \_\_\_\_\_ (List correct ones)

1. Initial Consonants \_\_\_\_\_ (%)
2. Final Consonant \_\_\_\_\_
3. Consonant Blends \_\_\_\_\_
4. Consonant Digraphs \_\_\_\_\_
5. Long and short vowel sounds \_\_\_\_\_
6. Controlled "r" \_\_\_\_\_
7. "l" and "w" controller \_\_\_\_\_
8. Silent "gh" and 3 letter blends \_\_\_\_\_
9. Diphthongs \_\_\_\_\_
10. Hard and soft "c" and "g" \_\_\_\_\_
11. Two Consonant letters & final "e" \_\_\_\_\_
12. Syllabication \_\_\_\_\_
13. "le" syllabication & "schwa" sound \_\_\_\_\_
14. Visual discrimination \_\_\_\_\_

2.

## Part V. Oral and Silent Reading Tests

Independent Level \_\_\_\_\_

Instructional Level \_\_\_\_\_

Comprehension Level \_\_\_\_\_

Smoothness of reading \_\_\_\_\_ Specific Problem \_\_\_\_\_

Tester's Interpretation:

3.

## Information At First Session

Date \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Grade Now \_\_\_\_\_  
School \_\_\_\_\_  
Age \_\_\_\_\_  
Teacher's Name \_\_\_\_\_

Reading situation pupil is in (groups, individual, special, number in class).

How does pupil feel about his reading? Does he have a problem? What is it?

Does he come for help?

Interests

Has he ever been tutored in reading before? Where

University of Massachusetts Reading Center

Comprehensive Informal Reading Inventory

**Purpose:** To determine the tentative level of difficulty (in terms of reader level) at which the pupil can read comfortably on his own (Independent Level); and the tentative level of difficulty (reader level) at which the pupil can function most appropriately for instructional purposes ("INstructional level").

**Procedure:** I. Administer Part I (mimeographed word lists)

A tentative independent level is determined by the highest list on which the pupil makes no errors in word recognition.

A tentative instructional level is determined by the list on which the pupil makes his first error of recognition.

II. Administer Part II (Bucks County Test)

Tentative Independent and instructional levels are determined the same as in Part I.

III. Administer paragraphs from the middle of a basal reader series (preferably one pupil does not use in school), or the mimeographed paragraphs in this package. Initiate testing at tentative independent level as judged by Parts I and II; and proceed until appropriate independent and instructional levels are established as explained below.

Select one story sample of 100 words or more. Keep a record of errors for diagnosis and guide to future teaching, using same scoring system.

The tentative independent level is determined by the level of the reader in which the pupil reads with a minimum of 99% accuracy.

The tentative instructional level is determined by the level of the reader in which the pupil reads with a minimum of 95% accuracy (one error per twenty running words.)

Make an adequate check of the pupils comprehension of the content which he reads by asking two fact questions and three inferential questions.

IV. Administer Word Analysis Inventory if it seems to be indicated by specific failure in word attack in the earlier parts of the test.



5.

## Directions for Scoring

1. The pupil reads one copy; you score another copy (Teacher's copy).
2. Check (✓) correct words. (If pupil hesitates but gets it correct in 4 seconds, it is correct).
3. Underscore with a straight line all words or syllables which are wholly mispronounced or scuttled.
4. Use accent marks to indicate how an incorrectly stressed work is mispronounced.
5. Encircle words and syllables which are omitted. (Give four seconds and supply the word if pupil does not attack it).
6. Write in any insertions or substitutions.
7. Underscore with a wavy line all words and syllables which are repeated.
8. At the end of each list, point out words pupil missed and ask him again. If correct, check it (this would be a visual discrimination error). If pupil makes a mistake a second time, circle word (this would be a word recognition error).
9. Note at end of each list if pupil pronounces the words smoothly, slowly, etc.
10. Count only the word recognition errors as mistakes.
11. Score each sheet at the top of each test and tabulate on the cover sheet.

INFORMAL READING SURVEY  
PART IPRE-PRIMER

come

go

funny

baby

little

run

one

big

play

work

PRIMER

fun

too

four

rabbits

saw

horse

she

grandfather

dog

surprise

FIRST

way

walk

pennies

them

cive

wish

morning

gray

called

asked

SECOND

waved

corner

resting

middle

carry

sound

taking

harder

angry

strong

## Part I- Con'd

<u>Third</u>	<u>Fourth</u>
except	citizens
counters	holiday
stew	examined
group	snapping
scooping	downward
diamond	music
stretched	disturbed
pain	terrific
cattle	northern
admitted	wisdom

\*\*\*\*\*

<u>Fifth</u>	<u>Sixth</u>
magician	triumphantly
umpire	million
circulation	machinery
unmistakable	complex
expert	install
generally	proclamation
history	example
pulsing	tampering
margin	persecution
unspeakable	examination

## PART II

## BUCKS COUNTY READING PLACEMENT TESTS

PRE-PRIMER

1. a
2. ball
3. blue
4. come
5. father
6. get
7. have
8. house
9. in
10. it
11. little
12. make
13. mother
14. not
15. play
16. ride
17. see
18. to
19. want
20. will

PRIMER

- all
- at
- boat
- but
- do
- duck
- find
- girl
- he
- kitten
- like
- now
- out
- put
- saw
- stop
- thank
- there
- three
- train

## PART II

<u>FIRST</u>	<u>SECOND</u>
1. about	across
2. as	balloon
3. be	best
4. by	burn
5. color	care
6. far	coat
7. four	dress
8. green	fire
9. hello	gone
10. horse	knew
11. live	miss
12. met	off
13. name	pig
14. of	right
15. paint	shall
16. road	six
17. so	table
18. street	together
19. tree	turn
20. walk	wood

Word Recognition Test (con't.)

<u>Second-2</u>	<u>Third-1</u>	<u>Third-2</u>	<u>Fourth</u>
1. above	able	act	abandon
2. bark	block	beach	armor
3. brother	child	bounce	blush
4. corner	daddy	chance	charity
5. drink	edge	cottage	cooperation
6. fairy	fix	distance	Detroit
7. flour	half	except	elsewhere
8. gray	Indian	fog	firmly
9. hide	lit	hoff	gracious
10. kept	mind	journey	hunger
11. left	north	lever	isle
12. mouth	pile	nod	loyal
13. pay	pour	peak	moreover
14. push	rich	quite	oven
15. roof	secret	scared	pond
16. sheep	signal	shoot	reckless
17. sound	spoke	spill	sauce
18. such	swing	stupid	soak
19. those	trail	ticket	survey
20. wheel	wall	wire	truck

Word Recognition Test (con't.)

<u>Fifth</u>	<u>Sixth</u>	<u>Jr. (7-8)</u>	<u>Sr. (9-12)</u>
1. abode	abbey	abate	abandoned
2. artistic	artillery	armament	armada
3. bobby	blunder	blunt	blurt
4. chart	Charleston	charitable	Charlemagne
5. coral	coon	coolie	cookery
6. devise	Diana	devoted	detestable
7. embarrass	embroider	Elsie	elude
8. fireplace	fir	fireman	Finland
9. granite	grammar	graciously	graduation
10. hurried	hurrah	Hungarian	hundredth
11. Jacob	isolate	jeer	islet
12. loyalty	loving	loveliness	lovable
13. Morgan	Moses	morrow	morose
14. overflow	outstanding	outstretched	outsider
15. Polly	ponder	poorly	pollute
16. recovery	recite	recline	recital
17. scar	sausage	saucepan	Saul
18. so-called	snowy	snuff	snuggle
19. surroundings	suspicious	Susan	surveying
20. trumpet	Troy	trudge	truant

## PART III

PRE-PRIMER (43 words)

## The Blue Boat

Jane said, "See the red boat.  
See the yellow boat."  
Dick said, "I see the boats.  
Two little blue boats.  
A big yellow boat.  
A little red boat.  
And two blue boats.  
Yellow, red, and blue."

From WE COME AND GO by Gray, Artley, and Arbuthnot. Copyright 1951, by Scott, Foresman and Company, and used with their permission.

PRIMER (36 words)

## Pets at School

All the pets come to school.  
They come with the boys and girls.  
Big pets and little pets.  
Mother animals and baby animals.  
Dogs and rabbits come.  
Some hens and chickens come.

From JIMMY'S ANIMAL PARTY by Elvira Penell. First appeared in DEW DROPS, April 30, 1939. Copyright by David D. Cook Publishing Co., as adapted in the NEW FUN WITH DICK AND JANE by Gray, Artley, and Arbuthnot. By Scott, Foresman, and Company, and used with their permission.



## Part III

13.

## First (56 words)

## Dinner at the Farm

Once there was a pig who ran away from his barnyard.  
He wanted to get fat.

So he ran down the road looking for a good dinner.

Soon he saw something he liked.

"Wee, wee, wee," he said.

"Corn will make a fine dinner. It will make me fat."

So the pig began eating the corn.

"Dinner at the Farm" from "The Little Pig" in MORE MOTHER STORIES by Maud Lindsay, Copyright held by The Platt & Munk Company, Inc. as adapted in The NEW OUR NEW FRIENDS by Gray, Artley, and Arbuthnot. Copyright, 1951, by Scott, Foresman and Company, and used with their permission.

## Second (92 words)

## The First Woodpecker

Long, long ago in a faraway village there lived a very ugly woman.

One afternoon she was baking a cake.

She believed she was alone in her house.

But all at once she heard someone moving.

Turning quickly from the oven, she saw a strange old man standing behind her.

"I have not eaten since yesterday," the strange man said in a friendly voice.

"I hope you'll give me a bite of cake."

Smiling a sly smile, the woman said,

Perhaps-- when my little cake is done."

From the NEW MORE FRIENDS AND NEIGHBORS by Gray, Artley, and Arbuthnot. Copyright, 1953, by Scott, Foresman and Company, and used with their permission.

## Part III

Third (97 words)

## Three Sillies

Once upon a time a farmer and his wife had one daughter whose name was Martha. She was at the age to marry, and a young man named Peter wanted to marry her.

When she promised to be Peter's bride, she wanted to celebrate with a feast.

Just before dinner Martha went to the storeroom to get a slice of cheese. While she was there, she happened to look up at the ceiling. Stuck in the ceiling was an ax. It may have been there a long time, but the girl had never noticed it before.

From the NEW MORE STREETS AND ROADS by Gray, Artley, and Arbuthnot. Copyright, 1953, Scott, Foresman and Company, and used with their permission.

Fourth (98 words)

## Cider Lad

Once upon a time there was a man who had a meadow which he prized very highly for its fine hay. But right on Midsummer's Eve, when the grass stood thickest and greenest, the meadow was suddenly eaten down to the ground as if a whole flock of sheep had been grazing on it overnight.

When this occurred a second year, the man felt he could not endure having his fine crop ruined again. So the third year he told his sons that one of them must stay in the barn on Midsummer's Eve to watch the hay.

From TIMES AND PLACES by Gray and Arbuthnot. Copyright, 1947, by Scott, Foresman and Company, and used with their permission.

## Part III Ed. 531

Fifth (123 words)

## The Golden Touch

Once upon a time there lived a very rich king whose name was Midas. He had a little daughter, whom I choose to call Marygold. Now this King Midas was extremely fond of gold. If there was anything which he loved better, it was the one little maiden who played so merrily around her father's footstool. But the more Midas loved his daughter, the more did he seek for wealth. He thought, foolish man, that the best thing he could possibly do for this dear child would be to give her the largest pile of glistening coin that had ever been heaped together since the world was made. Thus he gave all his thoughts and time to this one purpose.

From DAYS AND DEEDS by Gray, and Arbuthnot. Copyright, 1951, by Scott, Foresman and Company, and used with their permission.

Sixth (120 words)

## Robin Hood

In olden days there lived in Mery England a man named Robin Hood. Now Robin was an outlaw by the King's decree, and with a price on his head to boot, for he had slain the King's deer. No towered castle gave Robin refuge, but only the shadowy glades of Sherwood Forest.

There dwelt with his band of loyal followers.

Though Robin was an outlaw, no man in England was more beloved, for no one ever asked his aid in vain. Rob the rich and help the needy was bold Robins motto, and many a poor man passing through Sherwood Forest found his pockets lined with gold that had lately been jingling in a fat merchant's purse.

From PEOPLE AND PROGRESS by Gray and Arbuthnot. Copyright, 1951, by Scott, Foresman and Company, and used with their permission.

## Part IV - Cont'd.

Directions: Here are some groups of letters that look like words.  
Please say them for me. (Repeat these directions for each test.)

## I.

- |        |         |
|--------|---------|
| 1. bem | 6. hib  |
| 2. dor | 7. lum  |
| 3. fum | 8. mub  |
| 4. hur | 9. sem  |
| 5. jom | 10. pud |

\*\*\*\*\*

## II.

- |        |         |
|--------|---------|
| 1. nad | 6. kel  |
| 2. ras | 7. seb  |
| 3. sif | 8. ket  |
| 4. tem | 9. nen  |
| 5. nep | 10. cor |

\*\*\*\*\*

## III.

- |         |          |
|---------|----------|
| 1. blat | 6. fron  |
| 2. clep | 7. trag  |
| 3. flan | 8. skon  |
| 4. gret | 9. snad  |
| 5. slem | 10. swem |

## Part IV - cont'd.

Test for Auditory Discrimination (Reading Readiness Level)

Directions: You know what a rhyme is. A rhyme is a word that sounds like another word. Two words rhyme if they end in the same sound like "hat" and "sat". Now I want you to tell me which words rhyme.

- |          |       |      |
|----------|-------|------|
| 1. look  | clock | cook |
| 2. make  | take  | took |
| 3. try   | tree  | cry  |
| 4. doll  | dog   | log  |
| 5. train | truck | rain |
| 6. sing  | song  | ring |
| 7. stay  | play  | stop |
| 8. sack  | name  | same |
| 9. can   | man   | came |
| 10. out  | let   | set  |

Read and say the Alphabet. (After pupil finishes-) What are the vowels and their sounds--long and short?

A B C D E F G H I J K L M N O P Q R  
S T U V W X Y Z

Part IV  
Word Analysis Inventory

Name \_\_\_\_\_ Date \_\_\_\_\_

Clinician \_\_\_\_\_

Test for Visual Discrimination (Reading Readiness Level)

Directions: Please point to the word that is not like the others.

- |          |      |         |       |      |
|----------|------|---------|-------|------|
| 1. out   | out  | without | out   | out  |
| 2. can   | can  | can     | canny | can  |
| 3. came  | can  | came    | came  | came |
| 4. arm   | farm | arm     | arm   | arm  |
| 5. see   | see  | seen    | see   | see  |
| 6. long  | song | long    | long  | long |
| 7. rat   | rat  | rat     | cat   | rat  |
| 8. took  | took | take    | took  | took |
| 9. late  | lake | late    | late  | late |
| 10. game | game | game    | gain  | game |

# Durrell Analysis of Reading Difficulty

NEW EDITION



BY Donald D. Durrell *Professor of Education and Director of Educational Clinic, Boston University*

NAME \_\_\_\_\_ DATE \_\_\_\_\_  
 SCHOOL \_\_\_\_\_ EXAMINER \_\_\_\_\_  
 AGE \_\_\_\_\_ GRADE \_\_\_\_\_ REPORT TO \_\_\_\_\_  
 DATE OF BIRTH \_\_\_\_\_ ADDRESS \_\_\_\_\_

## Profile Chart

GRADE	READING ANALYSIS TESTS							ADDITIONAL TESTS						AGE
	Reading		Listening	Flsh Words	Word Analysis	Spell- ing	Hand- writing	Durrell-Sullivan		Revised Stanford-Binet				
	Orol	Silent						Capacity	Achievement	Vocab.	M. A.			
							Word	Para.	Word	Para.				
H														
6.5 M														12-0
L														11-8
6.0 H														11-4
M														11-2
L														11-0
5.5 H														10-8
M														10-4
L														10-2
5.0 H														9-11
M														9-8
L														9-5
4.5 H														9-2
M														9-0
L														8-8
4.0 H														8-5
M														8-2
L														8-0
3.5 H														7-9
M														7-5
L														7-3
3.0 H														7-0
M														6-9
L														6-6
Record scores here →														

## Check List of Instructional Needs

NON-READER OR PREPRIMER LEVEL	PRIMARY GRADE READING LEVEL	INTERMEDIATE GRADE READING LEVEL
<p><i>Needs help in:</i></p> <ol style="list-style-type: none"> <li>1. Listening comprehension and speech               <ul style="list-style-type: none"> <li>— Understanding of material heard</li> <li>— Speech and spoken vocabulary</li> </ul> </li> <li>2. Visual perception of word elements               <ul style="list-style-type: none"> <li>— Visual memory of words</li> <li>— Giving names of letters</li> <li>— Identifying letters named</li> <li>— Matching letters</li> <li>— Copying letters</li> </ul> </li> <li>3. Auditory perception of word elements               <ul style="list-style-type: none"> <li>— Initial or final blends</li> <li>— Initial or final single sounds</li> <li>— Learning sounds taught</li> </ul> </li> <li>4. Phonic abilities               <ul style="list-style-type: none"> <li>— Solving words</li> <li>— Sounding words</li> <li>— Sounds of blends — phonograms</li> <li>— Sounds of individual letters</li> </ul> </li> <li>5. Learning rate               <ul style="list-style-type: none"> <li>— Remembering words taught</li> <li>— Use of context clues</li> </ul> </li> <li>6. Reading interest and effort               <ul style="list-style-type: none"> <li>— Attention and persistence</li> <li>— Self-directed work</li> </ul> </li> <li>7. Other</li> </ol>	<p><i>Needs help in:</i></p> <ol style="list-style-type: none"> <li>1. Listening comprehension and speech               <ul style="list-style-type: none"> <li>— Understanding of material heard</li> <li>— Speech and spoken vocabulary</li> </ul> </li> <li>2. Word analysis abilities               <ul style="list-style-type: none"> <li>— Visual memory of words</li> <li>— Auditory analysis of words</li> <li>— Solving words by sounding</li> <li>— Sounds of blends, phonograms</li> <li>— Use of context clues</li> <li>— Remembering new words taught</li> </ul> </li> <li>3. Oral reading abilities               <ul style="list-style-type: none"> <li>— Oral reading practice</li> <li>— Comprehension in oral reading</li> <li>— Phrasing (Eye-voice span)</li> <li>— Errors on easy words</li> <li>— Addition or omission of words</li> <li>— Repetition of words or phrases</li> <li>— Ignoring punctuation</li> <li>— Ignoring word errors</li> <li>— Attack on unfamiliar words</li> <li>— Expression in reading</li> <li>— Speech, voice, enunciation</li> <li>— Security in oral reading</li> </ul> </li> <li>4. Silent reading and recall               <ul style="list-style-type: none"> <li>— Level of silent reading</li> <li>— Comprehension in silent reading</li> <li>— Attention and persistence</li> <li>— Unaided oral recall</li> <li>— Recall on questions</li> <li>— Speed of silent reading</li> <li>— Phrasing (Eye movements)</li> <li>— Lip movements and whispering</li> <li>— Head movements Frowning</li> <li>— Imagery in silent reading</li> <li>— Position of book Posture</li> </ul> </li> </ol>	<p><i>Needs help in:</i></p> <ol style="list-style-type: none"> <li>1. Listening comprehension and speech               <ul style="list-style-type: none"> <li>— Understanding of material heard</li> <li>— Speech and oral expression</li> </ul> </li> <li>2. Word analysis abilities and spelling               <ul style="list-style-type: none"> <li>— Visual analysis of words</li> <li>— Auditory analysis of words</li> <li>— Solving words by sounding syllables</li> <li>— Sounding syllables, word parts</li> <li>— Meaning from context</li> <li>— Attack on unfamiliar words</li> <li>— Spelling ability</li> <li>— Accuracy of copy Speed of writing</li> <li>— Dictionary skills: Location, pronunciation, meaning</li> </ul> </li> <li>3. Oral reading abilities               <ul style="list-style-type: none"> <li>— Oral reading practice</li> <li>— Comprehension in oral reading</li> <li>— Phrasing (Eye-voice span)</li> <li>— Expression in reading Speech skills</li> <li>— Speed of oral reading</li> <li>— Security in oral reading</li> <li>— Word and phrase meaning</li> </ul> </li> <li>4. Silent reading and recall               <ul style="list-style-type: none"> <li>— Level of silent reading</li> <li>— Comprehension in silent reading</li> <li>— Unaided oral recall</li> <li>— Unaided written recall</li> <li>— Recall on questions</li> <li>— Attention and persistence</li> <li>— Word and phrase meaning difficulties</li> <li>— Sentence complexity difficulties</li> <li>— Imagery in silent reading</li> </ul> </li> <li>5. Speeded reading abilities               <ul style="list-style-type: none"> <li>— Speed of reading (Eye movements)</li> <li>— Speed of work in content subjects</li> <li>— Skimming and locating information</li> </ul> </li> <li>6. Study abilities               <ul style="list-style-type: none"> <li>— Reading details, directions, arithmetic</li> <li>— Organization and subordination of ideas</li> <li>— Elaborative thinking in reading</li> <li>— Critical reading</li> <li>— Use of table of contents References</li> </ul> </li> <li>7. Reading interest and effort               <ul style="list-style-type: none"> <li>— Voluntary reading</li> <li>— Variety of reading</li> <li>— Self-directed work</li> </ul> </li> </ol>



## General History Data

### SCHOOL RECORD

Age at school entrance \_\_\_\_\_  
 First-grade absences \_\_\_\_\_  
 Recent absences \_\_\_\_\_  
 School report (or classroom visit) \_\_\_\_\_  
 \_\_\_\_\_  
 Onset of difficulty \_\_\_\_\_  
 Schools attended \_\_\_\_\_  
 Reading method used \_\_\_\_\_  
 Poor discipline \_\_\_\_\_  
 Discouraged \_\_\_\_\_

### MEDICAL RECORD

Latest examination of eyes \_\_\_\_\_ by \_\_\_\_\_  
 Clinic examination suggests:  
 Nearsightedness \_\_\_\_\_  
 Farsightedness \_\_\_\_\_  
 Astigmatism \_\_\_\_\_  
 Coördination difficulty \_\_\_\_\_  
 Source \_\_\_\_\_  
 Hearing \_\_\_\_\_  
 Auditory discrimination \_\_\_\_\_  
 Pertinent medical history \_\_\_\_\_  
 \_\_\_\_\_

### PSYCHOLOGICAL FACTORS — HOME HISTORY

Source \_\_\_\_\_

Siblings — where in school? \_\_\_\_\_  
 Handedness change \_\_\_\_\_  
 Emotional reactions \_\_\_\_\_  
 Special interests \_\_\_\_\_  
 Tutoring possibilities \_\_\_\_\_  
 Previous tutoring \_\_\_\_\_

### REMEDIAL PLANS

(Individual tutoring — small group work — remedial class)

1. Level of reading materials \_\_\_\_\_
2. Motivation type — interests \_\_\_\_\_
3. Word work
  - Word analysis — level, type \_\_\_\_\_
  - Immediate recognition \_\_\_\_\_
  - Phrase work \_\_\_\_\_
4. Oral reading plans
  - Mechanics \_\_\_\_\_
  - Comprehension \_\_\_\_\_
5. Silent reading plans
  - Mechanics \_\_\_\_\_
  - Comprehension \_\_\_\_\_
6. Study skills
  - Thoroughness \_\_\_\_\_
  - Flexibility \_\_\_\_\_
  - Association \_\_\_\_\_

# Oral Reading

INSTRUCTIONS. Make a record of time, errors, phrasing, and comprehension according to the directions in the Manual.

1. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	1			2		
	L	M	H	L	M	H
TIME	50	38	30	27	20	15

Muff is a little yellow kitten.  
She drinks milk.  
She sleeps on a chair.  
She does not like to get wet.

- \_\_\_ 1. What color was the kitten?
- \_\_\_ 2. What does she drink?
- \_\_\_ 3. Where does she sleep?
- \_\_\_ 4. Why doesn't Muff like to go out on rainy days?

2. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	1			2		
	L	M	H	L	M	H
TIME	90	75	60	55	41	30

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

- \_\_\_ 1. Who ran away from home?
- \_\_\_ 2. How many other dogs did he play with?
- \_\_\_ 3. Why did the dog go under the tree?
- \_\_\_ 4. What did the dog want then?
- \_\_\_ 5. Whom did he see?
- \_\_\_ 6. How did he get home?

3. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	2			3		
	L	M	H	L	M	H
TIME	65	50	40	35	25	20

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

- \_\_\_ 1. How many boys went camping?
- \_\_\_ 2. Where did they put up their tent?
- \_\_\_ 3. What did they take with them besides their tent?
- \_\_\_ 4. What did the boys do when the sun went down?
- \_\_\_ 5. What came around their tent in the night?
- \_\_\_ 6. What was the cow doing?
- \_\_\_ 7. What did the boys think the cow was?

4. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	3			4		
	L	M	H	L	M	H
TIME	70	40	32	30	27	24

Henry goes to a large lake in summer. Last summer, a motorboat sank near his house. The boat had ten men in it. The man who was running the boat brought it very close to the shore when the water was low. He hit a big rock under water. It made a hole in the bottom of the boat. The water came in very fast. All of the men swam to shore.

- \_\_\_ 1. Where does Henry go in summer?
- \_\_\_ 2. What happened near his house?
- \_\_\_ 3. What kind of boat was it?
- \_\_\_ 4. What did the boat hit?
- \_\_\_ 5. How fast did the water come in?
- \_\_\_ 6. How many men were on the boat?
- \_\_\_ 7. What happened to the men on the boat?

5. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	3			4			5		
	L	M	H	L	M	H	L	M	H
TIME	70	50	42	40	35	30	27	25	22

In 1807, Robert Fulton took the first long trip in a steamboat. He went one hundred and fifty miles up the Hudson River. The boat went five miles an hour. This was faster than a steamboat had ever gone before. Crowds gathered on both banks of the river to see this new kind of boat go by. The fishermen did not like the boat. They were afraid that its noise and splashing would drive away all the fish.

- \_\_\_ 1. What did Robert Fulton do in this story?
- \_\_\_ 2. What kind of boat was it?
- \_\_\_ 3. What river was the trip made on?
- \_\_\_ 4. How far did the boat go?
- \_\_\_ 5. How fast did it go?
- \_\_\_ 6. Who did not like the boat?
- \_\_\_ 7. What were the fishermen afraid would happen?

Oral Reading

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6. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	4			5			6		
	L	M	H	L	M	H	L	M	H
TIME	90	75	65	60	55	52	45	40	32

The richest diamond field in the world is in South Africa. Deep pits yield a hard substance called "blue ground" which contains the diamonds. The blue ground is spread over the drying fields for a year. The weather gradually crumbles it. Then it is taken up and run through washing machines which sort out the stones and the diamonds. The value of the diamonds is determined by color, size, and purity. Blue, yellow, orange, brown, and green diamonds have been discovered. The most valuable ones are pure white. The largest diamond ever found weighed almost two pounds.

- \_\_\_ 1. In what country is the richest diamond field of the world?
- \_\_\_ 2. What is the substance containing the diamonds called?
- \_\_\_ 3. Why is the blue ground spread over the drying fields?
- \_\_\_ 4. What do the washing machines do?
- \_\_\_ 5. What are some of the colors of diamonds?
- \_\_\_ 6. Which diamonds are the most valuable?
- \_\_\_ 7. How heavy was the largest diamond ever found?

7. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	5			6		
	L	M	H	L	M	H
TIME	80	72	65	60	55	42

Golf originated in Holland as a game played on ice. The game in its present form first appeared in Scotland. It became unusually popular and kings found it so enjoyable that it was known as "the royal game." James IV, however, thought that people neglected their work to indulge in this fascinating sport so that it was forbidden in 1457. James relented when he found how attractive the game was and it immediately regained its former popularity. Golf spread gradually to other countries, being introduced in America in 1890. It has grown in favor until there is hardly a town that does not boast of a private or public course.

- \_\_\_ 1. Where did golf originate?
- \_\_\_ 2. How was it first played?
- \_\_\_ 3. Where did it first appear in its present form?
- \_\_\_ 4. Why was golf forbidden by James IV?
- \_\_\_ 5. Why did he change his mind?
- \_\_\_ 6. When was golf first introduced in America?
- \_\_\_ 7. What evidence have we of its popularity?

8. Time \_\_\_\_\_ Errors \_\_\_\_\_ Comprehension \_\_\_\_\_

GRADE	6		
	L	M	H
TIME	90	65	50

Between 1865 and 1900, the northern part of the United States enjoyed great prosperity. Many new industries developed, among them the making of thread and ready-made clothes. The invention of machinery revolutionized methods of manufacture. For example, the introduction of the McKay sewing machine permitted the manufacture of shoes in big factories. Radical changes in steel-making allowed enormous expansion of the iron and steel industries. The Bessemer process of smelting was introduced into the country in 1864 and the open-hearth process in 1867. As a result, more machinery could be built, and factories became more productive.

- \_\_\_ 1. What great development is described here?
- \_\_\_ 2. When did this industrial growth take place?
- \_\_\_ 3. What were some of the industries that arose?
- \_\_\_ 4. In which part of the United States did this take place?
- \_\_\_ 5. What invention increased the production of shoes?
- \_\_\_ 6. What processes of steel making were used?
- \_\_\_ 7. What effect did increased steel production have on industry?

CHECK LIST OF DIFFICULTIES

- |   |   |
|---|---|
| PHRASE READING                          | WORD SKILLS IN ORAL READING               |
| ___ Word-by-word reading                | ___ Low sight vocabulary                  |
| ___ Inadequate phrasing                 | ___ Word-analysis ability inadequate      |
| ___ Incorrect phrasing                  | ___ Errors on easier words                |
| ___ Eye-voice span too short            | ___ Guesses at unknown words from context |
| VOICE, ENUNCIATION, EXPRESSION          | ___ Ignores word errors and reads on      |
| ___ Strained, high-pitched voice        | ___ Poor enunciation of prompted words    |
| ___ Monotonous tone                     |   |
| ___ Volume too loud                     | GENERAL READING HABITS                    |
| ___ Volume too soft                     | ___ Head movements; marked                |
| ___ Poor enunciation in all reading     | ___ Loses place easily                    |
| ___ Poor enunciation of difficult words | ___ Uses finger or pointer                |
| ___ Ignores punctuation                 | ___ Holds book too close or incorrectly   |
| ___ Habitual repetition of words        | ___ Frowns and shows signs of tenseness   |
| ___ Habitual addition of words          | ___ Poor posture                          |
| ___ Omits words                         | ___ Effort and attention low              |
| ___ Marked insecurity evident           | ___ Easily distracted                     |

ORAL READING TIME		COMPREHENSION
Paragraph No.	Grade Level	
_____	_____	___ Good
_____	_____	___ Fair
_____	_____	___ Poor
_____	_____	
Median Grade	_____	

# Silent Reading

**INSTRUCTIONS.** Make a record of time, errors, number of unaided memories, inaccurate memories, and prompted memories according to the directions in the Manual.

1. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	1			2		
	L	M	H	L	M	H
TIME	45	35	27	24	18	13
MEMORIES	4			5		

Peter is .....  
 a big white rabbit. ....  
 He has long ears. ....  
 He has a little tail. ....  
 He can jump and hop. ....

2. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	1			2		
	L	M	H	L	M	H
TIME	81	60	53	47	37	28
MEMORIES	7			10		

A hen had .....  
 six little yellow chickens. ....  
 One morning .....  
 she took them for a walk. ....  
 They looked for .....  
 something to eat. ....  
 They found some seeds and  
 sand. ....  
 A dog came .....  
 to play with them. ....  
 The hen .....  
 did not like the dog. ....  
 She flew at the dog .....  
 and made him run away. ....

3. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	2			3		
	L	M	H	L	M	H
TIME	62	50	35	30	23	16
MEMORIES	7			10		

Three boys .....  
 built a house .....  
 in the woods. ....  
 They put a table .....  
 and two old chairs in it. ....  
 There was a basket .....  
 full of apples. ....  
 under the table. ....  
 One afternoon .....  
 they went away .....  
 and left the door open. ....  
 When they came back, .....  
 they found two little pigs .....  
 eating the apples. ....

4. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	3			4		
	L	M	H	L	M	H
TIME	45	35	30	26	23	18
MEMORIES	12			15		

A little girl .....  
 got off the train .....  
 all alone. ....  
 There was nobody .....  
 at the station. ....  
 to meet her. ....  
 She asked the man .....  
 inside the station. ....  
 where her mother was. ....  
 He said that her mother .....  
 could not get the car started. ....  
 A man was trying to fix it. ....  
 The little girl sat down .....  
 to wait. ....  
 A few minutes later .....  
 a big car .....  
 came around the corner .....  
 with her mother in it. ....  
 The little girl got in .....  
 and they drove home. ....

5. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	3			4			5		
	L	M	H	L	M	H	L	M	H
TIME	62	40	36	34	30	28	26	23	18
MEMORIES	10			12			15		

About one hundred and fifty .....  
 years ago, .....  
 in France, .....  
 the first man .....  
 went up in a balloon. ....  
 His balloon was made of  
 paper. ....  
 covered with strips of cloth. ....  
 to make it strong. ....  
 A long rope kept it .....  
 from going too high. ....  
 Later this man took a friend .....  
 up in the balloon with him. ....  
 On this trip they rose .....  
 over five hundred feet. ....  
 The trip lasted .....  
 thirty minutes. ....  
 They came down .....  
 several miles. ....  
 from where they started. ....

## Imagery Questions (OPTIONAL)

### PARAGRAPH 3

1. Did you see in your mind the three boys who built the house in the woods? Tell me how they looked to you. Then ask: How old were they? How were they dressed? etc.
2. Did you see the house in your mind? Tell me about how it looked to you. Then ask: How big was it? Did it have any windows? How many? What kind of roof did it have? Could you draw a picture of how the house looked to you? etc.

### PARAGRAPH 4

1. Did you see in your mind the little girl who got off the train? Tell me how she looked. (How dressed; various articles of clothing; color; hair; age; size; luggage; etc.)
2. Did you see any other people? Tell me how they look.
3. Did you see the station and the surroundings? Tell me what you saw.

#### RESPONSE TO IMAGERY QUESTIONS

- \_\_\_\_\_ Rich flow of imagery
- \_\_\_\_\_ Hesitant, indefinite

Silent Reading

Durrell Anal. Reading Difficulty: New Edition

6. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	4			5			6		
	L	M	H	L	M	H	L	M	H
TIME	70	55	47	43	38	30	27	24	18
MEMORIES	10			13			16		

Early settlers .....  
in America .....  
found that Indians .....  
would sell skins and land .....  
for glass beads .....  
Many men earned their liv-  
ing .....  
by making glass beads .....  
and bottles .....  
In 1827 .....  
a man invented a way .....  
to press molten glass .....  
into iron molds .....  
The most famous glass works .....  
was in the town of Sand-  
wich in Massachusetts .....  
The Sandwich glass had .....  
a bright silvery appearance...  
and it could be molded into .....  
very elaborate and attractive  
patterns .....  
Beautiful lamps and candle-  
sticks .....  
as well as all sorts of dishes  
were made from this glass. ....  
In many New England homes  
pieces of Sandwich glass .....  
are still found on display. ....

CHECK LIST OF DIFFICULTIES

MECHANICS OF SILENT READING

- \_\_\_ Low rate of silent reading
- \_\_\_ High rate at the expense of mastery
- \_\_\_ Lip movements; constant — occasional
- \_\_\_ Whispering; constant — occasional
- \_\_\_ Lacks persistence in hard material
- \_\_\_ Marked insecurity evident
- \_\_\_ Poor attention necessitates rereading

RECALL

- \_\_\_ Unaided recall scanty
- \_\_\_ Poorly organized recall
- \_\_\_ Inaccurate memories and guesses
- \_\_\_ Response labored and slow
- \_\_\_ Avoids use of new words in recall
- \_\_\_ Recalls details badly in questions
- \_\_\_ Very scanty recall on hard material

7. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	5			6		
	L	M	H	L	M	H
TIME	60	45	40	37	33	24
MEMORIES	9			14		

Basketball .....  
is one of the more recent  
games .....  
It was devised .....  
by a college instructor .....  
who desired a game to inter-  
pose .....  
between the football .....  
and baseball seasons .....  
The game demands .....  
precision of movement, .....  
concentration, .....  
and great endurance .....  
It is more popular .....  
in those localities where .....  
it does not compete with  
hockey .....  
Opinion differs as to whether  
it is a satisfactory game .....  
for girls .....  
It has been modified .....  
to make it less strenuous .....  
for them .....  
by restricting the playing  
area .....  
of each player .....  
Some of the large Western .....  
universities .....  
have audiences .....  
of over twenty thousand .....  
at their conference games. ....

EYE MOVEMENTS

- Range of eye movements per line \_\_\_\_\_ to \_\_\_\_\_
- \_\_\_ Irregular pauses
- \_\_\_ Regressive movements

COMPARISON WITH ORAL READING (Underline)

- Speed: higher — same — lower
- Recall: better — same — poorer
- Security: better — same — poorer

8. Time \_\_\_\_\_ Memories \_\_\_\_\_

GRADE	6		
	L	M	H
TIME	60	45	35
MEMORIES	12		

Railroad communication .....  
developed rapidly .....  
just after the Civil War .....  
Between 1865 and 1873, .....  
thirty-five thousand .....  
miles of track were laid .....  
This doubled the distance .....  
people could travel .....  
by railroad .....  
Some of the new roads .....  
connected important cities, .....  
and some extended westward  
beyond populated regions .....  
Congress .....  
favored this sudden .....  
development .....  
by granting land to com-  
panies .....  
interested in furthering .....  
the expansion .....  
Grants included territory .....  
lying within twenty miles .....  
of the proposed roadbed .....  
Alternate sections .....  
were allotted to the railroad;  
those in between were .....  
reserved for homesteaders .....  
The sale of sections of land .....  
owned by the railroad .....  
was made easier .....  
through this checkerboard .....  
arrangement. ....

SILENT READING TIME		COMPREHENSION
Paragraph No.	Grade Level	
_____	_____	___ Good
_____	_____	___ Fair
_____	_____	___ Poor
_____	_____	
Median Grade	_____	

# Listening Comprehension

INSTRUCTIONS. Make a record of the comprehension questions answered correctly according to the directions in the Manual.

## GRADE 1 READING LEVEL

### The Cat and the Dog

- \_\_\_ 1. What did the boy have?
- \_\_\_ 2. What was he going to give her?
- \_\_\_ 3. What happened when he called to her?
- \_\_\_ 4. Where was the cat?
- \_\_\_ 5. What was she doing?
- \_\_\_ 6. What did the boy do then?
- \_\_\_ 7. What happened next?

## GRADE 2 READING LEVEL

### Dick's Birthday Present

- \_\_\_ 1. What did Dick do when he woke up?
- \_\_\_ 2. What day was it?
- \_\_\_ 3. What did he find on his chair?
- \_\_\_ 4. What did Dick hear?
- \_\_\_ 5. What did Dick do then?
- \_\_\_ 6. What was in the basket?
- \_\_\_ 7. What did the dog do?

## GRADE 3 READING LEVEL

### The Accident

- \_\_\_ 1. What was this story about?
- \_\_\_ 2. What had the boy been doing?
- \_\_\_ 3. What was he riding?
- \_\_\_ 4. What came down the road?
- \_\_\_ 5. Why didn't he see the car coming?
- \_\_\_ 6. How fast was the car going?
- \_\_\_ 7. What happened to the boy?
- \_\_\_ 8. What happened to the bicycle?

## GRADE 4 READING LEVEL

### Peter Cooper's Engine

- \_\_\_ 1. What did Peter Cooper build?
- \_\_\_ 2. What was it used for?
- \_\_\_ 3. How far away was the town?
- \_\_\_ 4. What was the engine hooked to?
- \_\_\_ 5. How fast did it go?
- \_\_\_ 6. How long did the trip take?
- \_\_\_ 7. What surprised the people?

### Norms for Word Recognition and Word Analysis

GRADE*	FLASH			ANALYSIS		
	L	M	H	L	M	H
1	5	12	20	7	17	29
2	2	5	8	4	8	13
3	11	14	17	17	21	25
4	21	25	28	29	34	38
5	32	34	36	41	43	45
6	38	41	44	46	47	50

\*Grade 1 — Lists A & B; Grades 2-6 — Lists 1 & 2.

## GRADE 5 READING LEVEL

### Uses of Kites

- \_\_\_ 1. What was this story about?
- \_\_\_ 2. What have kites been used for in war?
- \_\_\_ 3. What did one general use kites for?
- \_\_\_ 4. What was he going to build?
- \_\_\_ 5. What do some people in China make?
- \_\_\_ 6. What are these kites supposed to do?
- \_\_\_ 7. What has the weather bureau used kites for?
- \_\_\_ 8. How high has a string of kites gone?
- \_\_\_ 9. How much can some kites lift?

## GRADE 6 READING LEVEL

### History of Baseball

- \_\_\_ 1. What is called the national sport?
- \_\_\_ 2. What were some of its early names?
- \_\_\_ 3. When was it first played in colleges?
- \_\_\_ 4. What is said about its equipment?
- \_\_\_ 5. What was responsible for its growth?
- \_\_\_ 6. What happened to baseball after the Civil War?
- \_\_\_ 7. What happened in the countries where the soldiers were stationed?
- \_\_\_ 8. Who is said to welcome the baseball season?

## ABOVE GRADE 6 READING LEVEL

### General St. Clair's Defeat

- \_\_\_ 1. What accounted for defeat in the first war waged by the United States?
- \_\_\_ 2. How many men did General St. Clair have?
- \_\_\_ 3. What were they going to do?
- \_\_\_ 4. What did they neglect to do?
- \_\_\_ 5. Where did the Indians attack?
- \_\_\_ 6. What did General St. Clair do then?
- \_\_\_ 7. How many men escaped uninjured?
- \_\_\_ 8. How did President Washington feel about it?

LISTENING COMPREHENSION LEVEL EQUAL TO  
SILENT READING LEVEL OF GRADE \_\_\_\_\_

## CHECK LIST OF DIFFICULTIES IN WORD RECOGNITION AND WORD ANALYSIS

### WORD RECOGNITION SKILLS (FLASHED WORDS)

- \_\_\_ Low sight vocabulary
- \_\_\_ Will not try difficult words
- \_\_\_ Can spell but not pronounce
- \_\_\_ Ignores word endings
- \_\_\_ Guesses at word from general form

### WORD ANALYSIS

- \_\_\_ Word-analysis ability poor
- \_\_\_ Will not try difficult words
- \_\_\_ Has no method of word analysis
- \_\_\_ Sounds aloud by: single letters — blends — syllables
- \_\_\_ Unable to combine sounds into words
- \_\_\_ Looks away from word after sounding
- \_\_\_ Sounding slow or inaccurate
- \_\_\_ Spells words: successful — inadequate
- \_\_\_ Silent word study: successful — inadequate
- \_\_\_ Enunciates badly when prompted
- \_\_\_ Systematic errors (See tabulation)
- \_\_\_ Names of letters not known
- \_\_\_ Sounds of letters not known
- \_\_\_ Blends not known

# Word Recognition and Word Analysis

INSTRUCTIONS. Make a record of correct responses and mispronunciations according to the directions in the Manual.

## GRADE 1 READING LEVEL — LIST A

Flash		Analysis
_____	1. you	_____
_____	2. look	_____
_____	3. little	_____
_____	4. me	_____
_____	5. day	_____
_____	6. tree	_____
_____	7. all	_____
_____	8. come	_____
_____	9. away	_____
_____	10. are	_____
_____	11. run	_____
_____	12. father	_____
_____	13. children	_____
_____	14. morning	_____
_____	15. sleep	_____
_____	16. fish	_____
_____	17. around	_____
_____	18. name	_____
_____	19. chair	_____
_____	20. live	_____

## GRADE 1 READING LEVEL — LIST B

_____	21. rain	_____
_____	22. seen	_____
_____	23. breakfast	_____
_____	24. other	_____
_____	25. hole	_____
_____	26. cry	_____
_____	27. love	_____
_____	28. sister	_____
_____	29. lost	_____
_____	30. joy	_____
_____	31. bark	_____
_____	32. blow	_____
_____	33. please	_____
_____	34. sand	_____
_____	35. tall	_____
_____	36. cover	_____
_____	37. dark	_____
_____	38. afraid	_____
_____	39. place	_____
_____	40. chimney	_____

## GRADES 2-6 READING LEVEL — LIST 1

Flash		Analysis
_____	1. road	_____
_____	2. ground	_____
_____	3. know	_____
_____	4. drink	_____
_____	5. turkey	_____
_____	6. elephant	_____
_____	7. different	_____
_____	8. inch	_____
_____	9. strong	_____
_____	10. stamp	_____
_____	11. fair	_____
_____	12. quickly	_____
_____	13. believe	_____
_____	14. handle	_____
_____	15. bridge	_____
_____	16. speed	_____
_____	17. battle	_____
_____	18. cleaned	_____
_____	19. either	_____
_____	20. quarter	_____
_____	21. guard	_____
_____	22. forgotten	_____
_____	23. crawl	_____
_____	24. tongue	_____
_____	25. single	_____

## GRADES 2-6 READING LEVEL — LIST 2

_____	26. drawn	_____
_____	27. chapter	_____
_____	28. broadcast	_____
_____	29. invent	_____
_____	30. photograph	_____
_____	31. blunt	_____
_____	32. imagine	_____
_____	33. disturb	_____
_____	34. carpenter	_____
_____	35. provide	_____
_____	36. battery	_____
_____	37. ceiling	_____
_____	38. delayed	_____
_____	39. pretend	_____
_____	40. freight	_____
_____	41. championship	_____
_____	42. crowned	_____
_____	43. advertisement	_____
_____	44. prairie	_____
_____	45. blundering	_____
_____	46. shingle	_____
_____	47. wrenches	_____
_____	48. circumstances	_____
_____	49. triumphant	_____
_____	50. thorough	_____

LIST	FLASH		ANALYSIS	
	SCORE	GRADE	SCORE	GRADE
A & B	_____	_____	_____	_____
1 & 2	_____	_____	_____	_____

*Letters (Naming Letters —  
Identifying Letters Named —  
Matching Letters)*

INSTRUCTIONS. Make a record of errors according to the directions in the Manual.

*Letters Named — Identified by Name — Matched*

1. D	F	J	H	t	m	s	c
2. S	W	G	O	f	j	w	d
3. M	L	B	T	p	n	l	k
4. C	A	K	V	r	h	g	x
5. N	Y	E	R	u	e	o	i
6. I	U	P	X	a	y	b	v
7. Q	Z	A	C	z	q	o	p

Error, in

1. Naming Letters

CAPITAL \_\_\_\_\_

SMALL \_\_\_\_\_

2. Identifying Letters Named

CAPITAL \_\_\_\_\_

SMALL \_\_\_\_\_

3. Matching Letters

CAPITAL \_\_\_\_\_

SMALL \_\_\_\_\_

4. Writing Letters

CAPITAL \_\_\_\_\_

SMALL \_\_\_\_\_

*Visual Memory of  
Words — Primary*

INSTRUCTIONS. Ask the child to draw circles around certain letters and words according to the directions in the Manual.

1. y b d g f
2. m h n r t
3. no on imp in nip
4. saw war as was waste
5. girl dog boy dig day
6. won no now mow was
7. lack clock black block dark
8. frost first fast firm trust
9. slat last lost lot blast
10. jump jest just jot must
11. clear clean close climb lean
12. par park trap party quart dark part
13. quiet quick quack point quite question quit
14. state elation tasted station stationed started skating

15. nomination notion mention mountain mountains motion mentioned
16. quarter portion bracelet particle practice practical poultice
17. obscure advice above advise advances dance advance
18. sure obscure scare secure second server cure
19. contact contain contract contracts contacts capital convict
20. immediate meditates mediate mistake meditate material meditative

SCORE \_\_\_\_\_ GRADE \_\_\_\_\_

*Norms for Visual Memory of Words — Primary*

SCORE	12	15	18
GRADE	1.5	2.5	3.5



# Sounds (Hearing Sounds in Words — Sounds in Letters)

## Hearing Sounds in Words — Primary

INSTRUCTIONS. Ask the child to draw circles around certain words according to the directions in the Manual.

<b>A.</b>		
padlock	vegetable	bacon
1. tranquil	familiar	vagabond
2. matter	rapidity	separated
3. geyser	capitulate	petal
4. deck	temperature	highway
5. wisdom	yacht	volcano
6. gasoline	kaolin	lariat
7. fault	vein	weight
8. thorough	favor	tattered
9. broadcast	blizzard	domestic
10. choice	confer	classic
11. thistles	whirled	wisdom
12. senator	department	stimulant
13. specimen	caravan	suffer
14. roster	diamond	drydock
15. document	poster	plentiful
<b>B.</b>		
forehead	crimson	different
16. crowd	grasp	job

17. flutter	blood	tug
18. loss	bantam	lynx
19. locust	hearty	grief
20. piccolo	fantastic	benefit
<b>C.</b>		
figure	fault	helmet
21. water	workbench	lurch
22. frontier	frozen	tradition
23. davenport	disease	protect
24. claimed	glistened	glee
25. bullet	farewell	bushel
26. helium	happiness	loomed
27. rusty	radish	foolish
28. noodles	margin	measles
29. dreamed	transfer	trampled
SCORE _____ GRADE _____		

### Norms for Hearing Sounds in Words — Primary

SCORE	17	22	28
GRADE	1.5	2.5	3.5

## Learning to Hear Sounds in Words

m      s      f  
t      b      ch  
l      p      r

<b>LEARNS SOUNDS</b>	
_____	Easy
_____	Slowly
_____	None
<b>NEEDS HELP ON</b>	
_____	Initial Sounds
_____	Final Sounds

<b>LEARNING RATE</b>
Number of Words Learned _____

## Sounds of Letters

INSTRUCTIONS. Ask the child to give the sounds of the letters (small) in the list on the opposite page. Point to each letter in turn and say: "What does this say?"

Errors in Sounds \_\_\_\_\_

Ask the child to give the sounds of the phonograms below. Point to each phonogram in turn and say: "What does this say?"

st    ch    th    wh    sh    dr    tr    cl  
fr    sm    pl    tw    fl    sk    sw    gr

Errors in Sounds \_\_\_\_\_

# Visual Memory of Words, Spelling, and Handwriting

INSTRUCTIONS. For these tests ask the child to write certain words according to the directions in the Manual.

## Visual Memory of Words — Intermediate

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_

SCORE \_\_\_\_\_ GRADE \_\_\_\_\_

## Phonic Spelling of Words

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_

SCORE \_\_\_\_\_ GRADE \_\_\_\_\_

## Spelling Test

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_
18. \_\_\_\_\_
19. \_\_\_\_\_
20. \_\_\_\_\_

SCORE \_\_\_\_\_ GRADE \_\_\_\_\_

### Norms for Visual Memory and Phonic Spelling of Words

GRADE	VISUAL MEMORY	PHONIC SPELLING
4	5	7
5	7	9
6	9	11

### Norms for Spelling Test

GRADE	LIST	
	1	2
2	8	—
3	12	6
4	16	9
5	—	12
6	—	15

### CHECK LIST OF DIFFICULTIES

#### VISUAL MEMORY

- \_\_\_ Omits letters; syllables
- \_\_\_ Adds letters; syllables
- \_\_\_ Marked insecurity

#### PHONIC SPELLING

- \_\_\_ Omits sounds; syllables
- \_\_\_ Adds sounds; syllables
- \_\_\_ Incorrect sounds used
- \_\_\_ Marked insecurity

### CHECK LIST OF DIFFICULTIES IN SPELLING

- \_\_\_ Omits sounds; syllables
- \_\_\_ Adds sounds; syllables
- \_\_\_ Incorrect sounds
- \_\_\_ Slow handwriting

### Norms for Handwriting

GRADE	2	3	4	5	6
LETTERS PER MINUTE	25	35	45	55	65

### CHECK LIST OF DIFFICULTIES IN HANDWRITING

- \_\_\_ Speed too slow
- \_\_\_ Poor letter formation
- \_\_\_ Poor position: hand, pencil, paper, body
- \_\_\_ Irregular: height, spacing, slant

HAND USED \_\_\_ Right \_\_\_ Left

24 25 26 27 28 29 30

# PHONICS KNOWLEDGE SURVEY

Response Record

By DOLORES DURKIN and LEONARD MESHOWER

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NAME \_\_\_\_\_ BIRTHDATE \_\_\_\_\_ AGE \_\_\_\_\_  
 SCHOOL \_\_\_\_\_ ROOM \_\_\_\_\_ GRADE \_\_\_\_\_  
 TEACHER \_\_\_\_\_ DATE OF SURVEY \_\_\_\_\_

## Part 1. NAMES OF LETTERS

SCORING: UNDERLINE UNKNOWN LETTERS.

Can you tell me the names of these letters? (Have child point to letter as he names it. If no letter in the first row is known, ask child: Can you tell me the names of any of these letters?)

E D H i Y a l c N W  
 t K B g q p S v Q O  
 d b h F X A e I f G  
 j M r R L T z m n u

## Part 2. CONSONANT SOUNDS

SCORING: UNDERLINE UNKNOWN SOUNDS.

Can you tell me the sounds of these letters? (Have child point to each letter as he gives sound. If the first five sounds are not known, ask child: Can you tell me the sounds of any of these letters?)

B F H J K L M  
 N P R T V W Z

## Part 3. VOWELS: LONG AND SHORT

SCORING: UNDERLINE UNKNOWN SOUNDS.

*Long:* O (open), E (eat), A (ape), U (use), I (ice)

*Short:* O (on), E (end), A (at), U (up), I (in)

These are the vowels in the alphabet. They have long sounds and short sounds.

1. Can you tell me the long sounds of the vowels?

O E A U I

2. Can you tell me the short sounds of the vowels?

O E A U I

## Part 4. VOWEL GENERALIZATIONS

GENERALIZATIONS ABOUT VOWEL SOUNDS ARE ENCLOSED IN BOXES.  
SCORING: CHECK APPROPRIATE BLANK.

**A** When there are two vowels within a syllable, the first is usually long and the second is silent, as in *aid*.

1. If the letters *a*, *e*, and *f* were a word, what sound would the letter *a* have in that word? (Have child point to the first letter in the nonsense word.)
2. What would be the sound of *e*?
3. Why would *a* and *e* have these sounds?
4. How would you say this word?

acf

RIGHT    WRONG

- |                    |       |       |
|--------------------|-------|-------|
| 1. Long <i>a</i>   | _____ | _____ |
| 2. Silent <i>e</i> | _____ | _____ |
| 3. Why?            | _____ | _____ |
| 4. Blend           | _____ | _____ |

**B** When there are two vowels in a syllable, the second of which is final *e*, the first is usually long and the final *e* is silent, as in *ice*.

1. If the letters *i*, *b*, and *e* were a word, what sound would the letter *i* have in that word? (Have child point to the first letter in the nonsense word.)
2. What would be the sound of *e*?
3. Why would *i* and *e* have these sounds?
4. How would you say this word?

ibe

RIGHT    WRONG

- |                    |       |       |
|--------------------|-------|-------|
| 1. Long <i>i</i>   | _____ | _____ |
| 2. Silent <i>e</i> | _____ | _____ |
| 3. Why?            | _____ | _____ |
| 4. Blend           | _____ | _____ |

**C** When there is one vowel within a syllable, it is usually short, as in *end*.

1. If the letters *e* and *m* were a word, what sound would the letter *e* have in that word? (Have child point to the first letter in the nonsense word.)
2. Why would the letter *e* have this sound?
3. How would you say this word?

em

RIGHT    WRONG

- |                   |       |       |
|-------------------|-------|-------|
| 1. Short <i>e</i> | _____ | _____ |
| 2. Why?           | _____ | _____ |
| 3. Blend          | _____ | _____ |

**D** When there is one vowel, but it is at the end of a syllable, it is usually long, as in *be*.

1. If the letters *b* and *u* were a word, what sound would the letter *u* have in that word? (Have child point to the second letter in the nonsense word.)
2. Why would the letter *u* have this sound?
3. How would you say this word?

bu

RIGHT    WRONG

- |                  |       |       |
|------------------|-------|-------|
| 1. Long <i>u</i> | _____ | _____ |
| 2. Why?          | _____ | _____ |
| 3. Blend         | _____ | _____ |

## Part 5. SOUNDS OF C AND G

GENERALIZATIONS ABOUT HARD AND SOFT SOUNDS OF C AND G ARE ENCLOSED IN BOXES.  
SCORING: CHECK APPROPRIATE BLANK.

**A** When *c* is followed in a syllable by *e*, *i*, or *y*, it usually has its soft sound, as in *cent*.

1. If the letters *c*, *e*, and *k* were a word, what sound would the letter *c* have in that word? (Have child point to the first letter in the nonsense word.)
2. Why would the letter *c* have this sound?

cek

RIGHT      WRONG

- |                  |       |       |  |
|------------------|-------|-------|--|
| 1. Soft <i>c</i> | _____ | _____ |  |
| 2. Why?          | _____ | _____ |  |

**B** When *c* is followed in a syllable by any letter except *e*, *i*, or *y*, it usually has its hard sound, as in *cut*.

1. If the letters *c*, *u*, and *v* were a word, what sound would the letter *c* have in that word? (Have child point to the first letter in the nonsense word.)
2. Why would the letter *c* have this sound?

cuv

RIGHT      WRONG

- |                  |       |       |  |
|------------------|-------|-------|--|
| 1. Hard <i>c</i> | _____ | _____ |  |
| 2. Why?          | _____ | _____ |  |

**C** When *g* is followed in a syllable by any letter except *e*, *i*, or *y*, it usually has its hard sound, as in *gas*.

1. If the letters *g*, *a*, and *n* were a word, what sound would the letter *g* have in that word? (Have child point to the first letter in the nonsense word.)
2. Why would the letter *g* have this sound?

gan

RIGHT      WRONG

- |                  |       |       |  |
|------------------|-------|-------|--|
| 1. Hard <i>g</i> | _____ | _____ |  |
| 2. Why?          | _____ | _____ |  |

**D** When *g* is followed in a syllable by *e*, *i*, or *y*, it usually has its soft sound, as in *gem*.

1. If the letters *g*, *e*, and *d* were a word, what sound would the letter *g* have in that word? (Have child point to the first letter in the nonsense word.)
2. Why would the letter *g* have this sound?

ged

RIGHT      WRONG

- |                  |       |       |  |
|------------------|-------|-------|--|
| 1. Soft <i>g</i> | _____ | _____ |  |
| 2. Why?          | _____ | _____ |  |

## Part 6. SOUNDS OF Y

GENERALIZATIONS ABOUT SOUNDS OF Y ARE ENCLOSED IN BOXES.  
SCORING: CHECK APPROPRIATE BLANK.

**A** When *y* is the initial letter of a word, it has its consonant sound, as in *yet*.

1. If the letters *y*, *a*, and *d* were a word, what sound would the letter *y* have in that word? (Have child point to the first letter in the nonsense word.)
2. Why would the letter *y* have this sound?

	yad	
	RIGHT	WRONG
1. <i>y</i>	_____	_____
2. Why?	_____	_____

**B** When *y* is the final letter of a one-syllable word with no vowel, it usually takes the sound of long *i*, as in *try*.

1. If the letters *b*, *l*, and *y* were a word, what sound would the letter *y* have in that word? (Have child point to the last letter in the nonsense word.)
2. Why would the letter *y* have this sound?

	bly	
	RIGHT	WRONG
1. Long <i>i</i>	_____	_____
2. Why?	_____	_____

**C** When *y* is the final letter of a multi-syllable word, it usually takes the sound of long *e*, as in *carry*.

1. If the letters *a*, *d*, *s*, and *y* were a word, what sound would the letter *y* have in that word? (Have child point to the last letter in the nonsense word.)
2. Why would the letter *y* have this sound?

	adsy	
	RIGHT	WRONG
1. Long <i>e</i>	_____	_____
2. Why?	_____	_____

**D** When *y* is in the middle of a syllable that has no vowel, it usually takes the sound of short *i*, as in *myth*.

1. If the letters *f*, *y*, *t*, and *h* were a word, what sound would the letter *y* have in that word? (Have child point to the second letter in the nonsense word.)
2. Why would the letter *y* have this sound?

	fyth	
	RIGHT	WRONG
1. Short <i>i</i>	_____	_____
2. Why?	_____	_____

## Part 7. CONSONANT BLENDS

SCORING: UNDERLINE UNKNOWN BLENDS.

These combinations of letters are called consonant blends. Can you tell me the sound of each? (Have child point to each blend as he gives sound.)

sc	tw	sk	pl	sl	sw	gl	tr
dw	sn	st	fr	pr	bl	gr	dr
fl	sp	br	cl	cr	sm		

### Part 8. DIGRAPHS

SCORING: UNDERLINE UNKNOWN DIGRAPHS.

These combinations of letters are called digraphs. Can you tell me the sound of each? (Have child point to each digraph as he gives sound.)

th	ch (chair)	ch (chef)
ph	sh	wh

### Part 9. VOWEL COMBINATIONS

SCORING: UNDERLINE UNKNOWN COMBINATIONS.

These are vowel combinations. Can you tell me the sound of each? (Have child point to each combination as he gives sound.)

ew	aw	ou (out)	au	oi
ow (owl)		ow (grow)		oy

### Part 10. VOWELS FOLLOWED BY R

SCORING: UNDERLINE UNKNOWN COMBINATIONS.

Vowels have special sounds when they are followed by *r*, or by *r* and another consonant, at the end of a syllable. If these were words, how would you say them? (Have child point to each syllable as he gives sound.)

ar	ur	or
er	ir	

### Part 11. SOUNDS OF QU

SCORING: UNDERLINE UNKNOWN SOUNDS.

kw (quick), k (conquer)

1. *Q* is always followed in a word by *u*. What is one sound of *qu*?
2. Do you know another sound for *qu*?

	qu	
kw		k

### Part 12. SOUNDS OF OO

SCORING: UNDERLINE UNKNOWN SOUNDS.

ōō (book), ōō (soon)

1. When *o* is followed in a syllable by another *o*, the double-*o* can have different sounds. What is one of these sounds?
2. Do you know another sound for *oo*?

	oo	
ōō		ōō

### Part 13. SOUNDS OF X

SCORING: UNDERLINE UNKNOWN SOUNDS.

ks (mix), gz (exam), z (xylophone)

1. The letter *x* can have different sounds. What is one of these sounds?
2. Do you know another sound for *x*?
3. Do you know still another sound for *x*?

	x	
ks	gz	z

## Part 14. BEGINNING CONSONANT COMBINATIONS

SCORING: UNDERLINE UNKNOWN COMBINATIONS.

kn (knot), gh (ghost), gn (gnaw)  
wr (wrong), ps (psalm), rh (rhythm)

Some combinations of consonants have a special sound when they are at the beginning of a word. Can you tell me the sound of each of these if they were at the beginning of a word? (Have child point to each combination.)

kn	gh	gn
wr	ps	rh

## Part 15. SYLLABICATION

GENERALIZATIONS ABOUT SYLLABICATION ARE ENCLOSED IN BOXES.

SCORING: CHECK APPROPRIATE BLANK

**A** When two consonants are between two vowels, a syllable division is usually made between the consonants, as in *un der*.

1. In this section we will be talking about syllables in words. If the letters *i*, *d*, *f*, *e*, and *r* were a word, where would you divide it into syllables?
2. Why would you divide it between those letters?

idfer

RIGHT      WRONG

- |           |       |       |
|-----------|-------|-------|
| 1. id fer | _____ | _____ |
| 2. Why?   | _____ | _____ |

**B** When a single consonant appears between two vowels, that consonant is usually in the same syllable as the vowel following it, as in *pu pil*.

1. If the letters *n*, *e*, *f*, *u*, and *t* were a word, where would you divide it into syllables?
2. Why would you divide it between those letters?

nefut

RIGHT      WRONG

- |           |       |       |
|-----------|-------|-------|
| 1. ne fut | _____ | _____ |
| 2. Why?   | _____ | _____ |

**C** When *x* is preceded and followed by vowels, the *x* is in the same syllable as the preceding vowel, as in *tax i*.

1. If the letters *u*, *x*, *o*, and *t* were a word, where would you divide it into syllables?
2. Why would you divide it between those letters?

uxot

RIGHT      WRONG

- |          |       |       |
|----------|-------|-------|
| 1. ux ot | _____ | _____ |
| 2. Why?  | _____ | _____ |

**D** When a word ends in *le* preceded by a consonant, that consonant is in the same syllable as the *le*, as in *can dle*.

1. If the letters *r*, *i*, *n*, *f*, *l*, and *e* were a word, where would you divide it into syllables?
2. Why would you divide it between those letters?

rinfle

RIGHT      WRONG

- |            |       |       |
|------------|-------|-------|
| 1. rin fle | _____ | _____ |
| 2. Why?    | _____ | _____ |



EXAMINER'S RECORD BOOKLET

for the

GRAY ORAL READING TEST

FORM A

Name \_\_\_\_\_ Grade \_\_\_\_\_ Age \_\_\_\_\_  
 School \_\_\_\_\_ Teacher \_\_\_\_\_ Sex \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_  
 Examiner \_\_\_\_\_ Date \_\_\_\_\_

SUMMARY

Passage Number	No. of Errors	Time (in Seconds)	Passage Scores	Comprehension
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
Total Passage Scores				
Grade Equivalent				

TYPES OF ERRORS

1.	Aid	
2.	Gross Mispronunciation	
3.	Partial Mispronunciation	
4.	Omission	
5.	Insertion	
6.	Substitution	
7.	Repetition	
8.	Inversion	

OBSERVATIONS

(Check statement and circle each part)

- \_\_\_\_\_ Word-by-word reading
- \_\_\_\_\_ Poor phrasing
- \_\_\_\_\_ Lack of expression
- \_\_\_\_\_ Monotonous tone
- \_\_\_\_\_ Pitch too high or low; voice too loud, too soft, or strained
- \_\_\_\_\_ Poor enunciation
- \_\_\_\_\_ Disregard of punctuation
- \_\_\_\_\_ Overuse of phonics
- \_\_\_\_\_ Little or no method of word analysis
- \_\_\_\_\_ Unawareness of errors
- \_\_\_\_\_ Head movement
- \_\_\_\_\_ Finger pointing
- \_\_\_\_\_ Loss of place

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



THE BOBBS-MERRILL COMPANY, INC.  
 A SUBSIDIARY OF HOWARD W. SAMS & CO., INC.  
 Publishers • INDIANAPOLIS • NEW YORK

A. 1. Look, Mother, look.  
 See me go.  
 I go up.  
 I come down.  
 Come here, Mother.  
 Come and play with me.

Time \_\_\_\_\_ Seconds

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Questions

Answers

- |  |  |   |
|--|--|---|
| <p>—1. What was the girl in this story doing?</p> <p>—2. Who was she talking to?</p> <p>—3. What two things did the girl ask Mother to see her do?</p> <p>—4. Who was Mother to play with?</p> | <p>Swinging or going up and down (1)<br/>                 Showing her mother how she could swing (½)</p> <p>(Her) Mother (1)</p> <p>Go up and come down or I go up and down (1)</p> <p>The girl (question <i>her</i> or <i>me</i>) (1)</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|--|--|---|

Number Right \_\_\_\_\_

A. 2. A boy said, "Run, little girl.  
 Run with me to the boat."  
 They ran and ran.  
 "This is fun," said the boy.  
 "Look," said the girl.  
 "I see something in the boat.  
 It is my kitten.  
 She wants to play."

Time \_\_\_\_\_ Seconds

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Questions

Answers

- |   |   |   |
|---|---|---|
| <p>—1. Where did the boy want the girl to run?</p> <p>—2. Who said it was fun to run?</p> <p>—3. What was in the boat?</p> <p>—4. Who saw the kitten first?</p> | <p>To the boat (1)</p> <p>The boy (1)</p> <p>A kitten or her kitten (1)<br/>                 Boy's kitten (½)</p> <p>The girl (1)</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|---|---|---|

Number Right \_\_\_\_\_

A. 3. One morning a boy made a boat. "Where can I play with it?" he asked.  
 Father said, "Come with me in the car! We will take your boat with us."  
 Soon the boy called, "Please stop. I see water. May I play here?"  
 "Yes," said Father. "Have a good time."

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

- 1. What did the boy make one morning? A boat (1) \_\_\_\_\_
- 2. What did he say he wanted to do with it? Play with it (1)  
Sail it or float it,  
or put it in water (½) \_\_\_\_\_
- 3. What did the boy see as they rode in the car? Water (1)  
Lake (½); pond (½) \_\_\_\_\_
- 4. When he saw the water what did he ask his father to do? Stop or stop and let him play (1)  
Let him play (½) \_\_\_\_\_

Number Right \_\_\_\_\_

A. 4. One day five children went out to play in the beautiful white snow. They played for a long time and then began to make snow animals.

One of the animals was a dog. Soon the dog next door came out of the house. When he saw the snow dog he said, "Bow-wow."

The children laughed. "Now we have a dog that can bark."

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

- 1. In what were the children playing? (Beautiful) (white) snow (1) \_\_\_\_\_
- 2. What did they make out of the snow? (Snow) animals; (1)  
A dog or snow dog (½) \_\_\_\_\_
- 3. While they were playing what came out of a house? A dog (real), (live), (neighbor's),  
(another) (1) \_\_\_\_\_
- 4. What did the children say the real dog could do? Bark or say bow-wow (1) \_\_\_\_\_

Number Right \_\_\_\_\_

A. 5. It was pet day at the fair. The children were waiting for the parade of animals to begin. They had trained their pets to do many different tricks. Among them was a tall boy whose goat made trouble for him. It kicked and tried hard to break away. When it heard the band it became quiet. During the parade it danced so well that it won a prize.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

- \_\_\_1. What day was it at the fair? Pet (day) (1)  
Animal (day) or animal parade (day) (½) \_\_\_\_\_
- \_\_\_2. What had the children trained their pets to do? (To do) (many) (different) tricks (1)  
Dance or do many things (½) \_\_\_\_\_
- \_\_\_3. What animal made trouble for one boy? A goat or his goat (1) \_\_\_\_\_
- \_\_\_4. What did the goat do that won a prize? Danced (in the parade) (1) \_\_\_\_\_

Number Right \_\_\_\_\_

A. 6. Airplane pilots have many important jobs. They fly passengers, freight, and mail from one city to another. Sometimes they make dangerous rescues in land and sea accidents, and drop food where people or herds are starving. They bring strange animals from dense jungles to our zoos. They also serve as traffic police and spot speeding cars on highways.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

- \_\_\_1. Whom is this paragraph about? Airplane pilots (1)  
Airplane pilot (½), pilots (½)  
Airplane driver (½) \_\_\_\_\_
- \_\_\_2. What do they take from city to city? Passengers, mail, freight (any two of these) (1)  
Mail or freight or animals and food (½)  
Passengers and food (½) \_\_\_\_\_
- \_\_\_3. What kind of rescues are sometimes made in land and sea accidents? Dangerous (1) \_\_\_\_\_
- \_\_\_4. What do airplane pilots do when serving as traffic police? Look for (or spot) speeding cars (1)  
Track (or stop) speeding cars (½)  
Stop cars (0) \_\_\_\_\_

Number Right \_\_\_\_\_

- A. 7. Hundreds of years ago, most of Europe was a very poor region. But China, a large country in eastern Asia, had many of the comforts of a rich civilized nation. Only a few people from Europe had visited this distant region. One was the famous Marco Polo. He learned some of the languages that were spoken in China and served its great ruler for many years.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions	Answers
—1. What kind of region was most of Europe hundreds of years ago?	(Very) poor (1) _____
—2. What country enjoyed far more comforts than Europe?	China (1) _____
—3. Who was one of the few people from Europe who visited China?	Marco Polo (1) Marco ( $\frac{1}{2}$ ), Polo ( $\frac{1}{2}$ ) _____
—4. What did Marco Polo learn in China?	Some or a few of the languages (1) The language ( $\frac{1}{2}$ ) Many of (or the) languages of China ( $\frac{1}{2}$ ) Different languages ( $\frac{1}{2}$ ) _____

Number Right \_\_\_\_\_

- A. 8. The eager spectators who had cheered the plucky Warriors through eight hard-fought innings were silent. Only a run was required to defeat the much feared Champions, who had previously defeated all opponents. The spectators had earlier criticized the umpire severely. Now their faces were tense with excitement as the players took their positions.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions	Answers
—1. How had the spectators encouraged the plucky Warriors?	(By) cheering or cheered (1) _____
—2. How many runs were needed to defeat the Champions?	One or a run (1) _____
—3. Whom had the spectators criticized early in the game?	The umpire (1) _____
—4. How did the faces of the spectators look as the players took their positions?	Tense (with excitement) or sullen (1) Serious ( $\frac{1}{2}$ ) _____

Number Right \_\_\_\_\_

A. 9. The oil industry has been greatly increased by recent advances in science. Geologists have discovered new ways of locating veins of oil-producing rock. Problems of gusher control have been solved. Very effective also are newer methods of refining crude oil which have resulted in a higher ratio of quality fuel oil from a given volume of crude oil.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

- 1. What industry does this paragraph discuss?
- 2. What kind of rock have geologists found new ways of locating?
- 3. For what purpose have new and effective methods been developed?
- 4. What has been the result of the use of the newer methods of refining crude oil?

Answers

- Oil (industry) or petroleum (industry) (1) \_\_\_\_\_
- Oil producing (rock) (1) \_\_\_\_\_
- To refine crude oil or change crude oil to good oil (1) \_\_\_\_\_
- More fuel or quality oil from crude oil; or higher ratio of quality oil (1)  
More oil (½)  
Better oil than at first (½) \_\_\_\_\_

Number Right \_\_\_\_\_

A. 10. In response to the impulse of habit Joseph rose and spoke as in former days. He spoke vigorously, continuously, and persuasively while the others listened attentively but in grim and contemptuous silence. Finally exhausted, Joseph hesitated for a moment; as often happens in such circumstances he became confused and was unable to resume speaking.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

- 1. To what impulse did Joseph respond when he rose to speak?
- 2. In what manner did he speak?
- 3. How did the others listen?
- 4. After Joseph became exhausted, why was he unable to resume speaking?

Answers

- Habit (1)  
Used to it (½), or natural (½) \_\_\_\_\_
- Vigorously, continuously, persuasively (any two) (1)  
Persuasively, persistently, consistently (½);  
vigorously and intently (½) \_\_\_\_\_
- Attentively and in (contemptuous) silence (1)  
Attentively (½), contemptuously (½), quietly (½), closely (½), in silence (½) \_\_\_\_\_
- He was or became confused (1)  
Flustered (½) \_\_\_\_\_

Number Right \_\_\_\_\_

A. 11. Many of the hypotheses about physical phenomena formulated by early philosophers were inconsistent and in most cases could not be universally applied. In order to develop accurate principles very capable physicists, mathematicians, and statisticians had to cooperate wholeheartedly over long periods of time to verify numerous basic facts and assumptions.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

- |  |   |   |
|--|---|---|
| <p>—1. Name one limitation of the hypotheses about physical phenomena that was formulated by early philosophers.</p> <p>—2. The cooperation of what specialists was needed in developing more accurate principles?</p> <p>—3. To develop more accurate principles what was the chief thing they had to do?</p> <p>—4. In what manner did they cooperate to achieve their goal?</p> | <p>Inconsistent or not universally applicable (1)</p> <p>Physicists, mathematicians, statisticians (1)<br/>Mathematicians, Physicists, Philosophers (½)<br/>Mathematicians, Philosophers (½)</p> <p>Verify (many or numerous) (basic) facts or assumptions (1)<br/>Cooperate wholeheartedly (½)</p> <p>Wholeheartedly (1)</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|--|---|---|

Number Right \_\_\_\_\_

A. 12. In a concluding lecture on sidereal (sī-dēr'ē āl) spaces, the astronomer contrasted the infinitesimal (in'fīn ī tēs' ī māl) difference in the distance of the moon from the earth at apogee (āp'ó jē) and at perigee (pēr'ī jē) with the great difference in the distance of the earth from the sun at aphelion (ā fē'lī ōn; —fēl'yōn) and at perihelion (pēr'ī hē'lī ōn). The students interrogated (in tēr'ō gāt'ēd) him, evidencing precociousness (prē kō'-shūs nēs) and lucidity (lú sīd'ī tī) in expression.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

- |  |  |   |
|--|--|---|
| <p>—1. What kind of specialist was giving the lecture?</p> <p>—2. What was the general topic of the lecture?</p> <p>—3. Apogee and perigee refer to distances between the earth and what other heavenly body?</p> <p>—4. What did the students do that showed unusual brightness and lucidity in expression?</p> | <p>An astronomer (1)</p> <p>Sidereal or starry spaces (1)<br/>Space (½)</p> <p>Moon (1)</p> <p>Interrogated or questioned the lecturer; asked (lucid or clear) questions (1)</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|--|--|---|

Number Right \_\_\_\_\_

A. 13. During a hiatus (hīā'tūs) in the desultory (dēs'ul tō'rī; esp. British . . . tēri) firing, the apt lieutenant clambered wearily over the detritus (dē trī'tūs) piled against the redoubts (rē douts'). Beneath a canopy of empyrean (ēm'pī rē'ān; ēm'pī rē' . . .) blue lay the quiet, bucolic (bū-kōl'ik) landscape, its pristine (prīs'tēn; . . . tīn) beauty now defiled by myriad (mīr'ī ād) diminutive (dīmīn'ū tiv) promontories thrown up by the mortar shells, but radiating momentarily an inexplicable (in ēks'pli ká b'l) if spurious (spū'ri ūs) calm and peace.

TYPES OF ERRORS	NUMBER
1. Aid	
2. Gross Mispronunciation	
3. Partial Mispronunciation	
4. Omission	
5. Insertion	
6. Substitution	
7. Repetition	
8. Inversion	
Total Errors	

Time \_\_\_\_\_ Seconds

Questions

Answers

—1. When did the lieutenant crawl over the detritus?

During the hiatus *or* gap *or* lull in the firing (1)  
When it was quiet (½)  
After the firing (½)

—2. What was the color of the sky?

Empyrean *or* heavenly blue (1)  
Blue (½)

—3. What marred the beauty of the landscape?

Diminutive *or* (very) small promontories *or* mounds (1)

—4. By what had these promontories been made?

Mortar shells (1)

Number Right \_\_\_\_\_



THE HARRIS TESTS OF LATERAL DOMINANCE

2nd Edition

Record Blank

Name..... Age..... Date..... Examiner.....

1. Knowledge of Left and Right  
R hand..... L ear..... R eye.....
- HAND DOMINANCE**
2. Hand Preferences R.....%
- .1 Throw a ball .....
- .2 Wind a watch .....
- .3 Hammer a nail .....
- .4 Brush teeth .....
- .5 Comb hair .....
- .6 Turn door knob .....
- .7 Hold eraser .....
- .8 Use scissors .....
- .9 Cut with knife .....
- .10 Write .....
3. Simultaneous Writing  
No. of Reversals:  
R..... L.....
- Co-ordination better: .....
4. Handwriting  
Time: R..... L.....
- Co-ordination better: .....
5. Tapping  
Number: R..... L.....
- Co-ordination better: .....
6. Dealing Cards  
Time: R..... L.....
- Co-ordination better: .....
7. Strength of Grip (optional)  
R..... L..... R..... L.....
- EYE DOMINANCE**
8. Monocular Tests
- .1 Kaleidoscope .....
- .2 Telescope .....
- .3 Sight rifle  
Eye .....
- Shoulder .....
9. Binocular Tests
- .1 Cone: .....
- .2 Hole: .....
10. Stereoscopic Tests (optional)
- .1 Teleb: R.....% L.....% Supp?.....
- FOOT DOMINANCE**
- 11.1 Kick  
Pref..... Other..... Better.....
- 11.2 Stamp  
Foot used.....

RATINGS					
Test	KNOWLEDGE OF LEFT AND RIGHT				
1	:	:	:	:	:
	Confused	Hesitant	Normal		
HAND DOMINANCE					
	:	:	:	:	:
2	L	L	M	R	R
	:	:	:	:	:
3	L	L	M	R	R
	:	:	:	:	:
4	L	L	M	R	R
	:	:	:	:	:
5	L	L	M	R	R
	:	:	:	:	:
6	L	L	M	R	R
	:	:	:	:	:
7	L	L	M	R	R
	:	:	:	:	:
EYE DOMINANCE					
	:	:	:	:	:
8	L	L	M	R	R
	:	:	:	:	:
9	L	L	M	R	R
	:	:	:	:	:
10	L	L	M	R	R
	:	:	:	:	:
FOOT DOMINANCE					
	:	:	:	:	:
11	L	L	M	R	R
	:	:	:	:	:
11.1	L	L	M	R	R
	:	:	:	:	:
11.2	:	:	:	:	:

Family Background:  
Conversion:  
Qualitative Comments:

- 2 -

SIMULTANEOUS WRITING

*Left*

*Right*



# KEYSTONE VISUAL SURVEY TESTS

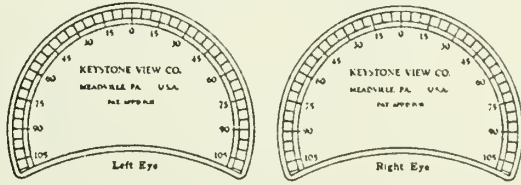
School Survey Cumulative Record Form No. 5A

For Use with No. 46 Visual Survey Telebinocular

Name \_\_\_\_\_ Sex \_\_\_\_\_ Referred by \_\_\_\_\_  
 Date \_\_\_\_\_ Teacher \_\_\_\_\_ Approved by \_\_\_\_\_  
 Date of Birth \_\_\_\_\_ C. Age \_\_\_\_\_ M. Age \_\_\_\_\_ Grade \_\_\_\_\_ Principal or \_\_\_\_\_  
yr. mo. da. yr. mo. yr. mo.  
 School \_\_\_\_\_ City \_\_\_\_\_ Wearing Glasses: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Address \_\_\_\_\_ Phone \_\_\_\_\_ Snellen Standard (if desired)  
 With Glasses: Right \_\_\_\_\_ Left \_\_\_\_\_  
 Without Glasses: Right \_\_\_\_\_ Left \_\_\_\_\_

Set of For Point	Left Only		Right Only		UNSATISFACTORY Underconvergence and Low Usable Vision		Hatched Retest Area	EXPECTED Within Heavy Black Lines	Hatched Retest Area	UNSATISFACTORY Overconvergence												
	Test 1 (DB-10A) Simultaneous Vision (Far Point)																					
Test 2 (DB-8C) Vertical Posture (Far Point)	only	only																				
Test 3 (DB-9) Lateral Posture (Far Point)	only	1-1111-321 Numbers Only	15	14	13	12	11	10 9 8	7	6 5 4 3 2 1												
Test 4 (DB-4K) Fusion (Far Point)	only	only	Four, widely separated	Four, near each other						Four, near each other	Four, widely separated											
Test 4 1/2 (DB-1D) Usable Vision, Both Eyes (Far Point)			L 49% B 70% T 84%	L 88% R 92%																		
Test 5 (DB-3D) Usable Vision, Right Eye (Far Point)		No Data Seen Unless Left Eye Is Occluded	T 49% R 70% L 84%	T 88% B 92%																		
Test 6 (DB-2D) Usable Vision, Left Eye (Far Point)		No Data Seen Unless Right Eye Is Occluded	B 49% L 70% R 84%	B 88% T 92%																		
Test 7 (DB-6D) Stereopsis (Far Point)	only	only	+	○ * ○ □ □ ♥ +																		
Test 8 (DB-13A) Color Perception (Far Point)		32	79	23	ALL CORRECT																	
Test 9 (DB-14A) Color Perception (Far Point)		63	92	56	ALL CORRECT																	
Test 10 (DB-9B) Lateral Posture (Near Point)	only	109-4-32 Numbers Only	10	9	8					2												
Test 11 (DB-5K) Fusion (Near Point)	only	only	Four, widely separated	Four, near each other						Four, near each other	Four, widely separated											
Test 12 (DB-15) Usable Vision, Both Eyes (Near Point)	1 10% D	2 20% L	3 30% D	4 40% D	5 50% L	6 60% D	7 70% D	8 80% L	9 90% D	10 100% D	11 100% G	12 100% L	13 90% L	14 90% D	15 100% L	16 100% D	17 102% D	18 102% D	19 103% G	20 103% D	21 105% D	22 105% L
Test 13 (DB-16) Usable Vision, Right Eye (Near Point)	1 10% D	2 20% D	3 30% L	4 40% D	5 50% L	6 60% D	7 70% L	8 80% D	9 90% L	10 100% G	11 80% G	12 80% L	13 90% L	14 90% D	15 100% L	16 102% D	17 102% G	18 102% D	19 103% L	20 103% D	21 105% D	22 105% L
Test 14 (DB-17) Usable Vision, Left Eye (Near Point)	1 10% L	2 20% D	3 30% D	4 40% D	5 50% L	6 60% D	7 70% L	8 80% D	9 90% L	10 100% L	11 80% L	12 80% L	13 90% G	14 90% D	15 100% L	16 102% L	17 102% D	18 102% D	19 103% L	20 103% G	21 105% D	22 105% L

Keystone Perimeter Test—75 is Passing.



Complete directions for administration of these tests will be found in the manual provided for this purpose.  
 For Snellen Equivalents of Tests 4 1/2, 5, 6, 12, 13, and 14 see the Manual, pp. 12 and 14.

AUDITORY DISCRIMINATION TEST

FORM II

	X	Y
1. gear - beer		
2. cad - cab		
3. led - lad		
4. thief - sheaf		
5. sake - shake		
6. jail - jail		
7. ball - ball		
8. lake - lake		
9. bead - deed		
10. rub - rug		
11. wing - wing		
12. gall - goal		
13. pet - pit		
14. lit - lick		
15. bug - bud		
16. lass - lath		
17. cope - coke		
18. pool - tool		
19. zone - zone		
20. fret - threat		

	X	Y
21. bar - bar		
22. bum - bun		
23. lāve - lāthe		
24. shot - shop		
25. wedge - wedge		
26. suck - sock		
27. vie - 'thy		
28. rich - rich		
29. pit - kit		
30. guile - dial		
31. rash - wrath		
32. chew - chew		
33. fag - sag		
34. phase - phase		
35. sick - thick		
36. wreath - reef		
37. map - nap		
38. muss - mush		
39. cart - tart		
40. cuff - cuss		

Error Score

X	Y

Name of Child:

Date Tested:

Examiner's Name:

Age:

Date of Birth:

Grade:

Name of School:

Disabilities:

Hearing:

Reading:

Speaking:

Other:

I.Q.:

Test:

	X	Y
Error Score: Form C	30	10
Form D	30	10

Additional Comments:

Form V B

READING CLINIC  
SCHOOL OF EDUCATION  
UNIVERSITY OF MASSACHUSETTSINVENTORY OF INTERESTS AND ATTITUDES

Name: \_\_\_\_\_ Case No: \_\_\_\_\_ Date: \_\_\_\_\_

Clinician: \_\_\_\_\_

- 
- 
1. What do you like to do in your spare time?
  2. What games do you like to play best?
  3. With whom do you like to play?
  4. Do you like to play with your brothers and sisters?
  5. Do you have as much time to play as you would like?
  6. Do you have any pets?
  7. Do you have any hobbies?
  8. Do you belong to any clubs or organizations?
  9. Do you go to Sunday School or Church?
  10. Do you have an allowance?
  11. Do you earn any spending money in addition to your allowance?
  12. What do you do with your money?
  13. How often do you go to the movies?
  14. What kind of movies do you like?
  15. Do you like to watch television?
  16. What are your favorite programs?
  17. What would you like to do when you grow up?
  18. Do you like school?
  19. What subjects do you like best? Why?
  20. What subjects do you like least? Why?

## Inventory of Interests

- 2 -

Form V-B

21. If you could have three wishes, what would they be?
  22. Do you like to pretend that you are someone else, or that you are doing something else?
  23. Do you like to have someone read to you? Who?
  24. Do you enjoy reading to yourself?
  25. What kinds of stories do you like?
  26. Do you have any books that are your own?
- 

## CLINICIAN'S ANALYSIS OF INTERESTS AND ATTITUDES

Does the child appear to have any sustaining interests?

Is there any clue to interests that might be developed?

Does the child seem to feel that his family neglects, mistreats, or embarrasses him?

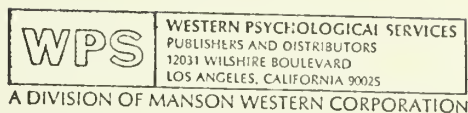
Do there appear to be any feelings of hatred or resentment toward any member of the family. Why is this so?



## TIME APPRECIATION TEST

By John N. Buck

*Published by*



Name: \_\_\_\_\_

Occupation: \_\_\_\_\_

Sex: \_\_\_\_\_

Residence: \_\_\_\_\_

Birthdate: \_\_\_\_\_

Case No.: \_\_\_\_\_

Education: \_\_\_\_\_

Examiner: \_\_\_\_\_

1. Is it morning or afternoon now?
2. About what time is it by the clock now?
3. What day of the week is it?
4. What month is it?
5. What day of the month is it?
6. What year is it?
7. What season of the year is it?
8. How many days are there in a week?

9. How many minutes are there in an hour?
10. How many hours are there in a day?
11. How many days are there in a month?
12. How many months are there in a year?
13. How many seasons are there in a year?
14. How many seconds are there in a minute?
15. How many months are there in a season?
16. How many seconds are there in an hour?

17. In what month is Thanksgiving?

On what day in that month does it always come?

18. In what month is Christmas?

On what day in that month does it always come?

19. In what month is Hallowe'en?

On what day in that month does it always come?

20. What is a decade?

21. What is a century?

22. What is a fortnight?

23. What does anyone mean when he says: "Nine A.M." and "Nine P.M."?

24. What words do those initials "A.M." and "P.M." stand for?

25. What does anyone mean when he says: "The year 450 B.C." and "The year 450 A.D."?

26. What words do those initials "B.C." and "A.D." stand for?

27. What is a time zone?

28. Name the time zones in the United States.

29. What is Greenwich mean time?

30. What does anyone mean when he says "Vernal Equinox" and "Autumnal Equinox"?

Score: Correct: \_\_\_\_\_ Half-correct: \_\_\_\_\_ Total Points: \_\_\_\_\_ C.A. \_\_\_\_\_ Equiv. M.A. \_\_\_\_\_

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*The Time Appreciation Test*

Tentative Norms for the Time Appreciation Test

Time Appreciation Test Point Score	M.A.	Adult I.Q.*	Adult Classi- fication
2	4:6	30	
3	5:0	33	
4	5:6	37	Imbecile
5	6:0	40	
6	6:6	43	
7	7:0	47	
12	7:6	50	
16	8:0	53	
21	8:6	57	Moron
25	9:0	60	
28	9:6	63	
31	10:0	67	
33	10:6	70	
35	11:0	73	Borderline
37	11:6	77	
39	12:0	80	
41	12:6	83	Dull average
42	13:0	87	
43	13:6	90	
44	14:0	93	
45	14:6	97	
46	15:0	100	Average
47	15:6	103	
48	16:0	107	
49	16:6	110	
50	17:0	113	Above average
51	17:6	117	
52	18:0	120	
53	18:6	123	Superior
54 and up	above 18:6	above 123	

\* Estimated according to the method of Terman and Merrill, *Measuring intelligence*; Boston: Houghton Mifflin Company, 1937. When comparing the Time Appreciation Test I.Q. of a subject of life age 30 and above with his Wechsler-Bellevue I.Q., it is suggested that the examiner in computing the Time Test I.Q. allow for the age factor by using the "Table of Approximate C.A. (Adult M.A.) Denominators for Binet Scales . . ." as described in the third edition of *The measurement of adult intelligence*, by David Wechsler (Baltimore: Williams and Wilkins, 1944).

